

# Closing the word gap: activities for the classroom

## Secondary

English, maths, science, geography, and history



# Contents

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<b>Foreword</b> .....	2
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## **A whole-school vocabulary policy**

Section 1: First steps to developing a vocabulary policy .....	3
Section 2: Implementing a whole-school policy .....	8
Section 3: Practical whole-school strategies for enriching students' vocabulary .....	10

## **English**

Section 1: Vocabulary for your subject .....	17
Section 2: Vocabulary to improve your students' writing .....	28

## **Mathematics**

Section 1: Vocabulary for your subject .....	39
Section 2: Strategies to further develop students' vocabulary .....	51

## **Science**

Section 1: Vocabulary for your subject .....	63
Section 2: Vocabulary to improve your students' writing .....	72

## **Geography**

Section 1: Vocabulary for your subject .....	85
Section 2: Vocabulary to improve your students' writing .....	96

## **History**

Section 1: Vocabulary for your subject .....	106
Section 2: Vocabulary to improve your students' writing .....	114

# Foreword

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## The importance of vocabulary may be the elephant in the room.

If that sentence makes any sense at all to you, then it's because you're one of us – a member of the word-rich as opposed to the word-poor, someone who knows that what language appears to offer on the surface isn't always what it means underneath.

You'll thus be adept at spotting the lurking undercurrents of subtexts. You'll know that in my opening sentence there is no actual elephant, no physical room. It's a metaphor, an idiom. It's the way our language works.

I was thinking of this last week when a teacher told me how disappointed she felt in her year 11 English class. They had just done another set of mock examination papers. She had prepared them well, she felt, and built their confidence.

But there in the reading paper that they dutifully undertook was the word *circus*. It was being used metaphorically – something along the lines of 'a media circus rolled into town'. And her students thought it was a real circus, a literal circus, and therefore misunderstood the whole point of the text, to the dismay of the teacher.

This is what we've realised in recent years, that vocabulary is a proxy for academic success. The child who writes, 'In the book the writer says ...' will be judged less capable in English or history or RE than the one who says, 'In the passage the author suggests ...'.

That's why our new-found interest in vocabulary matters so much. As Ludwig Wittgenstein memorably put it more than a century ago, 'The limits of my language mean the limits of my world'. We are defined and constrained by the lexis at our disposal.

Oxford University Press's recent report *Why Closing the Word Gap Matters* brings this into sharp focus. It reminds us that the size of a child's vocabulary is the best predictor of success in future tests, and that children with a poor vocabulary at five are four times more likely to struggle with reading in adulthood and three times more likely to have mental health issues.

It also shows that 69% of primary school teachers and 60% of secondary school teachers believe the word gap is increasing.

That's why we need to do all we can to work with the hardest-to-reach parents – reassuringly, constructively, unpatronisingly – to help them to build literacy habits long before their children come to school.

It's why we need classrooms that are rich in language, with adults modelling the way speakers and writers are constantly making choices, choosing words that are more or less formal, more or less technical, more or less colloquial – to show children that self-expression is a set of choices, not a matter of predetermined intelligence.

And it's why, most importantly of all, we need to keep harking back to George Sampson's 1921 mantra – that 'every teacher in English is a teacher of English'.

This has to be a non-negotiable, with the responsibility for literacy at the heart of every teacher's work on behalf of every child, whatever her or his background.



# Closing the word gap: a whole-school vocabulary policy

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Drawing on his experiences in educational leadership and management, Richard shares his ideas for developing a whole-school vocabulary policy for primary and secondary schools.

From taking your first steps to key advice for policy implementation and staff training, he also offers a range of practical strategies for enriching students' vocabulary.

Whether you are a senior or middle leader, a lead practitioner, a SENDCo, a literacy coordinator, or a teacher with a special interest in children's literacy, you'll find suggestions to help you to close the word gap in your school.

## Section 1: First steps to developing a vocabulary policy

We know from reading *Why Closing the Word Gap Matters* that primary and secondary teachers believe that many students are disadvantaged by a word gap that widens throughout their schooling. Teachers in your school are already addressing this problem in a variety of ways, but a systematic approach to closing the word gap across the whole school is likely to make the efforts of individual teachers more rewarding and more effective.

Here are some suggestions to help you to take the first steps to develop a meaningful vocabulary policy in your school.

### 1. Early leadership

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How the ground is prepared is a matter of leadership. Vocabulary is part of literacy and literacy is part of learning. Vocabulary therefore connects to the core focus of school leadership – learning. As Geoff Barton points out:

'Headteachers and principals need to act as leaders of learning. Whatever the other distractions, learning must be our core business. We set the tone for it. We make it happen in our schools. Thus we all need to know why literacy matters, and to ensure that someone in our leadership team relentlessly moves the literacy agenda forward, translating good intentions into action.' (OUP, 2018)

Most staff will not need persuading that the vocabulary gap needs closing, so at this point the most important leadership facets are vision, credibility, and responsiveness. A strong and enduring policy will be shaped out of existing expertise and excellent practice, and you need to know what those are. You can listen and find out 'relentlessly'! Talking to teachers and students will be the best way to clarify the issues around vocabulary so that an emerging policy seems credible to all and authentic to your context.

## 2. Key questions

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Before launching a whole-school vocabulary policy, it is worth considering and discussing a range of key questions:

- Why is it important to improve children's vocabulary?
- What sorts of vocabulary should we help students to acquire?
- What methods are already being used?
- How would we know if these methods are effective? What measures of effectiveness should we use?
- What is the typical quality of spoken interactions between teachers and students? How does this vary according to student and according to teacher?
- How would a wider vocabulary enrich students' reading and writing?
- How would a vocabulary development policy relate to existing initiatives and common practices in the school?

Schools throughout the country are starting similar discussions, and you will want to interrogate the questions fully as teachers and explore their relevance for your students.

## 3. Lay the groundwork for a vocabulary development policy

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The real groundwork for a word gap policy involves a process of finding out, sharing experiences and perceptions, and building a widespread focus on the issue. It also builds anticipation and a renewed sense of togetherness. Finally, and most importantly, it develops a shared commitment to the issue. You are much more likely to shrink or close the word gap if:

- teachers are emotionally as well as intellectually committed to the policy; in other words, you **feel** the importance of the issue, as well as agreeing with it
- teachers have a shared understanding of the issue and a shared enthusiasm for doing something about it.

The groundwork phase – prior to developing and implementing the policy – helps to nourish this shared commitment, which is also a shared responsibility:

'Pupils' acquisition and command of vocabulary are key to their learning and progress across the whole curriculum.' (DfE, 2014)

*Why Closing the Word Gap Matters* is a useful reference point for clarifying the issue and identifying practical ways to move forward. It found a groundswell of opinion that the word gap is a real and urgent phenomenon. Large numbers of both primary and secondary teachers in the OUP survey shared their belief that the number of students with a limited vocabulary is increasing year-on-year, with disastrous effects on test results and on children's life chances. Despite these consequences, '38% of secondary school teachers surveyed said that they were unable to provide specific vocabulary support. Most cited insufficient time and not enough additional teaching support as the main challenges.' (OUP, 2018)

A practical and supportive policy is therefore likely to be universally welcomed in your school.

## 4. Write a draft policy

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Careful groundwork will lay secure foundations for a lasting policy. Initially, it's worth publishing a draft policy. Be prepared to revise the policy substantially in the light of practice in order to encourage the trialling, experimenting, and failure-risking that will eventually underpin a strong whole-school policy.

The draft policy should be accompanied by an interim action plan, as you identify key staff, set up a steering group, and choose your priorities. It provides a clear reference point by establishing key elements:

- the **rationale** for a vocabulary development policy
- the **vision and aims** – what you want to achieve
- how the policy will be **monitored**
- how progress will be **measured** and key indicators
- what **key actions** will be taken, by whom, and when.

### Rationale

The benefits of developing children's vocabulary are clearly defined in *Why Closing the Word Gap Matters* and the academic studies referenced in the OUP report. Share these key findings where appropriate, but teacher testimony should also be a prominent (and motivating) feature of the rationale. Try to include brief quotations from your own staff, and include insights gleaned from your students as well. Everyone **knows** that the word gap needs bridging; local testimony makes staff, students and stakeholders **feel** it too.

### Vision and aims

Your school vision will, of course, relate to your rationale. It will offer a picture of a better future that is both believable and challenging. However, you must be specific about some things that the policy is aimed at achieving. For example, you might express a vision of a word-rich school community in which everyone feels listened to and no one feels tongue-tied. In the first instance, though, your aim might be to ensure that all students are familiar with the core vocabulary of particular subject areas and can confidently define and use those words.

### Observing and monitoring

Observation and monitoring will depend on your vision and aims, but they need to be as specific as possible. Not everything needs monitoring all the time. For example, you might decide to monitor progress in subject terminology through peer observation and discussion, prescribing a qualitative approach. Give priority to intelligent, supportive monitoring that nourishes commitment and debate as much as it provides data. Whatever the case, put necessary resources behind it.

### Measuring progress

This again must be directly related to vision and aims. It is important to decide at the outset the criteria for progress. For example, if you aim to improve the use of subject-specific vocabulary in teacher and classroom talk, then you need to have already decided on the indicators of improvement. Perhaps you will use teacher observations to record progress throughout an academic year. Whether you choose to use qualitative and/or quantitative data, you need to have debated and decided on your school's approach in advance.

### Key actions: who, what, and when?

At this point, not all staff will necessarily be involved. In fact, there are advantages to making the draft policy a limited pilot so that any lessons can be learned before rolling it out across the school. However, those staff who are involved at this stage need to be clear about what is expected of them and what support they will get. They also need to be very clear about timescales.

## 5. Key people and relationships

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A crucial aspect of a draft policy is that it should build towards a permanent one. If the draft policy is a limited pilot, then it must be designed to be scalable. To ensure that the policy thrives, grows, and embeds over time, it needs to be launched and led by the **school leadership team**.

In a very small school, this will probably be the headteacher, unless the school has very good structural links with other schools, in which case it might be possible for one leader to assume responsibility across a MAT or other school partnership. Whatever the format of the leadership team, you will benefit from recruiting an internal expert or enthusiast as a **vocabulary advocate** who can help to advise and facilitate the policy work and implementation. This advocate will need to be a good communicator and practitioner who is both knowledgeable and highly committed.

Larger schools will/might have other people who must be actively involved, for example, the **SENDCo, literacy coordinator, lead practitioner**, etc. If you have additional expertise in your school, recruit a small steering group of advocates. The guiding principle should be that the vocabulary development policy should not step on people's toes but should be a new source of invigoration for them. If vocabulary is part of literacy and literacy is part of learning, the relationships between these areas must be recognised, and so must the relevant roles and structures. If the SENDCo is in charge of literacy development, then a successful vocabulary development policy must fit within their remit.

The larger the school, the more complex the relationships within it, and the greater the need for policy consistency. **Middle leaders** are crucial to students' progress in subject areas. Even in a pilot, middle leaders will enable and support the activity of the staff they lead. They need to be actively involved in generating, trialling, and refining the vocabulary policy.

## 6. Steering group

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If vocabulary development really is going to be a priority, then a steering group – probably composed of the key people above – will be useful. One difficulty is that the people you will need to be part of the group are likely to be substantially committed to other areas of activity already. Perhaps you could make this group time-limited, such as by meeting every half term for an hour for one year. Their function would be to oversee the monitoring and refinement of the draft policy as it evolves into a permanent one.

## 7. Choosing priorities

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There are so many ways you could try to raise vocabulary levels in your school. Where do you start? Will you focus on direct vocabulary instruction? Or creating contexts that are favourable to vocabulary acquisition? Or intervening with identified individuals? You will find a variety of methods to close the word gap in a range of different contexts below, but it is important that you develop your own understandings around the issue and that you don't try anything and everything.

Alongside wisdom accrued from your own experience, research will provide a useful academic framework for you to draw on when determining priorities, and *Why Closing the Word Gap Matters* is an invaluable point of reference.

Another useful source is a 2010 report by the US National Reading Technical Assistance Centre, *A Review of the Current Research on Vocabulary Instruction*. Although the review emphasises the early years, many of its insights are applicable or adaptable throughout the primary and secondary years. One of the key findings of this synthesis of prior research is that using a variety of methods and experiences optimises vocabulary acquisition.

Here is a summary of the report's other key findings:

- **Context**

Introduce children to any challenging words that they are about to meet in a class text. Repeatedly exposing children to the same words and in different contexts is important as children best learn words by encountering them in a variety of meaningful contexts.

- **Which words to teach?**

The words chosen for teaching should be those that the student will find useful in many contexts. They can usefully include high-frequency words known and used by mature language users.

- **Active engagement in learning words**

Learning through mere repetition or drilling of words is not effective. Vocabulary learning is effective when it entails active engagement that goes beyond a word's definition to explore its relationship with other words, and how it functions in different contexts.

- **Teacher–student spoken interaction**

Scaffolding questions and moving from low-demand questions to high-demand questions promotes greater gains in vocabulary. Vocabulary instruction is enhanced by good teacher–student activities and interaction.

- **Learning through reading**

Vocabulary can be acquired through incidental learning so reading volume is very important in terms of long-term vocabulary development. Reading aloud, discussion about reading, and independent reading experiences at school and at home can encourage vocabulary growth.

## Section 2: Implementing a whole-school policy

### 1. Scaling up and accountability

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If you started small with a draft policy, then now is the time to start scaling up and putting a full vocabulary development policy in place. Almost all the procedures associated with making the first steps successful also apply in this later phase: the structures, plans, leadership, and relationships are still just as important. There will now, though, be a greater emphasis on accountability. Eventual success will depend on consistency in the basics by all staff. However, even at this point, the aim should be to build and shape practice over time and to encourage and perhaps license some experimentation.

Don't overwhelm teachers with a litany of items that they must include in their teaching straight away and for all time, or other important things might fall off their agenda.

### 2. Getting and keeping teachers engaged

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Training and monitoring have to be thoughtfully planned and easy to implement and manage. More crucially, they have to be beneficial to teachers and their students. Like professionals in all fields, teachers are drawn towards things that seem to work, so identifying and eliminating ineffective practice quickly, while celebrating and spreading effective practice, is a vital component of this phase of the policy.

Engaging teachers in the short, medium and longer term is also essential. Subject teachers at secondary level will naturally be excited by any approaches that help to develop students' understanding of key subject vocabulary, and an initial subject-specific emphasis might help to recruit teachers, leading to a joined-up approach across the curriculum and across year groups and key stages.

Three sorts of vocabulary need to be considered:

- i. subject-specific vocabulary, e.g. in design and technology: *construct, prototype, alignment*
- ii. cross-curricular conceptual vocabulary, e.g. *despite, imply, analyse, however*
- iii. words that mean different things in different contexts, e.g. *product, analyse, tolerance*.

### 3. 'High-vis' initiatives

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Make sure that the launch and initial implementation of the policy are noticed. Avoid gimmicks, but some 'high-vis' initiatives alongside subtler adjustments to routine classroom practice can be helpful in launching and occasionally refreshing a whole-school policy.

Choose such initiatives carefully according to their perceived relevance to the vision and aims, and their practicality. For example, a medium-sized primary school might place sheets of sugar paper and markers around the school with a word that means different things in different contexts written in the middle of each sheet. Students could be invited to write a web of definitions of the word, along with subject and other contextual information, plus sample sentences. Secondary leaders might shudder with horror about what such an activity might lead to. Fine. Do something else.

Here are some suggestions for 'high-vis' initiatives:

- word search contests
- word of the week: all staff wear a badge showing a word they particularly like
- funding the library for new, high-interest books

- reopen the library with someone famous coming in to lead the ceremony
- volume reading competitions with books pitched at different levels and knowledge quizzes at the end
- word games played out publicly at lunchtime.

## 4. Training

Staff working in schools generally already have the level of vocabulary that many of their students lack. Teachers just need to be made newly aware of the importance of sharing this vocabulary in effective ways and of modelling new vocabulary. All school adults need to become more conscious of the role of vocabulary in students' development and in their academic performance. Part of this process is about becoming more sensitive to the issues surrounding language development. Here are a few perspectives that it would be useful for the whole staff team to be aware of:

### Tiers of vocabulary

We can see vocabulary as inhabiting tiers or levels, as Isabel Beck and Margaret McKeown identified (1985):

**Tier 1** words are basic words used often in everyday conversation, e.g. *go, play, weather*. Some young children need help with acquiring these, while many of their peers will arrive at school very well equipped with everyday words.

**Tier 2** words are complex words that are more likely to occur in academic settings, e.g. *compare, neutral, specific*.

**Tier 3** words are highly specialised, subject-specific words, e.g. *isosceles, government*.

Another significant subset of vocabulary consists of words that – confusingly – mean different things in different contexts, e.g. *place, space, prime, revolution*.

### Plain words as well as 'big' words

Teachers should introduce more complex, formal words, but they should also choose the clearest, most appropriate, and most accessible words for the classroom context. It is important not to imply to children that big words are better words. Speaking like you've swallowed a thesaurus is silly – as the character Joey in *Friends* demonstrated when he used '[full-sized aortic pump](#)' instead of 'big heart'. Watching this short episode from *Friends* is a useful and light-hearted starting point for a wider discussion with staff about appropriate vocabulary. As Joey fails to grasp, the best word is generally the most appropriate word for your audience. Our role as teachers is to help students by choosing carefully between synonyms and to explore the appropriacy of words in different spoken and written contexts.

### Respect children's own language

There are many words that children use that are completely unfamiliar to literate adults. To have this lexicon effectively ruled out must be dispiriting and perhaps makes the teacher's own offered lexicon both intimidating and alien. To help colleagues see vocabulary acquisition from the students' perspective, give them lists of vocabulary that may be familiar to students and not to them. Translate parts of a familiar text into 'youth speak'. How does this make them feel about the text and the exercise of reading it? This might be similar to the daily experience of students when encountering new, and potentially intimidating, words.

## Section 3: Practical whole-school strategies for enriching students' vocabulary

Many of the following suggestions can be adapted for use across all the key stages. One of the most important considerations for classroom practitioners is choosing and adapting methods according to their suitability and relevance to your students, whatever their age.

Language – and its vocabulary – are social in use and socially learned. Most of the strategies suggested below are enhanced by having students talk and think together about new words, their meanings, and how these vary according to context.

Using a variety of methods will help to optimise vocabulary acquisition, and encouraging an exploratory approach should help to excite students as they discover new words.

### 1. Use context to deepen understanding

Students need to develop a deeper understanding of significant words. This means knowing how a word's meaning can vary according to context, e.g. the noun *place* differs in meaning from the verb *place*, even though the words' meanings are related. *Solution* means different things in the context of chemistry and crossword puzzles. Deep understanding also means appreciating that synonyms can have different shades of meaning from each other, e.g. *overweight* and *fat* mean the same but can have different effects.

- **Introduce a range of meaningful contexts.** When you introduce a new or very important word that children may be unsure of, plan to expose children to the word repeatedly and in different contexts. Children best learn words by coming across them in varied, meaningful contexts. For example, you could introduce *train* (the noun, a vehicle) and *train* (the verb, to *train* a dog) on the same day.
- **Explore words in the context of books and subjects, and in everyday usage.** Compare the different meanings and effects of words in different, naturally occurring contexts. Prompt students to think about where else they have come across a word you want to draw attention to.
- **Use word clues.** Encourage students to try to work out the meaning of unknown words in a text by using the context to find clues about a word's meaning. For example, *unworthy* includes the word *worth* and the prefix *un-*. Students are likely to have some understanding of both of those elements before they encounter *unworthy*. Making use of prior word knowledge will give them clues about the meaning of a 'new' word. This approach might seem time-consuming, but what you are doing is arming children for those times when they encounter a significant new word on their own. This is important from the early years right through to sitting a GCSE exam. We need to build children's ability and willingness to make educated guesses at the meanings of words and to know that it is OK not to know what every word means.
- **Model how to use dictionaries and thesauruses.** Get students more sensitised to the effect of words by helping them to explore the connotations of different synonyms. Take some dramatic sentences from a story or newspaper report, and ask students to suggest alternatives for some of the emotive words and phrases. For example, show students the following headline:

Gang runs riot through school

Ask students in pairs or groups to explore synonyms for the word *gang*. When they have shared their ideas (e.g. *group*, *crowd*, *tribe*, *crew*, *mob*, *band*, *horde*), students could arrange themselves into 'heat order' – the hottest, most dramatic, most emotive word on the left; the coolest, least engaging word on the right. If you get other students to do the rearranging, you create another good opportunity to practise precise vocabulary: 'Sadia, move three places to the left; Harry, change places with Isla, please.' This activity is a good opportunity for practising thesaurus use, which can be problematic. The emphasis should be on rediscovering words they already know, rather than finding bizarre (and often inappropriate) synonyms.

- **Play ‘beat the author’.** Give students a text (preferably not a particularly well-written one) with certain words highlighted. Ask them to find suitable alternative words and then justify why their choice beats that of the original author. Make thesauruses available, but do not insist on their use. The text could be non-fiction as well as fiction.
- **Role-play speech.** Encourage children to role-play speech in varied contexts for different purposes.
- **Develop affective vocabulary.** The vocabulary of things, actions, and processes is very important, but we should not overlook developing children’s **affective** vocabulary – the words we use to label and express our feelings. With younger children, show the class an evocative photograph and talk it through with them. Who is in the picture? What are their feelings? What are the surroundings like? How can we describe facial expressions, the weather, and the landscape? Gather together the more interesting/useful words in a word bank, and ask students to select from them during a writing activity based on the picture.

## 2. Active engagement in learning words

Research suggests that learning through mere repetition or drilling of words is not effective. Vocabulary learning is most useful when it entails **active engagement** that goes beyond a word’s definitional knowledge to its logical relationship with other words and how it functions in different contexts. Getting students to engage actively with vocabulary also supports their contextual learning.

- **Illustrate words.** In the early years, use animations or pictures to illustrate words or phrases in a book. For example, you could animate (and get children to animate) the word *anxiously* in the sentence, ‘she searched anxiously’.
- **Mime words.** Give children different actions to mime in the manner of a given adverb. Other children can work out the adverb. For example, you might ask a child to mime brushing her hair, walking a dog, or drinking some water *happily* or *grumpily*.

## 3. Explore word structures

Exploring word structures is important in helping students to tackle new words.

- **Identify core words.** The simplest activity is to ask students to identify the core word within a longer one: for example, *beauty* within *beautify*; *help* in *unhelpful*; *move* in *movement*.
- **Explore prefixes and suffixes.** Identifying a word’s core naturally leads to exploring the affixes that transfer between words: *in-*, *anti-*, *phon-*, *tele-*, *multi-* (prefixes) or *-ful*, *-ation*, *-ing*, *-ly* (suffixes). Ask students to make new words by adding affixes – for example, they might invent *antiboring*, *prewalk*, *uply*, *hammerish* – and reflect on the meanings and possible uses of such newly coined words.
- **Play word games.** Word Without End (also called Ghosts) is a team game that is good for getting students to jointly and competitively explore spellings. It is also an absorbing way to help students pool their implicit word knowledge, including their understanding of word structure. See the instructions on the next page for a full explanation of the game. It’s complicated to explain, but after a few practice runs almost all students get the hang of it.

# Word

## Without End

In this game student teams take it in turns to add a letter to previously added letters, moving towards but never completing a word. If the next team thinks the previous team either has completed a word or has no proper target word in mind, they can then challenge. Points are won and lost on correct challenges.

- Put students into two teams.
- Write a letter on the board. The starting team adds the next letter of a word that they have in mind. (For example, you write the letter *b* and the starting team offers *e*, as they are thinking of the word *beard*.)
- The second team should add a third letter. After this point, both teams also have to avoid completing a word – even a word they didn't have in mind. For example, the letters on the board so far are *b e a*. This does not yet spell a word. The first group has the word *beard* in mind and considers offering the letter *r*, but in doing so they would have completed the word *bear*. To avoid this, they may decide to bluff and offer the letter *g*, even though they don't know a word beginning *beag*-.

Whenever it is a team's turn, that team can choose to challenge the previous team for one of two reasons (and the challengers must use these exact words): 'You haven't got a proper word in mind!' OR 'You've completed a word.'

If the challenge is a correct one, then the challenging team gains a point, and the challenged team loses one. If the challenge is incorrect, then the points are awarded in reverse.

**Teaching tips:** When a team has its turn, the teacher should take an answer only from the appointed group leader. This prevents any team member from shouting out answers. The point is to encourage teamwork based on intelligent scrutiny of word structures. The original name of the game was Ghosts, probably because it was supposed to be played very quietly so that each team could plan subtle tactics in secret.

**Variations:** Give teams limited numbers of lifelines. For example, they can change one letter once, consult a dictionary three times, ask the teacher twice, or even phone a family member. You could also allow teams to add a letter to the front of the word rather than the end. This is very hard, though.

**Acceptable words:** 'Proper' words are words that appear in a standard dictionary, excluding names (i.e. proper nouns that would start with a capital letter such as *Sarah* or *Harris*). All slang words are excluded, and the teacher's word is final.

## 4. Reading for pleasure and learning through reading

Becoming a reading school is essential so that reading for pleasure is embedded in the culture and fabric of the school. To do this successfully, you will want to explore all the exciting approaches that other schools are using to celebrate reading. This will also mean training staff to become enthusiastic reading advocates and building time for reading in the school day. You'll want to invest in developing your reading environment and materials over a sustained period of time. As a school, you will also need to take time to engage with parents so they understand and fully embrace your plans.

As Ian Thompson and Nicole Dingwall commented,

'Schools ... can play a major role ... by making available a wide range of interesting and accessible texts. This means putting significant resources into school libraries and using students to support each other to recommend authors and titles. Reading for pleasure is an issue of social justice and one that society cannot afford to ignore.' (OUP, 2018)

Becoming a reading school will help you to close the word gap at a fundamental level because vocabulary is absorbed and internalised during wider reading. Reading continuous texts – whether in book form, online, fiction, non-fiction – all expose students to useful vocabulary.

In the classroom, prepare children for meeting new and challenging words in their reading, but also ensure that you provide them with appropriate levels of support. As Kate Cain and Jane Oakhill observed, 'Children need reading texts that have an appropriate level of vocabulary so that they are not overwhelmed by a plethora of unknown words, but they also need to be challenged to learn (or refine) the meaning of words in the text.' (OUP, 2018)

- **Introduce challenging words.** Give children time to engage with 'challenging' words that they are about to meet in a class text or activity. Talk about the new words, display them, explore them – their structures, core words, prefixes and suffixes, etc. Display illustrations of the words, or ask students to illustrate or act them out for themselves.
- **Support weaker readers when they encounter more advanced vocabulary.** It is important to plan for this, rather than just using texts at students' existing reading level.
- **Increase opportunities for individual, silent reading.** This can be scaffolded using the strategies suggested above.
- **Read in volume.** Vocabulary can be acquired through incidental learning (as opposed to direct instruction), so reading volume (amount) makes a crucial, ongoing contribution to vocabulary development.
- **Read aloud, clearly and expressively, to students.** Hearing new words read well will help to build vocabulary. Read aloud regularly and take time to discuss the texts.
- **Promote your whole-school reading ethos.** Refer to it, reinforce it, and show how you are contributing to it from your subject-, topic- or year-specific position.

## 5. Subject-specific and academic vocabulary

- **Check students' understanding frequently.** Don't assume that all children will know all the important simple words, let alone key words. Some will know surprisingly few of them.
- **Teach vocabulary explicitly in all subjects.** Identify specific new words to introduce each lesson. Revisit new words a number of times in a lesson, and reintroduce new words in different contexts.
- **Make vocabulary lists.** When planning a topic, make a list of vocabulary that students will need to know. Display, refer to, and revisit this list often. Share pictures for as many of the words as possible. Ask students to notice when each word comes up during the topic.

- **Celebrate original ways to learn words.** Send lists of new or key words home. Ask students to work out original ways of remembering new words. They can be as active as they like – video, pictures, mime – but emphasise that they should develop methods they think will help their peers to learn the words too. Students can then present their methods to the class.
- **Use a variety of texts in the classroom.** Expose students to a wide variety of texts relevant to your subject/topic, not just the course textbook, such as newspaper articles on relevant developments in science. Ask students to use these to expand their knowledge and understanding of the topic.
- **Work together.** Build students' confidence and skills by working out the meanings of unfamiliar words together through context cues. This prompts them to use their existing knowledge of a subject to make sense of new information.
- **Predict words.** Give the class part of a text you have been reading in class but with key, predictable words (e.g. some adjectives, adverbs, subject terminology) blanked out. Establish what sort of tone the writer is trying to create. Ask pairs to fill in the blanks appropriately.
- **Make word maps.** Encourage students to develop word maps that explore the meanings and structures of words. For example, students could break *photosynthesis* down into its word parts, and find other scientific words that use some of those parts (*photograph, photoelectricity*), and so on. The key aim of this sort of activity is to build students' confidence and ability to identify what they do know, rather than fixating on a word they don't know.
- **Share writing activities as a class.** Work collaboratively, using new words and words the students suggest. Discuss the best word choice together before using it in the text, ensuring words are chosen in terms of precision, impact, and appropriateness. This sort of shared writing is a vital opportunity to model for students how to reach inside themselves for the words they already know and how to reach outside themselves for new and appropriate vocabulary.
- **Display academic words.** Display lists of cross-curricular academic or tier 2 words and their meanings, such as *conclusion, analysis, reference, evidence*, etc. Prompt students to use these words when answering questions in class, and model their use. For example, a child might say, 'I think the Romans were really clever to do that.' You can reply, 'What *evidence* do you have for that *conclusion*?' These are different ways to prompt a greater level of clarity and precision. Sometimes point to key words on the displayed lists as you use words from them, and vary lists according to current need.
- **Emphasise cross-curricular links.** Deliberately explore how the same words are used in different subject areas. This will help them to become part of students' working lexicon.
- **Display lists of connecting words.** Share list of conjunctions and other 'connectives' and prompt students to choose from these at appropriate times. Connecting words can help students to clarify their existing thinking, but often they will also steer students towards making new and revealing connections between different events and concepts. Sort connecting words into their different purposes:

ADDING	CAUSE AND EFFECT	SEQUENCING	QUALIFYING	EMPHASISING	ILLUSTRATING	COMPARING	CONTRASTING
and	because	next	however	above all	for example	equally	whereas
also	so	then	although	in particular	such as	in the same way	by contrast
as well as	therefore	firstly	unless	particularly	for instance	similarly	alternatively
in addition	as a result	finally	except	especially	as revealed by	likewise	otherwise
		before	if	significantly	in the case of	as with	on the other hand

## 6. Classroom talk: teachers as role models

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We need to model the use of appropriate language. Over time, how we pitch our own vocabulary has an influence on children's own vocabulary. We shouldn't forget that some students might never hear at home the sort of precise, formal vocabulary that will help them in tests and exams. Potentially, teachers are the only people that some children will hear speaking or see writing in formal ways.

Of course, the nature of the relationships between children and teachers will be reflected in the language we use together, and close and relaxed relationships will tend to be expressed in more informal, vague, or imprecise spoken language.

However, teachers should think carefully about the language they use and its long-term effect. In many situations, modelling precise, relatively formal language when appropriate is more valuable than mirroring students' own language.

Deliberate vocabulary instruction can be very effective, especially in the context of positive teacher–student interaction. As David Reedy observes, 'when children are deeply engaged in tasks with us, we should challenge ourselves to use rich vocabulary.' (OUP, 2018)

- **Structure and scale questions.** Deliberately move from low-demand questions to high-demand, more conceptual questions in classroom talk.
- **Use brief comprehension questions.** Assess students' understanding to reinforce key words, and check that learning is taking place.
- **Expect answers in full sentences and with precise vocabulary.** Expect students to use subject-specific, linking, and cross-curricular conceptual words such as *however*, *analysis*, etc.
- **Prompt and scaffold precision.** When students use vague words such as *stuff*, prompt them to find a more specific word, such as *chemicals*. Repeat students' vague answers using more precise synonyms.
- **Give students time.** Give students time to reflect and rehearse their thoughts and answers.
- **Use different tiers of vocabulary.** In the early years, plan to sometimes introduce higher-level vocabulary in routine situations. For example, say 'Could you help me to *distribute* the paper?' rather than *give out*.
- **Choose useful, high-frequency words.** Choose words that the student will find useful in many contexts, including high-frequency words known and used by mature language users.

## 7. Vocabulary for assessments and exams

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It can be challenging for students with a limited vocabulary to achieve their potential in assessment and examination contexts. We need to ensure that we teach precise subject terminology at an appropriate level and that we explicitly teach exam vocabulary. Use academic words such as *find* or *analyse* and explicitly use the language of tests and exams in the classroom. Share the aims of a lesson/topic in the terminology that is typical of past test questions. Consciously use these key terms as part of the ordinary discourse of your classroom.

For further guidance and strategies to support vocabulary development for exams and assessment, read the relevant primary sections (EYFS, KS1, and KS2), or the secondary subject-specific chapters in *Closing the word gap: activities for the classroom* on the following pages.

# Reference list

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# Closing the word gap:

## English

### Section 1: Vocabulary for your subject

Annabel Wall has taught English for almost 20 years. A former second in department and consultant for BBC Bitesize, she's also the author of a range of educational resources and textbooks, including SPaG and AQA GCSE English revision guides.



She shares her practical classroom ideas for closing the word gap with strategies to develop students' understanding of the words we **read**, **hear**, and **speak**.

#### Using word banks

##### Advice for teachers

Explicit teaching of new words is needed for students to develop their vocabulary. The first stage of this process is to select the important vocabulary.

Don't give students an overwhelming word bank with dozens of words. Divide the subject-specific vocabulary into manageable lists. These lists may be shared with students, or they could just inform planning and teaching.

Consider how best to divide the vocabulary. For example, a possible split could be based on vocabulary tiers. Tier 1 words are those used in everyday talk, tier 2 words appear across the curriculum but not usually in everyday talk, and tier 3 words are subject-specific vocabulary:

<b>Tier 2 words</b>	Vocabulary for skills	For example, the words <i>implies</i> and <i>summarise</i> .
<b>Tier 3 words</b>	Vocabulary for knowledge	For example, the words <i>soliloquy</i> and <i>adverb</i> .

As an English teacher, I would also emphasise:

<b>Archaic vocabulary</b> (words that are no longer in common use or have changed meaning over time)	For example, some Shakespearean words like <i>sans</i> and 19th-century words like <i>countenance</i> .
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Within these broad groups, there could also be further subgroups. The **literature** vocabulary for knowledge could also be divided in the following way:

Poetry	Prose fiction	Drama
alliteration	chapter	act
assonance	character	aside
figurative	mood	audience
metaphor	narrative	monologue
personification	opening	playwright
rhyme	paragraph	scene
rhythm	protagonist	soliloquy
sibilance	setting	speech
simile	theme	tragedy
stanza		
verse		

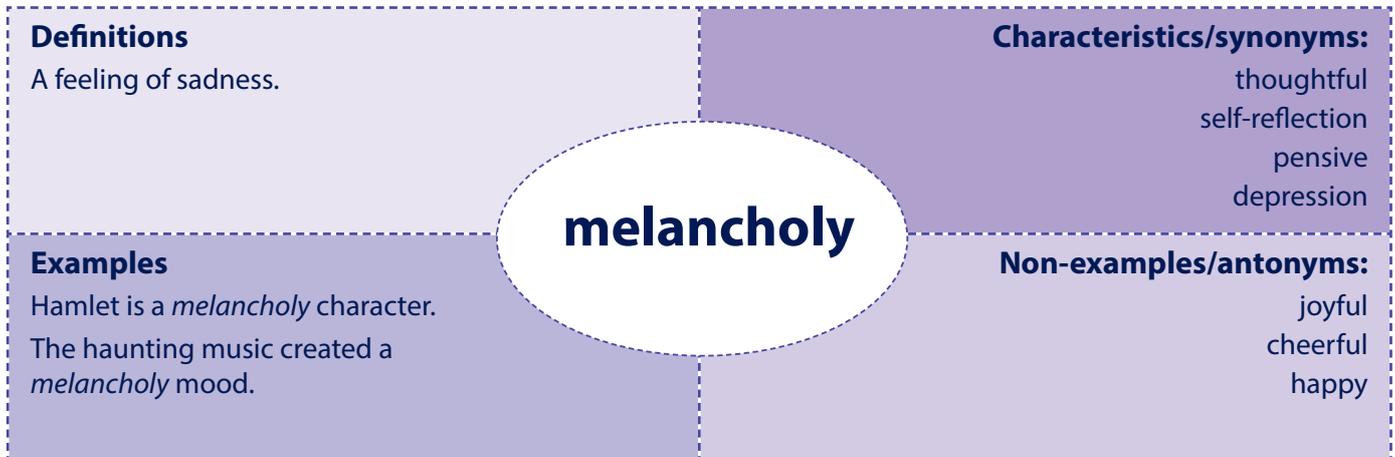
The **language** vocabulary for knowledge could be divided in the following ways:

Grammar	Punctuation
clause	comma
conjunction	ellipsis
object	em dash
sentence	exclamation mark
subject	hyphen
syntax	inverted commas
tense	semicolon
Spelling	Vocabulary
consonants	antonym
homophone	etymology
mnemonic	morphology
plurals	stem
prefix	synonym
suffix	thesaurus
vowels	

## Suggested strategies for using word banks

- **The SEEC model.** Use the SEEC model – select/explain/explore/consolidate when introducing new vocabulary. Select the words you want students to know. Explain each word's meaning, giving multiple examples that are relevant to students. Explore words further if you feel it will deepen students' understanding and awareness. Consolidate by testing, using, and modelling the word in your speech and encouraging students to find out more about the word through targeted research (Quigley, 2018).
- **Dictionaries.** Support students when using dictionaries. Ensure you have the right dictionary at the right level for your students, and scaffold tasks carefully to build confidence. Take time to decipher any special marks or abbreviations to help students to access words.

- **Student-friendly definitions.** Definitions need to be in student-friendly language and appropriate for students' reading age. Create your own written and verbal definitions in class. Differentiate to encourage students to compare these to the dictionary definition when more support is required.
- **Fray model.** Use a Frayer model template (like the one below) for new words. The *non-examples* heading could be replaced with *antonyms*, and the *characteristics* heading could be replaced with *synonyms*.



- **Matching activities.** Give students a range of matching activities: match words with definitions, words with synonyms, words with antonyms, etc.
- **Call My Bluff.** Experiment with Call My Bluff definitions. Students work in two pairs, with one pair creating four definitions for a specific word, but only one definition is correct. The other pair tries to work out the correct definition.



### Independent learning tasks

- **Student word banks.** Word banks don't have to be teacher driven. Students could also create their own personalised word journals or word hoards.

Subject: English				
Word	Where did I hear/read it?	Definition in my own words	Links to other words I know	Tick when used it in my own learning
soliloquy	My teacher used the word in our lesson on 'Much Ado About Nothing'.	Speaking on your own onstage.	Links to word solo, which means one.	

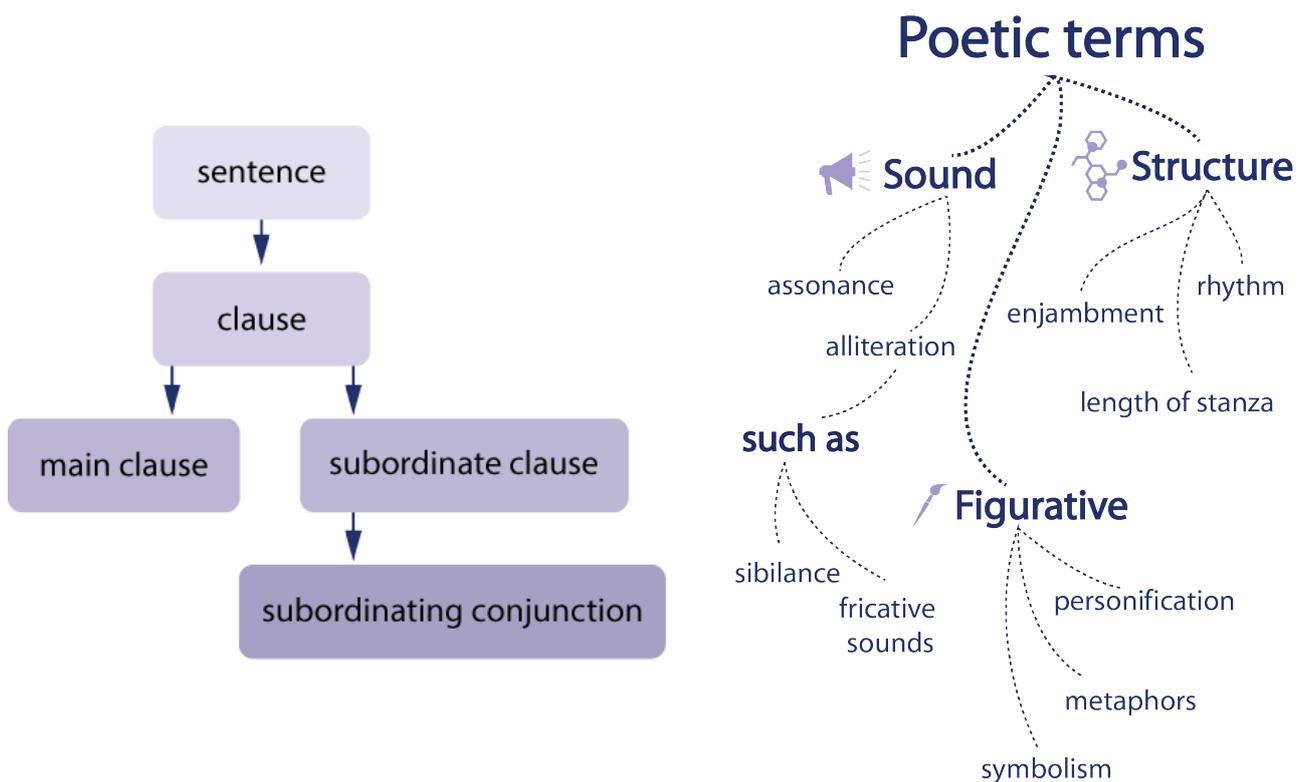
To monitor how they are decoding new and unfamiliar words, students could use the Teachit English resource [Strategies for understanding new words \(30612\)](#).

## Making links between key terms

### Advice for teachers

It's essential for students to make links between key terms and see the relationships of words within a group. Most students love to spot patterns, and encouraging a curiosity about how words are connected will help them to develop a vocabulary with more depth. These links could be based upon meaning, etymology, morphology, context, or topic.

Diagrams provide a strong visual hook for these grammar and poetry terms and help to show the links between them:



Students need to revisit key words and make new links between words in new contexts. For example, they may be introduced to the word *enjambment* in a poetry lesson but can then revisit the word during their study of Shakespearean verse.

### Suggested strategies for making links between key terms

- **Displays.** Create classroom displays that show the links between words, such as a word wall of cause and effect conjunctions. The focus should be on student-friendly definitions and examples. Use sticky tack so that the words can be moved around and changed.
- **Prior knowledge.** When a new word is introduced, ask students to think about how the word links to words they already know. For example, the word *dissonance* could be linked to the words *assonance* and *consonance*, as well as linking to sound.



## Independent learning tasks

- **Categories.** Give students a selection of tier 2 words, and ask them to create their own categories for these words. Discuss the different groupings and how the links have been made. Encourage students to find different ways to present these links, perhaps using free mapping tools available on the web, like [Coggle](#).
- **Maps and organisers.** There are various ways that these links can be organised, such as word/concept/topic maps, word family trees, and knowledge organisers. Encourage students to experiment with different formats and display or share the most effective in class.

## Exploring etymology and morphology

### Advice for teachers

The study of etymology and morphology is crucial when developing students' word power. This fascinating area of language study encourages students to investigate the words they encounter and spot patterns. Focusing on useful root words can help students to develop their specialist English vocabulary:

Root word	Meaning	Examples
biblio	book	bibliography, bibliophile
bio	life	biographical, biography
chron	time	chronological, synchronise
gram	letter	grammar, anagram
log	word, reason, speech, or thought	prologue, epilogue, dialogue
narra	to tell	narrator, narrate, narrative
omni	all	omniscient, omnipotent
sol	alone	soliloquy, solitary

There are also root words that could help students decode unfamiliar words in an unseen text. For example, if a student knew that *odor* is a Latin root meaning smell or scent and that *mal* means bad, they could work out the meaning of *malodorous* (smelling bad!).

Root word	Meaning	Examples
meta	change, transfer	metamorphosis
miss, mit	send, let go	emit, dismiss
path	feeling, emotion	apathy, empathy
rid	laugh	deride, ridicule
tract	to pull or draw	detract, attraction
vac	empty	evacuate, vacuum

You could also explore common prefixes that could help students to decode unfamiliar words:

Prefix	Meaning	Examples
anti-	against	anticlimax
auto-	self	autobiography
con-	with	conjunction
fore-	before	foreword
mis-	wrong	misunderstand, mistake
pre-	earlier, before, in front of	preface, previously
re-	again	reassert

Remind students that Shakespeare often played with words, for example, adding prefixes to create a new word and increase the dramatic impact, such as *un-* (*unhair, unkinged*), *be-* (*bespeak, bemock*), and *en-* (*entomb, enthrall*). Decoding how these words are formed can unlock their meaning.

## Suggested strategies for teaching etymology and morphology

- **Neologisms.** Introduce students to the word *neologism* and demonstrate how to work out the meaning of this word using etymology and morphology. For example, the word *neo* means new, and *log* is from the Greek meaning word or speech, so the word *neologism* means 'new word'. Share some examples of recent neologisms – the [OED](#) added 1,400 new words in 2018, including *nothingburger*, *fam*, and *burkini*. Discuss your favourites as a class.
- **Student neologisms.** Remind students that Shakespeare is famous for his neologisms or invented words that have become part of everyday speech. Challenge students to create their own neologisms using their knowledge of root words and prefixes. The aim is to develop a more playful attitude towards vocabulary and at the same time strengthen their knowledge of etymology and morphology.



## Independent learning tasks

- **Informed guesswork.** Give students an extract with unfamiliar words, and ask them to work out the meanings. Place an emphasis on informed guesswork, using the context of the word as well as their knowledge of etymology and morphology. They could use a table to record their ideas:

Word	My definition guess	Dictionary definition	Definition in my own words with an example

- **Research.** Ask students to research the etymology of a word. There are lots of excellent etymological dictionaries online such as [Etymonline](#). Students can present their findings in a visual way or even record their observations as a video. You could divide the students into groups, for example, some focusing on words of Latin origin and others focusing on Greek words.

## Using talk to widen vocabulary

### Advice for teachers

Don't underestimate the importance of talk in the English classroom – both your talk as a teacher and students' talk. The **sounds of the words** are very important for students coping with unfamiliar vocabulary. Asking students to look up a word in a dictionary is only helpful if they can then discuss the definition and make sense of it in their own words.

Students are more likely to use and understand English vocabulary that is used in the classroom frequently. Don't be afraid of using academic language in the classroom; just introduce new words gradually using the SEEC model of learning. Research shows that repetition is needed to really develop word depth, and that students must encounter a word at least four times (Beck et al, 2002).

Stress to students that they are learning to 'talk like an expert' and that every specialism has its own language.

### Suggested strategies for using talk to widen vocabulary

- **Classroom talk.** Keep using the key words in classroom talk – keep repeating words, and give quick verbal definitions.
- **Wider uses.** Use the words in different contexts. For example, students often isolate the word *metaphor* as being linked to poetry – highlight its use in non-fiction texts and other contexts.
- **Verbal synonyms.** Provide verbal synonyms as regularly as definitions. Repeat student answers using synonyms, for instance, replacing some words with more academic versions. For example:
 

*Student: The start of the story makes me feel tense.*

*Teacher: Yes ... the opening creates a sense of tension for the reader.*
- **Student-friendly definitions.** Integrate student-friendly definitions into classroom interactions, for example:
 

*Teacher: Sam just used an interesting word: **apprehensive** means to feel worried or unsure about something. For example, you might feel apprehensive before an exam.*
- **Pronunciation.** Encourage students to note down how to pronounce a word and remind students that many adults struggle to pronounce unfamiliar words too. Model how to note down the sounds of a word, e.g. *so-lil-o-quee*.
- **Drama improvisations.** To help students with 19th-century words, try some drama improvisations such as a tableau or mime to explore a bank of words that are unfamiliar to the modern ear, such as *countenance*, *divined*, *grievous*, or teach a whole lesson in role as a 19th-century teacher!
- **Classroom observers.** During group tasks, reward students who use key vocabulary, and encourage them to observe classroom talk actively and coach one another. Allocate roles to students so that during a reading task they are noticing and recording new words.
- **ABC feedback.** Use ABC feedback in the classroom to encourage talk – ask students to **agree with**, **build upon** or **challenge** what another student has said.
- **Word games.** Encourage a playful, spoken approach to words. There are lots of word games to choose from, including the radio game Just a Minute, when students talk about a word for one minute without deviating, hesitating, or repeating a word. The Teachit English resource [Speaking and listening word games \(16245\)](#) includes some more.



## Independent learning tasks

Give students 'talking' homework to encourage their confidence with unfamiliar words. For example:

- **Favourite unusual words.** Ask someone (a friend or someone you live with) to share their favourite unusual word – what does it mean and why do they like it?
- **Be the teacher.** Spend five minutes teaching someone else three words you have learned in English this week, or teach a friend some common word stems, and discuss what words they know that use these stems. Write down their suggestions/ideas.

## Avoiding common mistakes and misunderstandings

### Advice for teachers

Keep your own record of students' common vocabulary mistakes and misunderstandings. For example:

- using the term *paragraph* instead of *stanza* for poetry
- referring to a *sentence* of poetry rather than a *line*
- using the verb *quote* instead of the noun *quotation*
- referring to the *reader* when writing about a play, instead of the *audience*.

Students frequently encounter misunderstandings when tackling Shakespearean vocabulary. It's important to teach students explicitly about Shakespeare's language to give them strategies for deciphering the text. It can be helpful to remind students that some familiar words that Shakespeare used have since changed their meaning (e.g. the word *silly* meant innocent or simple, and *luxurious* meant lustful).

Even students with a wide vocabulary can use complex words incorrectly. Model a growth mindset by talking about mistakes you've made as a teacher and how you've learned to cope with specialist vocabulary in your subject. Stress that mistakes and misunderstanding are a natural result of learning any new words.

### Suggested strategies for correcting these mistakes and misunderstandings

- **Spot the mistakes.** Give students sample paragraphs where the words have been used incorrectly. Students highlight the mistakes and discuss why they are incorrect.
- **Malapropisms.** Introduce students to the idea of *malapropisms* (a lovely new bit of vocabulary), and show them amusing examples from film, Twitter, and YouTube, etc.



## Independent learning tasks

- **Social media.** Provide students with examples from social media and see if they can 'study' these to spot the misuse of words. Politicians like Trump are often a good source.
- **Aides-memoire.** Ask students to create their own memory aids for remembering tricky vocabulary, such as creating their own posters with doodles and images.

## Understanding vocabulary for exams/assessments

### Advice for teachers

Students need to be taught explicitly the language of assessment; English language and English literature have their own exam jargon, and these words can create a barrier for many students.

Don't assume that all students will understand even basic words. For example, key stage 3 and key stage 4 students may fail to access an exam question at a fundamental level if they don't understand specialist exam nouns like *text*, *extract*, *source* or *features*. Students also need to understand all the command words in an English exam, for example *explain* or *summarise*.

Keep your own records of the key exam words, and monitor how often you use them in classroom talk and written activities; find opportunities to consolidate student knowledge of these words in a variety of contexts. Ensure that students who struggle with their reading are very familiar with the rubric of the exam paper too.

### Specialist word bank

Command words used in GCSE English exams	AQA	Edexcel	OCR	WJEC Eduqas
analyse		✓		
comment				✓
compare	✓	✓	✓	✓
consider	✓	✓		
convey	✓			
describe	✓		✓	
discuss			✓	
effect/s*	✓			✓
evaluate*	✓	✓		
explain	✓	✓	✓	✓
explore	✓	✓	✓	
extract/s	✓	✓	✓	✓
features	✓			
identify		✓	✓	
indicate		✓		
insert	✓	✓	✓	
methods	✓			
passage	✓		✓	✓
persuade	✓			✓
present/ed			✓	✓
refer	✓	✓	✓	✓
reference	✓	✓		
respond/response	✓	✓		✓
section	✓		✓	✓
similarities		✓	✓	
source	✓			
summary	✓			
support	✓	✓		✓
text	✓	✓	✓	✓

\*Words identified in recent examiner reports as posing difficulties for students.

## Key areas of concern identified in examiner reports

Recent GCSE examiner reports suggest that students need a more developed understanding of the word *evaluation*, with one board noting that ‘... the concept of critical evaluation is not easy for most candidates’ (WJEC Eduqas, 2018). There should be an explicit focus on the **how** as well as the **what** during the evaluation of a text. Edexcel also highlighted students’ understanding of the word *evaluate*, observing that at times students explained and commented instead of fully evaluating.

There were also references to students confusing the words *reader/audience* and *novel/play/poem* in their written response to the texts.

In all examiner reports, there is also evidence that students spent too long ‘feature spotting’ or ‘device spot[ting]’ (OCR, 2017) and not enough time focusing on the **effect/s** of language (AQA, 2017).

Examiners also reveal that students sometimes selected words and phrases that they did not fully understand, and therefore were unable to write a convincing analysis. Students performed much better in the exam if they focused on individual words that they understood and explored the effects.

## Suggested strategies for teaching vocabulary for exams/assessments

- **The Frayer model.** Use the Frayer model to teach important exam vocabulary explicitly (see the example given earlier).
- **Games and drama.** Introduce command exam words in different, less threatening contexts, such as with a game or drama activity. A fun way to do this is with a series of simple objects, for example, a trainer. Students must then use the different exam words to identify the trainer, describe the trainer, explore the trainer, or evaluate the trainer, etc. This can be turned into a competition as students guess which exam word is being used, with the focus on speaking rather than writing.
- **Make it topical.** Use a topical subject to practise responding to exam commands – pick two things that can be compared, and ask students to model their responses e.g. evaluating the games *Fortnite* and *Overwatch*.
- **Collages and posters.** Give students lots of old exam papers, and get them to cut them up. They can then create collages and posters of the key exam vocabulary, deciding on relevant groups and links.
- **Sort the words.** Give students the key exam vocabulary on sort cards, and ask students to:
  - sort the words into verbs and nouns
  - rank them depending on their difficulty
  - group the words that are similar in meaning.
- **Match the command words.** For extra challenge, give students snippets of exam answers, and ask them to match them to the correct exam command words.
- **Formative assessment.** It’s useful to assess formatively how well your students have understood the exam vocabulary using a range of different approaches:
  1. Explain the difference between *explore* and *evaluate*.
  2. Give an example of when you would *summarise* information in your daily life.
  3. What are the similarities between the words *extract* and *section*?
  4. Write a sentence using the word *infer*.
  5. Give an example of when you *compare* in three of your subject areas.
  6. Give a definition, in your own words, for the word *source*.



## Independent learning tasks

- **Student audit.** Students could audit their own understanding of exam vocabulary in word journals:

Exam word	Know it well, can explain it, use it, and respond correctly to it in an exam	Know something about it or have a vague idea of what it means	Have seen the word on an exam paper and/or heard the word	Do not know the word

- **Links across subjects.** Encourage students to make links across subject areas: which English exam words are used by other subjects? Are there any words that have a slightly different meaning in different subjects (for example, the word *source* in English and history)? Students can create posters for key exam words using examples from all the relevant subject areas.

# Closing the word gap:

## English

### Section 2: Vocabulary to improve your students' writing

Here are Annabel Wall's suggestions for effective classroom strategies to develop students' ability and confidence in using key vocabulary in their written work.

In English lessons, students face the challenge of writing a wide range of fiction and non-fiction texts. A limited vocabulary can stifle their written voice, so how do we help students improve their own written vocabulary?

#### 1. Good readers make better writers

All English teachers know that good readers make better writers, so encouraging reading for pleasure should underpin any approach to improving students' written vocabulary.

In an ideal world, all year 7 students would arrive at secondary school with a love of reading books. However, for some students reading is not a pleasure. So how can we get students to read more?

- Encourage them to read comics, magazines, game reviews, graphic novels, or the *Guinness Book of World Records* (often the most popular and dog-eared books in the school library).
- Sneak in some wider reading during lessons, but don't worry about always having to 'do' something with a text – sometimes it's enough to just read something and let them think and enjoy.
- Set students the optional challenge of joining the local library and bringing in their library card to class as evidence. This works well if offered as an alternative to doing that week's homework!
- Set up group reading challenges. For example, at my last school all the year 7 tutor groups competed to see who could exceed their average height in books. The spines of each book were photocopied, and a pile was created on the wall for each tutor group to chart their progress. There are several Teachit English resources with a competitive element, including the [Great reading race \(12842\)](#) and [Reading bingo challenge \(26565\)](#).
- Encourage talk about reading throughout the school, and not just in the English classroom – ask other departments to share their favourite books too. Have displays celebrating a variety of readers and their love of books.

#### 2. Taking the fear out of reading aloud

Reading aloud has fallen out of fashion in a lot of English classrooms, and even confident students can find the prospect of reading aloud daunting. However, reading aloud can provide some of the most useful opportunities to focus on and discuss unfamiliar vocabulary. Students are more likely to use a word in conversation if they know how to pronounce it. If they use the word in their talk, they are more likely to use it in their writing.

Here are some strategies for making reading aloud less intimidating:

- Give students time to prepare what they will be reading aloud, or try learning some [Poetry By Heart](#).
- Allow students to choose what they read to the class – perhaps having a slot once a week when a few students can share an article they've found or a text they are interested in.
- Organise for students to read aloud in small groups (just as they do at key stage 2 in guided reading).

Model a growth mindset to your students: explain that many adults find reading aloud a challenge and that sometimes a real effort is needed to overcome this fear and anxiety.

### 3. Students taking the lead

It's important that students see the connection between their own reading and their writing.

Ask students to create bookmarks with spaces for words. During reading, encourage them to keep a record of interesting words they find. Devote regular slots during the week to reviewing and talking about these words, and ask students to give definitions in their own words.

These bookmarks can then be shared and used during writing tasks. They could also lead to 'Word of the day' or 'Word of the week', or contribute to a class word bank of interesting words.

Ask students to think about how words they have learned in other subjects could be used in their English writing. For example, find out what they are studying in history, and ask the students to draft a piece of creative writing set in that period, including some of the words they've recently learned in history to give their writing an authentic feel.

### 4. Playing with words

Give students the space to play with words in their writing. An effective approach is to pick a genre like science fiction or fantasy and encourage students to create their own word banks as part of their story planning.

These word banks could be generated in groups, with students inventing some words through various means. For example:

- **portmanteaux words** (words created by blending two words together) such as *mimsy*, which is a combination of *miserable* and *flimsy*
- **compound words** (words created by joining two words together) such as *moonlight*
- **neologisms** (newly coined words) such as *saturning*.

Use fun digital tools to inspire students, such as [Word Generator](#).

### 5. Using academic vocabulary in their own writing

Students with a limited vocabulary often struggle to write in an analytical style. One effective approach is to teach them academic vocabulary using a topic that is relevant to their everyday lives. Then get students to use academic vocabulary to write about their interests. For example, one of my students wrote a formal essay on skateboarding, starting with his own word bank of specialist terms and imagining he was writing for a knowledgeable audience.

Conjunctions are useful building blocks for formal writing. Students will sometimes use conjunctions in the wrong place, dropping them into a sentence without a real understanding of how the word affects the structure, meaning, and clarity of a sentence. There are various strategies for supporting students in their use of conjunctions:

- Ask students to sort conjunctions into groups – subordinating conjunctions, coordinating conjunctions, and conjunctive adverbs. Explicitly teach the purpose and function of each type of conjunction. The Teachit English [Connectives writing placemat \(20352\)](#) is a useful guide.
- Be aware of students overusing conjunctions, especially complicated conjunctions. Remind them that *and*, *but* or *so* are often the most suitable words to use. Clarity is always more important than sophistication.

Be careful of just teaching formulas for formal, literature essays (whether it be PEE, PEEL, WET RATS, or similar). These can be useful, especially for students who are struggling, but there is a danger that teaching this kind of formal analysis can become overly prescriptive – ‘follow this and you will get it right’. Allow for creative thinking and a variety of structures within formal essays.

Make a note of common sentence stems that students are using in your class, and then model some alternatives. For example:

The writer uses ...	<b>Instead write ...</b>	The writer <b>employs</b> ...
Lots of different ...		A <b>variety</b> of ...
This shows me that ...		This <b>suggests</b> to the <b>reader</b> that ...
This means that ...		This <b>reveals</b> that ...
The people watching the play feel ...		The <b>audience</b> feel ...
Like when ...		<b>For example</b> ...
Also, the writer uses ...		<b>In addition</b> , the writer uses ...
The play is about love ...		The play <b>deals</b> with the <b>theme</b> of love ...
The book ...		The <b>text/novel</b> ...
The good use of ...		The <b>effective use</b> of ...

## 6. Using words to describe effects

Although specialist terminology is essential in the English classroom, it's important to avoid feature spotting in analysis, as this can limit the scope of a student's response.

Remind students that the learning of specialist vocabulary is about acquiring a **language** to talk about literature. Model how to make the specialist term the subject of the sentence. For example:

The *alliteration* in the opening paragraph, ‘the dense mist drifted’, creates a sense of unease.

Having a wider vocabulary allows students to write about the **effect** of the writer's choices. This is often an area that students struggle with in English because they cannot draw on a bank of subtle words to describe the exact effect.

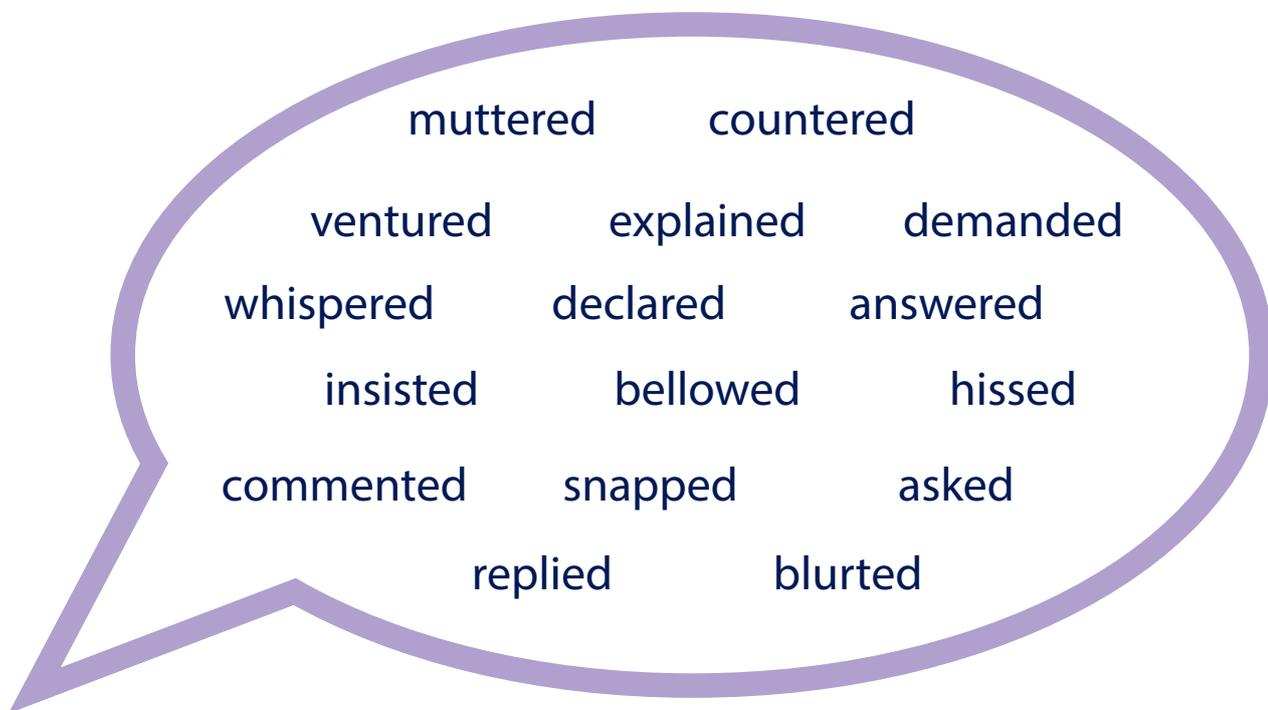
The following list may be a useful starting point for students:

... this creates a feeling of ...	amazement anticipation apathy consternation disbelief
... establishes a sense of ...	dissonance empathy freedom harmony shock
... this choice of ... provokes feelings of ...	sympathy tranquillity trepidation unease

## 7. Building a rich, creative written vocabulary

We often encourage students to build up a knowledge of descriptive words, such as using varied adjectives and adverbs during creative writing. However, it's useful to remember that a rich, creative vocabulary also needs a variety of verb choices.

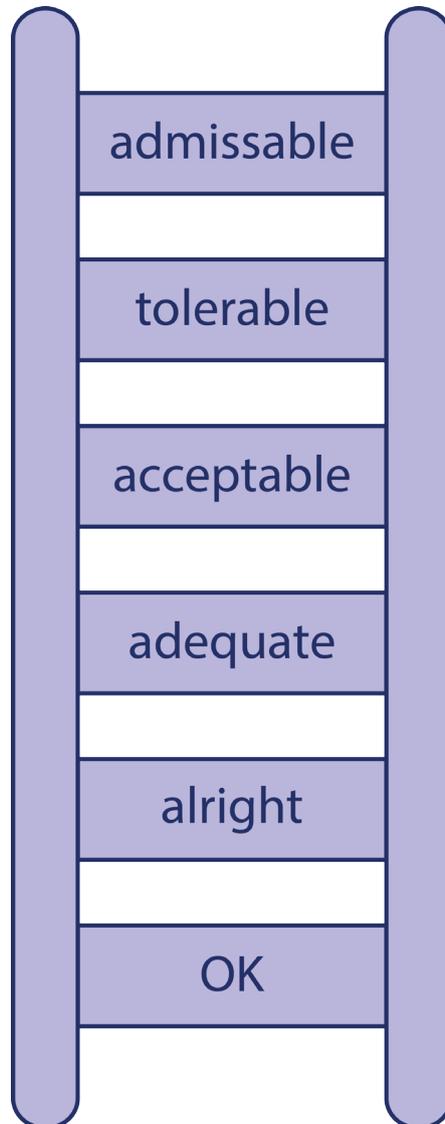
A particularly useful way to demonstrate this is to ask students to think of alternatives to 'he said / she said'. For example:



A school thesaurus can be very useful, but difficult to access for some students. Introduce students to a simplified online thesaurus such as [power thesaurus](#).

Encourage students to explore the subtleties of meaning within synonyms. For example, although the following adjectives are all broadly synonyms, each has different connotations: *old* man / *elderly* man / *ancient* man / *decrepit* man.

Give key stage 3 students 'word ladders' to upgrade their word choice. For example, during a writing task they could consider and discuss the effect of the following word choices:

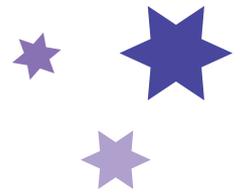


Remind students that sometimes the most complex or unusual vocabulary choices are not the most effective. Most English teachers have encountered an overly enthusiastic student who has been heavy-handed with a thesaurus!

## 8. Getting students to read aloud

Involve parents/carers, and set homework that involves reading aloud at home. To support the reader and listener with this task, you could use the following template:

# Classroom resource: Reading aloud template



Dear Listener,

I'd like to read aloud to you for five minutes. You can be doing something else while I do this, such as cooking a meal, as long as you are listening. After I've read, we will then have a quick chat about what I've read to you. If there are any tricky words, we will work these out together.

<b>What did I read aloud?</b>	<b>Who was listening?</b>	<b>List of words that were tricky to say out loud:</b>
<b>List of words that I found tricky to understand:</b>		
<b>Questions I have about what I've read:</b>		
<b>Questions my listener had about what I read:</b>		
<b>Words I found interesting:</b>		

## Topic: Creative writing

Materials required: Short story openings, A3 sheets, highlighters or coloured pens.

---

### Lesson idea:

## The fiction vocab swap

### Activity

Explain to students that today they will work as magazine editors. They have been given a manuscript of a short story for publication, but the writer's choice of vocabulary needs some work. Today they will work on the opening section of the short story and make some changes to improve the vocabulary and its effect.

- Start by asking students to stick the opening in the middle of an A3 sheet. They will work individually first, reading the opening and highlighting in different colours the words they would change or remove. Remind them that their focus is **only** on word choice – they can change, add, or remove individual words, but they cannot alter the basic narrative structure of the story.
- Then they will work with a partner, comparing and discussing their choices and possible replacements. At this point, they could experiment with using a thesaurus. To differentiate, you could also provide students with a small word bank with definitions and encourage them to swap in some of the vocabulary.
- The pairs will then swap their A3 sheets with another pair and discuss the differences.
- Ask for volunteers to read out the changes they have made and discuss the effect of these vocabulary swaps.
- Show students the second draft version of the opening, and discuss with the whole class how the changes compare to their own choices.

### Teaching tips

- Remind students that writers can be verbose (using more words than are needed) in a text. They may need to simplify word choices too.
- Explain the meaning of tautology (saying the same thing again, just in a different way) and see if students can find an example in the text.
- Focus on subtle changes to the text in the two versions, such as the change from *sobbing* to *crying*. What is the effect of this change? Why has the editor chosen *torso* in the second sentence? What do they think of the choice of adverb in *fiercely cold*? Do they disagree with any of the edits? Remind students that small changes to vocabulary choice can really lift a piece of writing, and encourage them to make links to their own writing.



### Independent learning tasks

- After these activities, students should draft and edit their own work using some of the insights they have gained from the activity.
- Students could use the poem 'Stealing' by Carol Ann Duffy as inspiration for their own writing and then draft their work with a focus on vocabulary choices.

# Classroom resource:

## Short story openings

### 1 Short story opening

*The white snowman's head sat on the front seat. The white bottom bit of the snowman was in the back seat contained by the seatbelt. There was already some wet water on the floor with the cans and crisp packets.*

*A big scratch ran along the length of the shiny red car.*

*He didn't know why he'd stolen it. It wouldn't last long in the car, it perhaps wouldn't last the car journey. It was really very cold, but he didn't want to put on the heating. His fingers were freezing cold.*

*He imagined children sobbing in the morning when they saw it had gone. Or perhaps they would imagine it had escaped into the snowy landscape.*

---

### 2 Short story opening – second draft

*The snowman's head rested on the front passenger seat. The torso was in the back seat secured by the seatbelt. There was already a puddle of water growing on the floor amongst the squashed coke cans and faded crisp packets.*

*A long, disjointed scratch ran along the length of the otherwise pristine car.*

*He didn't know why he'd taken the snowman. It wouldn't last long, perhaps it wouldn't last the journey. It was fiercely cold but he didn't want to risk the heating. His fingers were numb.*

*He imagined kids crying in the morning when they saw it had gone. Or maybe they would think it had come to life and escaped into the snowy landscape.*

## Lesson idea:

## Word frames

### Topic: Exploring vocabulary choices

Materials required: Word frames photocopied on an A4 sheet (see attached resource) and examples of students' own essay writing on an A4 sheet.

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### Activity

Tell students that they will be working on improving their use of academic vocabulary in their literature essays. You can use this activity during or after writing an essay.

Put the students into pairs, and allocate each student a word frame with formal vocabulary choices. The example here uses alternatives for the word *shows* in a literature essay, but the frames can be adapted to focus on any element of academic vocabulary.

Students place the frame over their writing so that their essay sits in the centre of the frame. Using the frame as a guide, they must then make at least four changes to their word choices in the essay. They are aiming to give their writing a more academic tone. The students then swap their work and discuss their choices – would their partner make any different changes?

Alternatively, the word frame could be used at the start of writing to encourage the use of a variety of academic vocabulary.

### Teaching tips

- This activity hinges on a gimmick, but it can be enough to spark a student's interest in their vocabulary choices.
- Laminate the frames to make them more durable or reusable. Alternatively, they can be made from old cereal boxes.
- The word focus of the frames can change depending on the needs of the class. For example, the frame could be filled with formal conjunctions or specialist terminology. These frames also work well for unseen poetry analysis, with the poetic terms giving a focus for the annotations of the poem.



### Independent learning tasks

- Set students the challenge of creating their own bespoke word frames. Give prizes for the most creative, and then turn them into a moveable display.
- Ask students to create specialist word frames for different tasks, for example, a Shakespeare essay or a poetry essay.

The writer ...

suggests

challenges

reveals

explores

implies

portrays

develops

hints

highlights

emphasises

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# Closing the word gap: mathematics

## Section 1: Vocabulary for your subject

Maria Howard has taught mathematics for over 10 years. Currently a curriculum lead, she has also led on numeracy within her school and local authority. She has written about the importance of mathematical vocabulary in the classroom and has developed teaching resources to support students' mathematical communication.



She shares her practical classroom ideas for closing the word gap with strategies to develop students' understanding of the words we **read**, **hear**, and **speak**.

### Using word banks

#### Advice for teachers

Mathematics has a wealth of words that students are unlikely to meet in other curriculum areas, alongside words used in other curriculum areas which have different meanings. It is an easy assumption to think that it is more important to give students the skills to solve problems numerically or algebraically than to develop their mathematical vocabulary. However, by doing this we simply widen the word gap. We also limit students' ability to think, talk, and act like mathematicians in our classrooms.

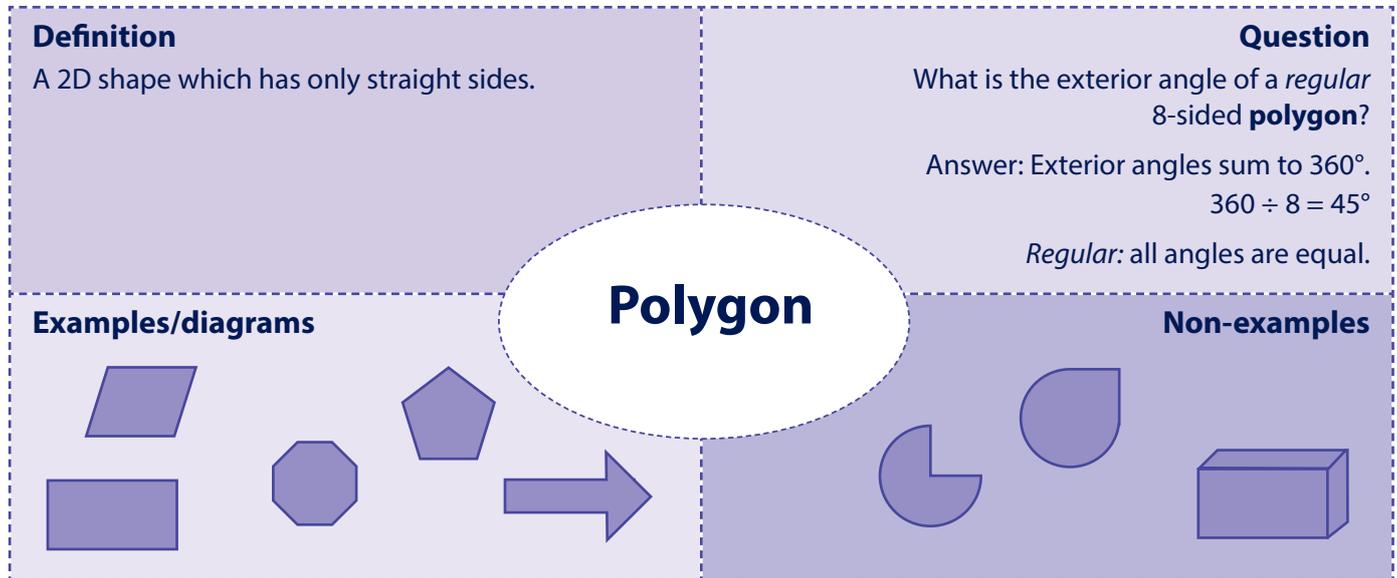
Word banks are useful in grouping key words or phrases together for a specific topic or skill. When students understand the topic key words, they are more likely to be able to access questions relating to that topic and to explain their answers.

When choosing words for a word bank, target the most important in terms of understanding and talking about mathematics. Which words do students need to be able to understand to access assessments? Which words need to be specifically taught to clarify misconceptions? Which words don't need to be included (for example, in teaching arithmetic to most students, you could probably leave out the words *add* and *subtract*)?

Arithmetic	Circle geometry	Bar charts	Comparing numbers
difference	centre	axis	ascending
multiply	chord	data collection sheet	descending
product	circumference	frequency	equal
sum	diameter	frequency diagram	equivalent
total	radius	tally	inequality
	tangent		

## Suggested strategies for using word banks

- **Peer quiz.** Challenge students to write questions for each other using words from their word bank.
- **Use the words.** Ask students to repeat back words from word banks to you and then to put them in sentences to answer questions.
- **Frayer diagrams.** Get students to put their vocabulary in a mathematical version of a Frayer diagram. This is a type of graphic organiser and could be organised as shown below. Related words can be referenced within this.



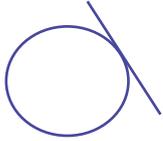
## Independent learning tasks

- **Revise the meaning.** Set a homework task where students learn the meaning of each word from a word bank. Give examples rather than definitions where appropriate. You are testing the understanding of the words rather than students' mathematical processing skills, hence the simple arithmetic used in the examples below.

Learn the meaning of the words below.

Word	Example and practice questions
<b>product</b>	What is the <i>product</i> of 5 and 3? $5 \times 3 = 15$ What is the <i>product</i> of 6 and 2? What is the <i>product</i> of 10 and 7?
<b>sum</b>	What is the <i>sum</i> of 5 and 3? $5 + 3 = 8$ What is the <i>sum</i> of 6 and 2? What is the <i>sum</i> of 10 and 7?
<b>difference</b>	What is the <i>difference</i> between 5 and 3? $5 - 3 = 2$ What is the <i>difference</i> between 6 and 2? What is the <i>difference</i> between 10 and 7?
<b>total</b>	Calculate the <i>total</i> of 10, 2, and 9. $10 + 2 + 9 = 21$ What is the <i>total</i> of £1, £3 and £5? What is the <i>total</i> of 5m, 2m and 4m?
<b>multiply</b>	<i>Multiply</i> 4 and 2. $4 \times 2 = 8$ <i>Multiply</i> 9 and 3. <i>Multiply</i> 12 and 11.

- **Mathematical dictionary.** Get students to create their own mathematical dictionary which they add to each week to compile a reference tool both for use in class and for revision. I like to give them the option to use an example or a diagram.

Topic	Word	Definition/Examples/Diagram
Circle theorems	tangent	A line that just touches the circumference of a circle. 
Factors and multiples	factor	The factors of 12 are 1, 12, 2, 6, 3, and 4 because: $1 \times 12 = 12$ , $2 \times 6 = 12$ and $3 \times 4 = 12$

- **Vocabulary journal.** Challenge students to find ways to use their mathematical vocabulary in other subject areas. Help students to choose the words carefully so that this is done in a meaningful way. Students can then record when and how they use each word.

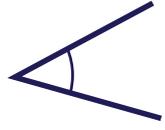
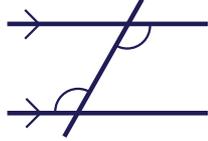
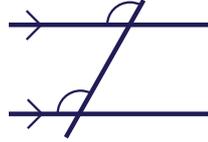
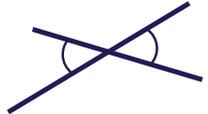
Word	Subject	Detail
calculate	science (physics)	I calculated the speed of a model car travelling down a ramp.
increase	geography	I studied the population increases in India and China in the last century.

## Making links between key terms

### Advice for teachers

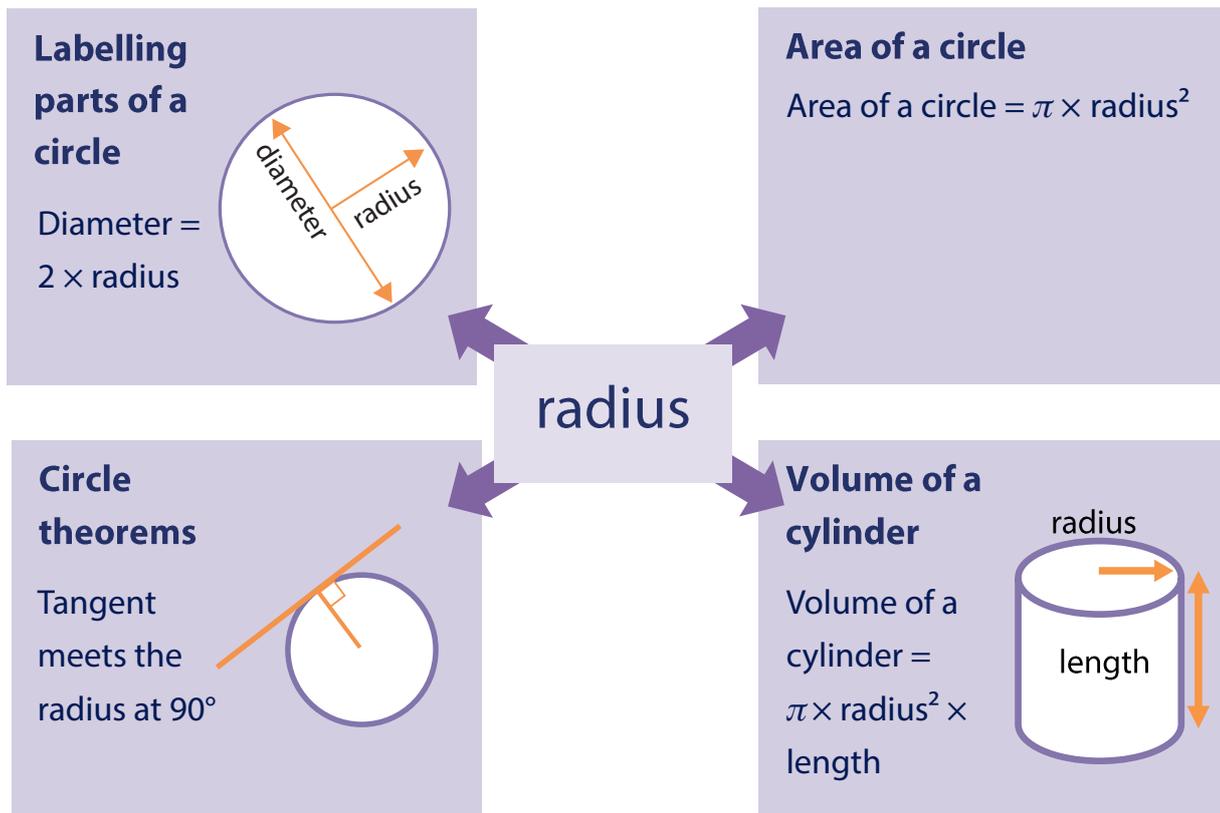
The same word in mathematics is often used across different topics. Understanding how and when a specific word can be used allows a student to make links across topics and deepens a student's understanding.

Show students how words within a topic relate to each other, for example, the word *angle*:

Word		Related adjectives	Definition/Example	
Angle	Size of angles	acute	less than $90^\circ$	
		obtuse	between $90^\circ$ and $180^\circ$	
		reflex	between $180^\circ$ and $360^\circ$	
		right	exactly $90^\circ$	
	Triangles	base	<i>base</i> angles in isosceles triangle are equal	
	Angles in parallel lines	alternate	<i>alternate</i> angles are equal	
		corresponding	<i>corresponding</i> angles are equal	
		co-interior (allied)	<i>co-interior</i> angles sum to $180^\circ$	
		vertically opposite	<i>vertically opposite</i> angles are equal	
	Angles in polygons	interior	the angle on the inside of a shape	
		exterior	<i>exterior</i> angles sum to $360^\circ$ interior angle + <i>exterior</i> angle = $180^\circ$	

## Suggested strategies for making links

- **Learning maps.** When reviewing and revising, create learning maps that show how a word can be used in different topics. For example:



- **Adjectives.** Get students to identify the adjectives that can be used to describe a particular mathematical word. For example, *gradient* can be described as *positive*, *negative*, *steep*, *increasing*, *decreasing*, *constant*, and *variable*. Students could then produce diagrams demonstrating the different gradients.
- **Bingo.** Play a version of Bingo where you give students grids with words on and you read out words relating to those words. For example, if you read out the word *quadrilateral*, students could cross off *parallelogram*, and if you read out the word *segment*, students could cross off the word *circle*.

## Independent learning tasks

- **Use the terms in questions.** Challenge students to create as many different types of question as they can using a particular word. For example, *perimeter* can be used in questions involving converting metric units, collecting like terms, forming and solving equations, and scale factors.
- **Research.** Get students to research the development of a particular area of mathematics and its associated vocabulary.

## Exploring etymology and morphology

### Advice for teachers

The root words that are used in mathematical vocabulary are not something that many classes explore in depth. Giving students the tools to decode new words can be extremely powerful.

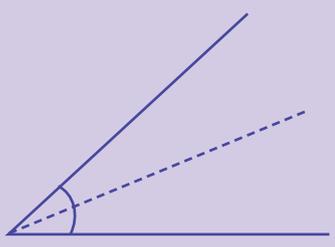
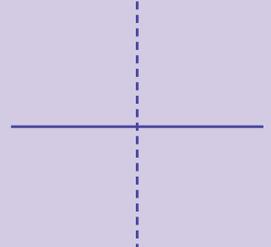
Focus initially on root words that students will come across most frequently.

Root word	Meaning	Examples
cent	a hundred	centimetre (one hundredth of a metre) centilitre (one hundredth of a litre) century (one hundred years) per cent (parts out of one hundred)
equ/a/i	equal, the same	equivalent (the same) equals (is the same as) equidistant (the same distance apart) equation (a statement showing two things that are the same) equilateral triangle (a triangle with three equal angles)
kilo	a thousand	kilometre (a thousand metres) kilogram (a thousand grams)
gon	angle	decagon (a 2D shape with 10 angles/sides) diagonal (a slanted line running across a space) octagon (a 2D shape with eight angles/sides)
quadr/a/i	four	quadrant (one of four equal parts) quadrilateral (a 2D shape with four straight sides)

### Suggested strategies for teaching etymology and morphology

- **Flash cards.** Once students have got the idea of looking for root words within mathematics, help them to break down particular words into their parts and explore examples using those words. One way to do this could be by making flash cards for different words.

## Bisect

<b>bi: two</b>	<b>sect: cut</b>
<b>bisect: to cut something into two equal parts</b>	
 <p>A line dividing an angle into two equal parts.</p>	 <p>A line at right angles to another, dividing it into two equal parts.</p>

- **Decode the meaning.** Provide students with a bank of root words and their meanings, and then ask them to decode what different words could mean.
- **Draw attention to the roots.** When listing and explaining key words during a lesson, underline and explore any root words. Students can add this information to their own word banks and glossaries.



## Independent learning tasks

- **Root word investigations.** Students could be asked to find as many mathematical words as possible containing a specific root word, for example, *vert/a/e* meaning *turn*.
- **Latin or Greek?** Students could research which languages provide different root words in mathematics and present their findings. Root words relating to numbers are particularly interesting.

## Using talk to widen vocabulary

### Advice for teachers

I have had the privilege of observing a lot of very talented mathematics teachers over the years, each with their own strengths and unique teaching style. However, one key area of professional development we all share is that we need to encourage (and support) our students to talk about mathematics in full sentences. Far too often we do all the mathematical communication for students ourselves. Look at the following example:

*Teacher: What do we know about the exterior angles in a regular polygon? Amina?*

*Amina: They're equal.*

*Teacher: And what must they add up to? Chantal?*

*Chantal: 360.*

*Teacher: And how many exterior angles are there in an octagon? Marianna?*

*Marianna: Eight.*

*Teacher: So, what would we do to work out one of the exterior angles? George?*

*George: 360 divided by 8.*

*Teacher: Good. Beth, can you work that out?*

*Beth: 45.*

In this example, I have used questioning effectively. I have targeted it at individual students and have involved my class in the process of explaining the example in clear steps. Alongside this, I have modelled the mathematics for students to copy down from the board. However, I have not allowed my students to communicate like mathematicians, I have not asked them to respond in full sentences, and I have not given them opportunities to practise using the subject-specific vocabulary themselves.

Here is an alternative dialogue:

*Teacher: This question is asking us to find one of the exterior angles in a regular octagon. Amina, could you explain how you could work that out?*

*Amina: 360 divided by 8 is 45.*

*Teacher: Could you put that in a sentence for me? You can use one of the sentence structures on the wall.*

*Amina: I think the answer is 45 because 360 divided by 8 is 45.*

*Teacher: I like how you've explained your working out. Could you improve your answer by giving me some reasons why you did that calculation?*

*Amina: Er ... no. I'm not sure.*

*Teacher: George, could you give me some reasons?*

*George: A regular shape has equal angles, and we know that the exterior angles of any polygon sum to 360. So to get the exterior angle of a regular octagon, we divide 360 by 8 because an octagon has eight exterior angles.*

*Teacher: Thanks, George. Fantastic use of mathematical vocabulary. Amina, could you now give your answer again including some reasons?*

At times it may not be practical or relevant to go into mathematical explanations to this degree. However, it is important that all students get the opportunity to communicate mathematically within the classroom and to develop their ability to do this over time.

## Suggested strategies for using talk

- **Taboo.** Play Taboo with key vocabulary: give a student a card with a word on that they must describe to the class, with a list of banned words below it. The rest of the class guesses the word. An alternative is to have a student face the class with their back to the board while the class tries to get the student to guess the word projected behind them.

Key word: quadrilateral	Key word: gradient	Key word: difference
Banned words: four quad shape straight	Banned words: m divide over graph	Banned words: take away subtract minus

- **Rehearsals.** For mathematical words that are difficult to pronounce, get students to repeat them back to you three times. Although this may initially feel awkward, classes soon get used to it.
- **Written explanations.** Where written explanations are required, give students plenty of practice, and insist on students doing this correctly. When feeding back on questions which require full explanations, highlight when students haven't done so, and avoid the temptation to give full marks.
- **Celebrate explanations.** Celebrate great mathematical explanations in class, and give students recognition for good oracy within mathematics lessons.
- **Displays.** Give students clear sentence starters for mathematical explanations, and insist on them using these at specific points. The sentence starters can be displayed on walls for quick reference.

**To get the answer, I first ...** [state working out]

**because ...** [give reason]

**then I ...** [state working out]

**because ...** [give reason]



## Independent learning tasks

- **Peer mentoring.** Set up peer mentoring for older students to support younger students with their mathematics. Under-performing students at GCSE could practise explaining concepts to weaker students in year 7 or 8, and potentially also build their confidence and resilience.
- **Take it home.** Set homework tasks which require students to provide reasons and working out for all their answers, and give students opportunities to improve their work as needed. Challenge students to teach someone at home something they have learned in class, giving mathematical explanations.

## Avoiding common mistakes and misunderstandings

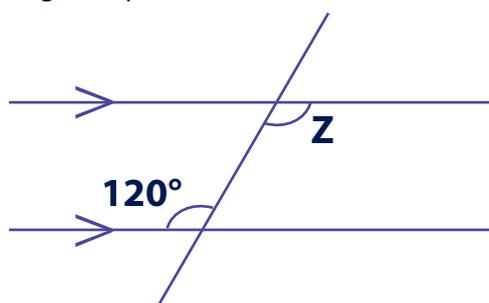
### Advice for teachers

Word meanings can vary across subjects. A *line of best fit* through a scatter graph is assumed to be a straight line in mathematics at GCSE; however, it is often a curve in science. An *average* could be the mean, median, or mode in mathematics, whereas in other subjects it usually refers only to the mean. Addressing misconceptions early on can reduce the chances of errors becoming embedded in a student's understanding of a word.

Words that sound similar can also give students a false sense of confidence with new vocabulary. I have had students confuse *correlation* with *coronation*, not to mention the student who confidently replied, 'Oh yeah, *proportion*, like in a *proportion* of rice.'

### Suggested strategies for correcting these mistakes and misunderstandings

- **Keep track.** Keep a record of misconceptions and errors made by students. Ever since my student confused *proportion* with *portion*, I have explicitly taught the pronunciation and spelling of the word.
- **Muddled words.** There are some topics where words are often confused, so you could give students a correction activity including answers accompanied by incorrect reasons. For example, when describing angles in parallel lines:



**alternate**

$z = 120^\circ$  because ~~corresponding~~ angles are equal

### Independent learning tasks

- **Keep a record.** Ask students to record any words they have misunderstood. Get them to make flash cards and test themselves on the correct meanings.
- **Compare with other subject areas.** Challenge students to find words used in mathematics that have a completely different meaning, or a similar but subtly different meaning (*line of best fit*), in another curriculum area. Get them to create posters explaining the different meanings of the word.

## Understanding vocabulary for exams/assessments

### Advice for teachers

After assessments, I have often spoken to colleagues who have been frustrated that students hadn't been able to answer a question correctly because they couldn't understand what the question was asking them, yet very few teachers explicitly teach their students the language of exams and assessments. While we may drill our students in the difference between a *factor* and a *multiple*, how many of us teach command words such as *express*, *state*, and *calculate*?

The language of assessments is most effectively taught when a consistent whole-school approach is applied. There are clear differences between *evaluate* in a mathematical and a literary context, and students need to be made aware of these.

## Specialist word bank

Refer to the command words below from your specific exam board, and see the associated definitions online for [AQA](#) and [Edexcel](#). The lists themselves are not exhaustive, but these are words specifically highlighted by the exam boards.

Please note that OCR and WJEC Eduqas do not have command words specifically highlighted for their GCSE Mathematics qualifications.

Command words used in GCSE Mathematics exams	AQA	Edexcel
assess	✓	
calculate		✓
comment*	✓	
complete	✓	✓
describe	✓	✓
draw	✓	✓
estimate	✓	
expand		✓
explain*		✓
factorise	✓	✓
find		✓
give / give reasons*	✓	✓
justify		✓
measure	✓	
multiply	✓	
plot	✓	
prove	✓	✓
rotate	✓	
shade	✓	
show*	✓	✓
simplify	✓	✓
sketch		✓
solve	✓	✓
translate	✓	
work out	✓	✓
write / write down		✓

\*Words identified in recent examiner reports as posing difficulties for students.

All four exam boards only specifically reference mathematical vocabulary in their specifications in two areas: the language of algebra and the language of factors and multiples.

However, vocabulary specific to mathematics is relevant to every topic, and this can be found in the detail of the relevant specification.

## Key areas of concern identified in examiner reports

Examiner reports specify many vocabulary errors and misconceptions, including errors in understanding mathematical symbols. In the Edexcel June 2018 report, the chief examiner even stated, 'A lack of mathematical reasoning continues to prevent some students from gaining marks when explanations are required ... centres are advised to practise these types of questions and the associated vocabulary'.

Some common misconceptions from the 2018 examiner reports include:

- confusing *area* and *perimeter*
- misunderstanding the term *proportion*

- misunderstanding the key term *expression* and instead giving an equation, a numerical answer, or an inequality
- confusing parts of the circle
- not knowing *corresponding* or *alternate angles*
- not understanding the term *range*.

Further detail is given in each board’s examiner report.

### Suggested strategies for teaching vocabulary for exams/assessments

- **Highlight new words.** When going through assessments in class, get students to highlight any problematic words. Work through definitions and examples of these as a class, and create a specific exam word bank for each group that you teach.
- **Guess the command word.** Give students some questions with the command words missing. They could then guess the missing word and work out the answer. For example:

\_\_\_\_\_  $2x - 3 = 4x + 9$

\_\_\_\_\_ and \_\_\_\_\_  $(x + 3)(x - 4)$

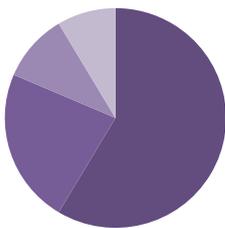
\_\_\_\_\_  $25^{0.5}$

Here, the missing command words would be: *solve*, *expand* and *simplify*, and *evaluate*.

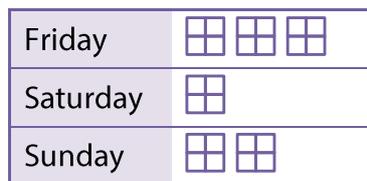
- **Broad terms.** Some words, when used in assessments, refer to a group of possible responses. These are worth specifically revising as a group of terms. For example, not understanding the term *frequency diagram* could lose four marks for a student, when they only needed to draw a bar chart to represent some data. You could get students to create flash cards, with accompanying exam style questions alongside these.

## Frequency diagrams: examples

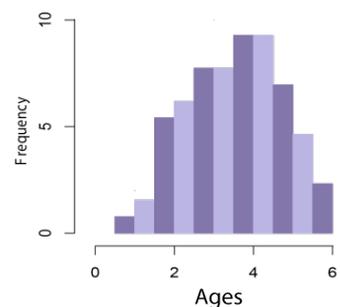
Pie chart



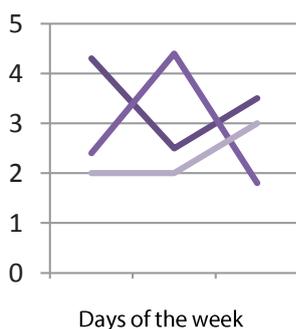
Pictogram



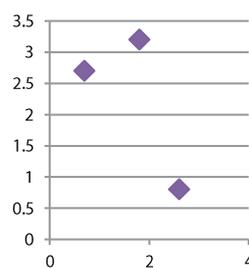
Histogram



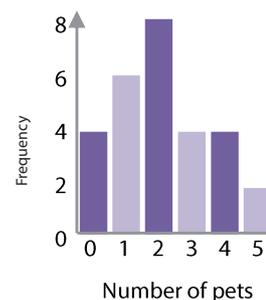
Line graph



Scattergraph



Bar chart



©DanielPenfield - Own work, CC BY-SA 3.0, commons.wikimedia.org/w/index.php?curid=9401898

- **Explore question types.** Give your students a variety of questions on a given topic, and get them to sort them according to what they are being asked to do. For example, the Teachit Maths resource [The language of ratio \(18855\)](#) includes cards which give a variety of ratio questions on creating/simplifying ratios, using a ratio to find one quantity when others are known, and dividing quantities in a given ratio.
- **Make links.** Ask students to group exam command words. For example, they could group algebraic key words.



### Independent learning tasks

- **Exam vocabulary.** Get students to write out mathematics questions on a recent topic using appropriate terminology.
- **Record other uses.** Challenge students to record questions from other subject areas which use the same command words in assessments. Ask them to compare and contrast their uses so that they answer questions in an appropriate way for each subject area.

# Closing the word gap: mathematics

## Section 2: Strategies to further develop students' vocabulary

Here are Maria Howard's suggestions for effective classroom strategies to develop students' ability and confidence in using key vocabulary.

### 1. Assessing understanding of key words

I have often been surprised at how words I had assumed to be in a student's vocabulary are in fact not, and so create stumbling blocks for them in mathematical conversations. At my last school I was curious about students' vocabulary awareness, so I thought about ways to assess their knowledge of mathematical vocabulary independently from their ability to solve mathematical problems.

#### Assessment for learning

Assessment for learning strategies during lessons provide one approach. You could ask students to draw or write on their mini whiteboards images, diagrams, or phrases that show their understanding of key words. Examples include:

- an image of a *protractor*
- a diagram showing an *acute angle*
- a word or phrase that means the same as *find the product of*
- an *equation*\*
- an *expression*\*
- a number to the *power 2*\*
- three numbers in *ascending order*\*
- a *prime number*\*

\* For these you could challenge the class to have no two mini whiteboards showing the same.

You can also set a challenge to find non-examples, such as:

- a number that isn't a *square number*
- a shape that isn't a *polygon*.

#### Formative assessment

At times I have felt that more formative assessment would be useful and have developed some written tests for knowledge of vocabulary. While these are straightforward to produce, it can be challenging to make sure you are testing for the understanding of a word rather than for the mathematical knowledge and skills.

Here is a possible example for algebraic commands. Students are not answering any of the questions, but simply connecting the words with the mathematical processes.

### Algebra command words: check your vocabulary

Choose the correct word from the word bank for each of the questions below.

solve  
expand

factorise  
substitute

simplify

Q1: \_\_\_\_\_  $5(x + 3)$

A:  $5x + 15$

Q2: \_\_\_\_\_  $4x = 12$

A:  $x = 3$

Q3: \_\_\_\_\_  $y = 3$  into  $4y + 2$

A:  $(4 \times 3) + 2 = 14$

Q4: \_\_\_\_\_  $5c + 2c + 4c$

A:  $11c$

Q5: \_\_\_\_\_  $5x + 15$

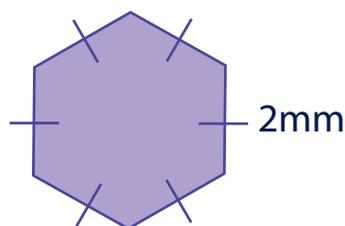
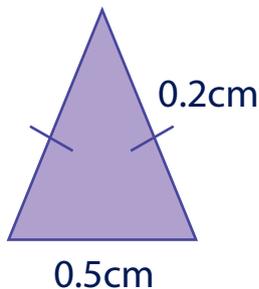
A:  $5(x + 3)$

Answers: *expand, solve, substitute, simplify, and factorise.*

## 2. Practise using mathematical vocabulary

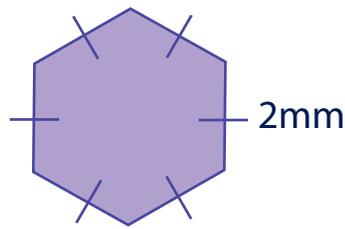
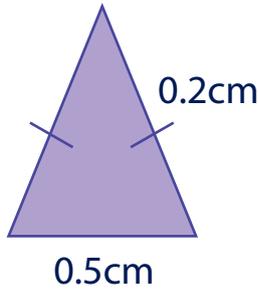
When working through a series of questions with my year 9 class, I checked my demand for students' use of mathematical vocabulary. The first was as follows:

Calculate the perimeter of the following:



I asked a student for the perimeter of the first shape. He said '0.9'. I asked the student how he had worked it out, and he told me. I said, 'Well done,' and we moved on. I then realised that there was no expectation for using any mathematical vocabulary in these answers. I have spent a lot of time teaching the meaning of key words such as *perimeter* each lesson, but I have not required them to use the word. A better question would have been:

What can you calculate for these shapes?



Our choice of wording determines the mathematical vocabulary required from students. The more our students practise using key words, the more confident they will become in their understanding, and the more quickly we can identify any misconceptions.

### 3. Talking like mathematicians

I find it very tempting to talk for my students. When students answer in full sentences and give correct mathematical explanations every time, it is time-consuming. It can feel as though it is at the expense of making progress in a lesson. However, from my classroom experience, those students who can talk about mathematics and communicate their thinking generally retain learning a lot better. They are also generally more successful at tackling problem-solving questions. By talking about the mathematics and explaining their thinking, they can apply that knowledge to new situations.

Lower-attaining students may need a lot of support and structure as they take their first steps in communicating as mathematicians. One way to do this is to give structured sentences for them to use.

For example, students could choose words to make a question for another student.

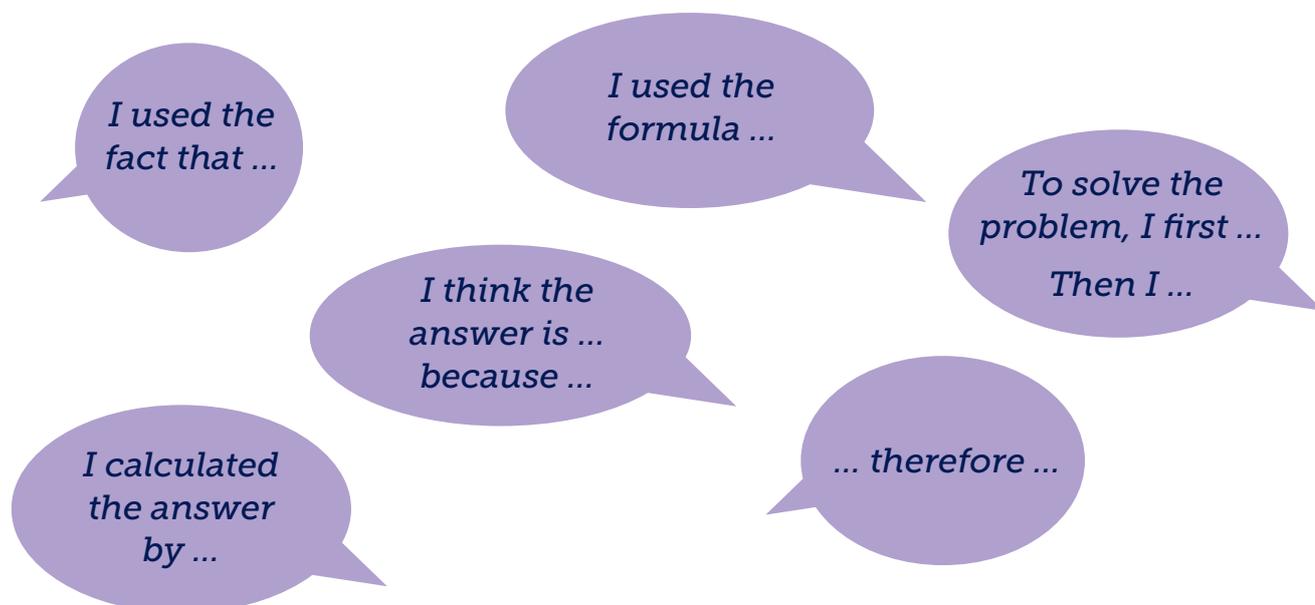
Find	the	product of	eighty	and	eighty.
Calculate		difference between	forty		forty.
Work out		sum of	two thousand		two thousand.
Evaluate		total of	seventy		seventy.

You could provide a similar frame for a response.

The	product of	eighty	and	eighty	is _____
	difference between	forty		forty	because ...
	sum of	two thousand		two thousand	[working out].
	total of	seventy		seventy	

Once modelled by the teacher, this could work as a paired activity to maximise the opportunities for mathematical communication.

Having posters on the walls with examples of explanatory sentence structures, specific to mathematics, can also be useful. Examples could include:



On Teachit Maths, there is a variety of posters which you could display to support students' understanding of how to improve their language of explanation, such as [Explaining in maths – mode \(26908\)](#), [Explaining in maths – best value for money \(26909\)](#) and [Explaining in maths – alternate angles \(26910\)](#).

#### 4. Spelling of key words

In my classes, I spot trends in the misspelling of key words. 2D shapes seem to be a particular stumbling block: words such as *parallelogram* and *trapezium* are often incorrect, even when copied directly from the board.

Some schools use marking codes for spelling. In my current school we use class feedback sheets where a section is devoted to SPaG so we can identify commonly misspelled words.

To establish effective ways of targeting common spelling errors, work with colleagues across the curriculum, including the English department. It is best practice to make use of students' knowledge of word roots and words within words, and to create mnemonics for specific words in order to embed a rich understanding. It is also helpful to identify common patterns in the errors made, and to get students to work on groups of words together. Words with double letters, such as *parallelogram*, are one such category.

#### 5. Decoding questions in assessments

I recently worked with colleagues to design an assessment for our year 8 students. It included some questions adapted from GCSE papers. We had given much time and thought to the level of difficulty, ensuring there was no untaught content. We felt we had done a really good job. During the assessment, several students looked perplexed and stopped working. The problem? The word 'patio'. The question involved arranging square stones for a 'patio' in a rectangular shape. They wondered if a 'patio' was a mathematical shape they should know about.

While it would be almost impossible to pre-empt all the vocabulary that will come up for our students in assessments, we can certainly make sure they are taught the meaning of words that recur frequently. An easy way to do this is to make sure that these words form an integral part of our questioning and our lessons.

Take this series of questions. It uses different command words to make sure that students recognise the different ways a question could be asked.

Express  $x$  in terms of  $y$ :

$$y = 4x + 2$$

Rearrange  $x$  in terms of  $y$ :

$$4y = x + 9$$

Make  $x$  the subject of the formula:

$$y = 12x + 3$$

We can use strategies to help students to decode the meanings of questions, even if there are words within them that they don't understand. Take the example question below.

A man invests £200 in an account with a simple interest rate of 5% per annum. How much money is in the account after 3 years?

There are several words which could present problems, including *invest* and *per annum*. However, students should be able to highlight the most important numerical information in the question. This is a form of skim reading, a skill used in other subjects to get a general understanding of a text. We simply need to train our young mathematicians to approach mathematical questions in a similar way.

A man invests **£200** in an account with a simple interest rate of **5%** per annum. How much money is in the account after **3 years**?

By highlighting the key information in the text, the problem is simplified. This doesn't guarantee that a student will go on to answer the question correctly, or even that one of the words they are unsure of won't be critical in understanding the question, but it does increase their chance of tackling questions successfully when there are unfamiliar words.

## 6. Mathematical vocabulary outside the classroom

I like the idea of my students talking like mathematicians outside my classroom. Designing form time activities promoting the use of mathematical vocabulary is one way to do this. If you have mixed-attainment levels or even mixed-year groups in your form, it is an opportunity for all learners to share good examples of mathematical communication.

You could get students to describe something using specified key words. For example:

### Key words

sides

vertices

edges

faces

Using at least two of the words above, describe a 2D or a 3D shape.

Can another student guess the shape?

You can use other mathematical words as well.

You will need to explain the activity and the meaning of words to tutors. In this activity, non-specialists may need reminding of the difference between a side and an edge. You may also need to differentiate to include options of labelled 2D and 3D shapes from which to choose.

## 7. Mathematical words in other subject areas

There are certain mathematical words that are used extensively in other subject areas. For example, the word *percentage* is used in geography, science, and business. The word *range* has a variety of meanings in science. For example, the *range* of measurements of a measuring instrument, the *range* of values on the axis of a graph, and the highest and lowest values of a set of data. In mathematics, to state the *range* is to state the difference.

Creating a whole-school numeracy document demonstrating mathematical vocabulary and its uses across a school, to include similarities and differences, gives teachers a useful reference tool. It allows them to highlight cross-curricular links when they are teaching and also allows them to draw on examples from other subject areas to support learning.

## 8. Mathematical words in other subject areas

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I could definitely do more to celebrate great mathematical communication in my classroom. You can do this in the form of competitions, such as:

- Explanation of the week: great explanations are recorded throughout the week and voted on at the end.
- Key words of the week: students score points for their teams depending on how well they use key words during the week.

You can also just make a big deal of great explanations and communication as and when they happen, perhaps regularly adding students' names to a roll of honour.

## Lesson idea:

# Recalling circle theorems

## Topic: Circle theorems

Materials required: Set of cards per group of students, and an answer sheet per group of students.

---

### Activity

The aim of this activity is to get students to use the correct mathematical vocabulary in recalling circle theorems to solve problems. Examiner reports have highlighted that explaining reasoning correctly is a key area of development for students. The activity is suitable after teaching circle theorems and could also be used for revision.

- Arrange students in groups of three. One student is the adjudicator while the other two play against each other. The aim is to win the available cards.
- The students playing against each other arrange the cards, face down, in front of them. The adjudicator holds a copy of the answer sheet, which features the correct circle theorems and key vocabulary.
- The first student selects a card. They state out loud the circle theorem or mathematical fact which could be used with the geometry shown. The adjudicator awards the card to the student provided they use all the appropriate key words in their response and they do not contradict themselves. If the card is won, the adjudicator reads out the exemplar response. If it is not won, the card is replaced, face down.
- The other student has a turn, and the students continue to take turns until all the cards have been claimed.

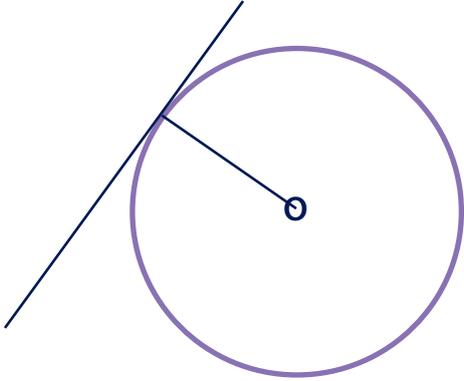
If neither student wins any one of the cards, the adjudicator can then give both students a hint. The first to say the correct theorem or mathematical fact then wins the card.

### Teaching tips

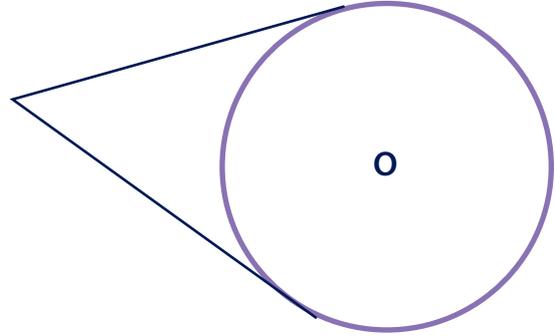
- Recap the theorems at the start of the lesson to support students further.
- You could adapt or extend this activity for other mathematical reasoning connected to geometry, for example, angles in parallel lines or angles in polygons.

**Classroom resource:**  
**Recalling circle theorems**

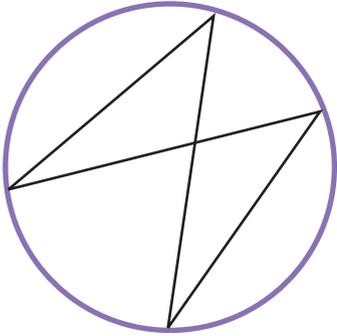
a



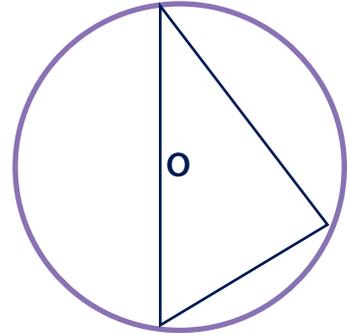
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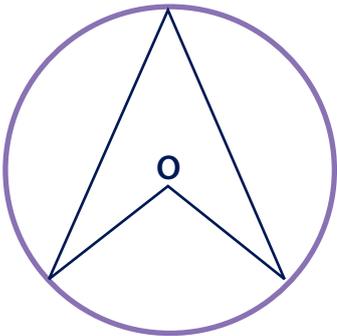
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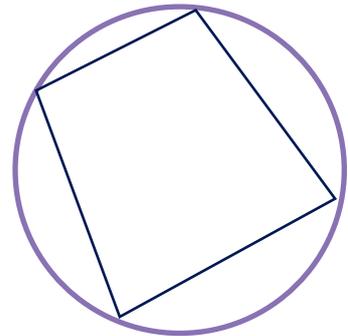
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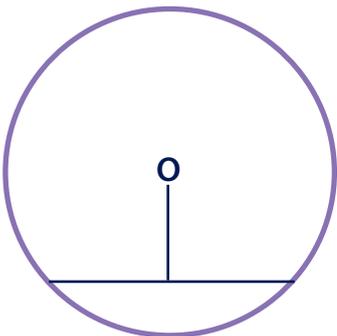
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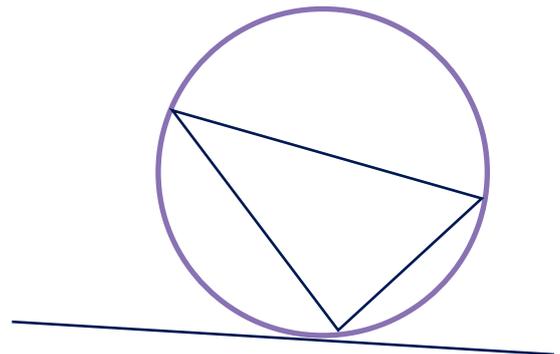
f



g



h



## Recalling circle theorems: answer sheet

**a**

The *tangent* at any point on a circle is *perpendicular* to the *radius* at that point.

**b**

*Tangents* from an external point are *equal* in length.

**c**

*Angles* in the same *segment* are *equal*.

**d**

The *angle* in a *semicircle* is a *right angle*.

**e**

The *angle subtended* by an *arc* at the centre of a circle is twice the *angle subtended* at any point on the *circumference*.

**f**

*Opposite angles* of a *cyclic quadrilateral* add up to 180.

**g**

The *perpendicular* from the centre of a circle to a *chord* *bisects* the *chord*.

**h**

*Alternate segment theorem*.

## Topic: Area, perimeter, and volume

Materials required: One worksheet per student.

---

### Lesson idea:

# The language of area and perimeter

## Activity

This activity aims to give students practice at explicitly using the language of area and perimeter correctly. In assessments it is a common error to confuse *area* with *perimeter* in 2D shapes. This activity gives students deliberate practice at reading out statements relating to area and perimeter, along with recall of the mathematical reasoning used to solve problems where they are involved.

Give students a worksheet, and ask them to fill in the missing words for each of diagrams a to f, allowing for time for calculations.

Select individual students to read out their responses to particular questions using the starter sentence given on the worksheet, their suggested answer, and then an explanation sentence. Ensure students can refer to these sentences when they respond.

## Teaching tips

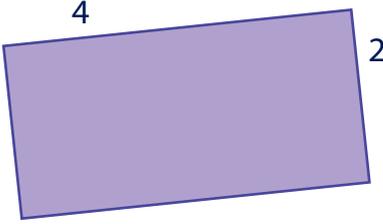
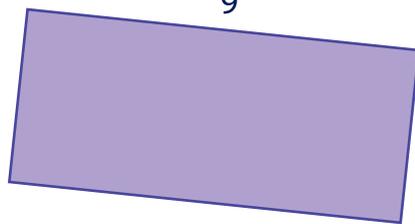
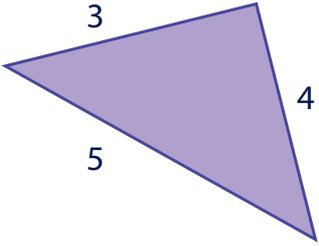
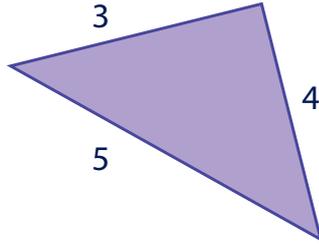
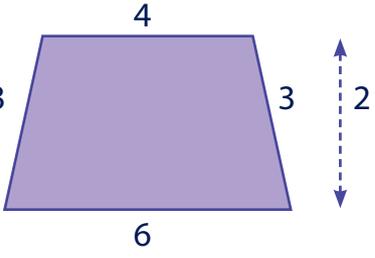
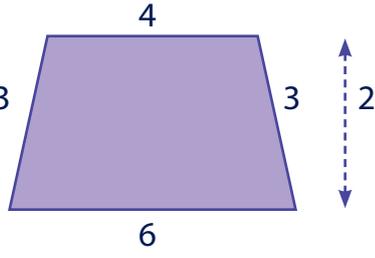
- To increase the amount of deliberate practice, you could get students in pairs to take turns to read their responses to each other before going through the answers as a class.
- To increase the level of challenge once students are more confident with the language of their explanations, you can remove some of the sentence prompts, but insist that students use the key words *area* and *perimeter*.
- This activity could be adapted to highlight the difference between *volume* and *surface area* (another two terms sometimes confused with each other in assessments).

# Classroom resource:

## Area and perimeter

### Starter sentences:

- The perimeter of a 2D shape is the distance around its boundary.  
OR
- The area of a 2D shape is the amount of space inside its boundary.

<p><b>a</b></p>  <p>The _____ of shape a is 12.</p>	<p><b>b</b></p>  <p>The _____ of shape b is 18.</p>
<p><b>c</b></p>  <p>The _____ of shape c is 6.</p>	<p><b>d</b></p>  <p>The _____ of shape d is 12.</p>
<p><b>e</b></p>  <p>The _____ of shape e is 10.</p>	<p><b>f</b></p>  <p>The _____ of shape f is 16.</p>

Please note that diagrams are not to scale.

### Explanation sentences:

- I know this because to calculate the perimeter you add together all the distances around the boundary and ... [working out].
- I know this because to calculate the area of a rectangle I multiply the base by the height and ... [working out].
- I know this because to calculate the area of a triangle I multiply the base by the height, halve it, and ... [working out].
- I know this because to calculate the area of a trapezium I add together the parallel sides, multiply the total by the perpendicular distance between them, halve it, and ... [working out].

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# Closing the word gap: science

## Section 1: Vocabulary for your subject

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She shares her practical classroom ideas for closing the word gap with strategies to develop students' understanding of the words we **read**, **hear**, and **speak**.

### Using word banks

#### Advice for teachers

Without a fluent understanding of the language of science, students cannot decode the meaning of the ideas they are learning. Given the number of complex ideas encountered by students in the science classroom, strategies which boost students' vocabulary acquisition should be central to our teaching.

Communication in science relies on a vast technical vocabulary of science-specific words, scientific interpretations of everyday terms, and a number of complex logical connectives which are used to link ideas.

#### Word banks

Scientific terms can be organised into a taxonomy of increasing abstractness (Wellington & Osbourne, 2001).

Level	Examples
<b>Naming words</b> <ul style="list-style-type: none"> <li>familiar objects, new names</li> <li>new objects, new names</li> <li>names of chemical elements</li> <li>other nomenclature</li> </ul>	Bunsen burner conical flask ethene gauze helium hydrogen meniscus oesophagus trachea
<b>Process words</b> <ul style="list-style-type: none"> <li>capable of ostensive definition</li> <li>not capable of ostensive definition</li> </ul>	combustion distillation evolution photosynthesis

**Concept words**

- derived empirically
- with everyday and scientific meanings
- theoretical constructs

atom  
electron  
element  
field  
force  
mole  
pressure  
temperature

One way to categorise vocabulary in science is:

- terms with one meaning, which add **breadth** to a student’s vocabulary (new to a student)
- terms with two or more meanings, which add **depth** to a student’s vocabulary (not new to a student, but which have a different meaning in a scientific context).

	Terms which add breadth	Terms which add depth
<b>Non-technical</b>	adjacent analyse appropriate directly proportional estimate limit linear maximum obtain sufficient	agent dependent effect rate standard transfer volume
<b>Semi-technical</b>	component continuous excess particle probability proportion random repel	excite fair incident key material negative property static
<b>Scientific</b>	convection diode exothermic gene ion molecule proton respiration	conduct conductor cracking elastic equation friction potential power precipitation weight

We need to give extra attention to scientific terms which have everyday meanings as well (in the bottom right-hand box), to clarify to students our implied scientific meaning.

When using word banks with students in a lesson, break down the vocabulary for a specific lesson or topic into manageable sections. For example, the target language for a chemistry lesson on making salts might look like this:

Apparatus	Technique	Observations
Bunsen burner conical flask evaporating basin filter funnel filter paper glass rod	crystallisation filtration	clear colourless disappear effervescence excess filtrate residue solution

## Suggested strategies for using word banks

- **Topic vocabulary.** Provide students with a framework for the vocabulary for the topic, and ask students to use their knowledge of the definitions to organise the vocabulary into the word bank.
- **Words which add depth.** For words which students know, but not in a scientific context (words which add depth), provide the definitions in other contexts, and ask students to suggest links between the concepts which help to explain why the same word is used.
- **Pictionary.** Play Pictionary with teams of students, using vocabulary from the word bank.



## Independent learning tasks

- **Keeping a journal.** Get students to log their use of words which have meanings in other contexts and which they have encountered in the science classroom. For instance, if you are teaching salts in a chemistry lesson, ask students to make a note when they use words such as *solution* outside the classroom.

## Making links between key terms

### Advice for teachers

Scientific ideas are generally linked by logical connectives, such as *because* or *despite*. These words are common in scientific texts as well as in teacher talk and other contexts in school, but they can be very difficult for students to interpret.

Provide students with logical connectives in order of increasing difficulty (from left to right). For example:

because however	consequently despite hence in order to nevertheless similarly thus	essentially in practice in spite of respectively with respect to	conversely in accordance with moreover
--------------------	--	--	--

Familiarising students with the full range of connectives is an important aim in building literacy in science. Many of the logical connectives above can be used interchangeably, and so you can build students' vocabulary by using synonyms and antonyms for logical connectives where these terms are unfamiliar.

Making links between key terms in science is critical. Concept terms cannot be understood in isolation: *acid* has no independent meaning; understanding the term *power* relies on understanding the terms *work* and *energy*; and the terms *element*, *atom*, *molecule*, *compound*, and *mixture* have complex logical connections.

Encourage students to make links between terms using their own words so that they can make sense of the overarching concepts.

## Suggested strategies for making links between key terms

- **Concept maps.** Provide students with incomplete concept maps, and ask students to complete; this might be labelling the links or using the links to identify missing key terms. Alternatively, ask students to spot mistakes on a concept map and redraw a correct version. You could use the Teachit Science resource [Keyword links template \(30485\)](#).
- **The association game.** Play the association game in class. Each student is given a key term, and then the next student has to identify an associated term and the link.
- **Adding connectives.** Use word completion tasks with students where they select the correct logical connective for a sentence to make sense.
- **Venn diagrams.** Ask students to organise words or diagrams into Venn diagrams labelled with concept words which link together. For example, methods of increasing rate of reaction can be organised into those which increase the rate of collisions and those which increase the proportion of collisions which are successful ('increasing the temperature' would go in the overlapping area).



## Independent learning tasks

- **Categories.** Provide students with a range of key terms on cards to organise into various categories. You could set the categories or allow students to create their own. As an extension of this task, get students to use the same terms, but instead make a link between two selected words.

## Exploring etymology and morphology

### Advice for teachers

Many words in science are built up from common root words. By breaking down key terms into their constituent parts, students build up an understanding of the root words. This helps them to decode terms they haven't met before, which is particularly important in assessments.

Many of these root words are common to other subjects, such as *bio*, which students may meet in English as a root in *biography* or in geography in *biodiversity*.

Root word	Meaning	Examples
an	without	anaemic, anhydrous
bio	life	biodegrade, biofuel
chrom/a/ato/o	colour	chromatography, monochrome
derm	skin	dermatitis
electr/i/o	electricity	electromotive, electroplating
end/o	inner	endocrine, endothermic
epi	on, upon, over	epidermis
exo	out, outside	exothermic, exoskeleton
haem/a/ato/o	blood	haemoglobin, haemophilia
hypo	under	hypothermia
iso	equal	isotope, isomer
lys/i/is/io	loosening, breaking down	analysis, electrolysis
mer	part	monomer, polymer
meter	measure	barometer, ammeter
stas/i/is	standing	homeostasis, haemostasis
therm/o	heat	thermometer, thermochromic

Common prefixes are also useful.

de-	removal, not/undo	delocalised, denature
inter-	between	intermolecular

Students should be encouraged to link root words across disciplines, such as *isosceles* when introducing *isomer*, or the difference between *internet* and *intranet* when learning the difference between *intermolecular* forces and *intramolecular* forces, to build their understanding of the words and their underlying concepts.

When relevant, it can be beneficial for students to understand the origin of the term to develop their understanding of the concept it represents. For example, *empirical* is derived from the Greek word *empeirikos*, which means 'derived from experiment'. Discussing why this term is used to identify empirical formulae can help students to understand the link between empirical and molecular formulae.

## Suggested strategies for teaching etymology and morphology

- **Shared roots.** Model how to break down words in lessons, and ask students to think of other words which contain the same roots to make conceptual links.
- **Predictions.** Ask students to predict the meaning of a new word by identifying the meanings of the root words it contains.
- **Work it out.** Allow students to practise decoding terms they are unfamiliar with and suggesting plausible meanings.



## Independent learning tasks

- **Root word glossary.** Get students to keep a list of root words with their meanings at the back of their books and to list any new words which include these.

## Using talk to widen vocabulary

### Advice for teachers

It is critical for students to be familiar with using the key terms in their own talk. This builds familiarity, but also provides you with opportunities to correct misuse of key terms on a regular basis.

When students explain their ideas, they are more likely to remember the content, as well as new vocabulary.

Students' progression in scientific talk can be characterised as follows:

	From ...	To ...
<b>Responses</b>	simple answers to closed questions	complex answers to open questions which expose their scientific reasoning
<b>Speaking</b>	discussion in pairs or small groups short contribution	presenting to a large audience sustained speaking
<b>Vocabulary</b>	use of everyday terms	fluent use of specialist scientific terminology
<b>Language</b>	use of familiar language patterns	selection of register and expression to suit the situation
<b>Narrative</b>	descriptive	analytic and evaluative

### Suggested strategies for using talk to widen vocabulary

- **Model talk.** Use terminology in your talk to familiarise students with the terms and the range of situations in which they can be used. This also sets expectations about how students can raise the standard of their talk in science.
- **Synonyms and antonyms.** Use synonyms and antonyms of key words in your talk to help students to identify the meanings of words they are less familiar with.
- **Sound it out.** Model how to sound out difficult words like *phenolphthalein*, breaking them down into syllables, *phe-nol-phtha-lein*, and then say the word together so that all students pronounce the term out loud.
- **Just a Minute.** Play Just a Minute with vocabulary from the topic word bank without students using the word or repeating themselves. Other students can guess the word being described, or they can 'buzz in' if the speaker falters to finish the time and collect the points.
- **Challenge the language.** Challenge the use of vague language in students' answers. Encourage them to rephrase their responses using target language and appropriate register (full sentences).
- **Think, pair, share.** Use 'think, pair, share' so students can plan their answer to an open question using appropriate vocabulary and expression before presenting their ideas to the class.
- **Prepared speeches.** Allow opportunities for students to speak continuously on a topic, linking their ideas. This might be in a debate scenario, with students writing and preparing speeches, or a forensic science

practical, with students giving evidence to the 'jury' and ensuring they define key terms.



### Independent learning tasks

- **Be the expert.** Ask students to teach each other using at least three key terms from the lesson. This works well as a plenary or as the following starter to recap learning from a previous lesson. Alternatively, ask specific students to prepare a summary of a lesson using a set list of key terms. Get these students to prepare thoroughly so that they are ready to explain terms to the rest of the class or to small groups.

## Avoiding common mistakes and misunderstandings

### Advice for teachers

Numerous key terms in science cause confusion for students. Some examples are given below, but it is worth keeping a list of commonly misused terms on display in your department.

Biology	Chemistry	Physics
confusing <i>evolution</i> and <i>natural selection</i>	calling a liquid <i>clear</i> when it is <i>colourless</i>	confusing <i>velocity</i> and <i>speed</i>
measuring the <i>amount</i> of a liquid instead of the <i>volume</i>	observing a substance <i>dissolving</i> instead of <i>disappearing</i>	confusing <i>mass</i> and <i>weight</i>
		using <i>refraction</i> , <i>reflection</i> , and <i>diffraction</i> incorrectly

### Suggested strategies for correcting these mistakes and misunderstandings

- **Share definitions.** Explicitly tackle common mistakes in class by clarifying the difference in meaning.
- **Fill the gaps.** Use word completion tasks in which students choose the correct term from a given list to suit the context. For example, copper sulfate solution is *clear*, but bromine water turns from brown to *colourless* in the presence of an alkene.
- **Spot the mistakes.** Provide students with a fake student answer which contains incorrect use of terminology. Ask students to spot the mistakes and correct these. Extend students' understanding by asking them to give feedback to the student, explaining why each of their errors changed the meaning.



### Independent learning tasks

- **Peer feedback.** Identify specific common mistakes or misunderstandings in your class. Following explicit teaching to correct these, encourage peer feedback in class. You can 'snowball' this activity from pairs to fours and get students to choose the best uses of these previously misunderstood terms.

## Understanding vocabulary for exams/assessments

### Advice for teachers

Understanding the vocabulary for examinations presents a significant barrier to many students taking sciences at KS3 and GCSE. Students need to become familiar with these terms and feel confident interpreting questions in assessments so that they can demonstrate their knowledge and understanding effectively in their answers.

These terms can be divided into:

- command words
- scientific terms.

## Specialist word bank

Command words used in GCSE Science exams	AQA	Edexcel	OCR	WJEC Eduqas
account for				✓
add		✓		✓
analyse			✓	
assess		✓		
calculate	✓	✓	✓	✓
check				✓
choose	✓		✓	✓
classify			✓	
comment on		✓		✓
compare	✓			✓
compare and contrast		✓	✓	
complete	✓	✓	✓	✓
conclude			✓	
construct			✓	✓
convert			✓	
deduce		✓	✓	
define	✓		✓	
describe	✓	✓	✓	✓
design	✓		✓	
determine	✓	✓	✓	✓
devise		✓		
discuss		✓	✓	✓
draw	✓	✓	✓	✓
estimate	✓	✓	✓	✓
evaluate	✓	✓	✓	
explain	✓	✓	✓	✓
give	✓	✓	✓	✓
give a reason		✓		✓
how			✓	✓
identify	✓	✓	✓	✓
illustrate			✓	
justify	✓	✓	✓	
label	✓	✓	✓	✓
measure	✓		✓	
name	✓	✓	✓	✓
outline			✓	
plan	✓		✓	
plot	✓	✓	✓	✓
predict	✓	✓	✓	
recall			✓	
select			✓	✓
show / show that	✓	✓	✓	✓
sketch	✓	✓	✓	✓
state		✓	✓	✓
state and explain		✓		
suggest	✓	✓	✓	✓
use/using	✓		✓	
what			✓	✓
which			✓	✓
why			✓	
write / write down	✓	✓	✓	✓

## Key areas of concern identified in examiner reports

Recent examiner reports have identified a number of common areas of concern, such as students not using the correct command word (*describing* instead of *explaining*) and missing a particular word from the question, which either changes the meaning so students answer the 'wrong' question or narrows the question so students' answers are too general. Students are also prone to misreading a word in the question, for example, giving a *name* for a compound instead of the *formula* that was asked for.

A number of other terms which are used in science assessments can cause confusion for students as they are not particularly familiar, for instance, the word *obtain*. Keep track of which terms are tricky for your students, and incorporate them into general classroom talk to increase your students' familiarity with them.

## Suggested strategies for teaching vocabulary for exams/assessments

- **Model highlighting.** Highlight and underline command words when modelling how to answer exam questions. Refer to the exam board guidance about what is expected for each command word, and make it clear how you meet the expectation.
- **Command words.** Use command words when asking questions in class, with one student *describing* then another *explaining*, and then a different student *comparing* and *contrasting* with a different scenario, and another *evaluating* or making a *suggestion*. Try to use the same command words as students will meet in their exams.
- **Identify the command word.** Provide students with a question which is missing the command word. Ask students to use their bank of command words to come up with as many variations on the question as possible and the different answers to each one.
- **Avoiding vague language.** Provide students with exam questions with vague scientific language, and task them with writing an examiner report on the key errors being made. Include key misconceptions, such as *strong* used to describe a *concentrated* solution.
- **Definitions.** In groups of three, students can play the definitions game for learning exam-specific scientific terms. One student has a card with a word and its corresponding definition and acts as 'definition master'. The 'definition master' gives another student a term, which they then define. The 'definition master' awards points for each correct definition. However, if that student hesitates or makes a mistake, their opponent can 'buzz in', and steal the points if they can complete the definition correctly. The students switch roles each time.
- **Games.** Play vocabulary games, including Scattergories, Articulate, Just a Minute, the association game, Pictionary or Taboo using key vocabulary from the whole course. Here are some suggestions using Teachit Science resources: [Respiration connections game \(20025\)](#), [Bonding: keyword cards \(28723\)](#), and [Inheritance – taboo \(28970\)](#).



## Independent learning tasks

- **Exam questions.** Provide students with a list of the command words from your exam board. Based upon the tasks set in class, get students to write their own questions using these words.
- **Sorting out the misconceptions.** Get students to create their own mnemonics or rhymes to help to iron out common misconceptions as identified by your exam board.

# Closing the word gap: science

## Section 2: Vocabulary to improve your students' writing

Here are Emily Seeber's suggestions for effective classroom strategies to develop students' ability and confidence in using key vocabulary in their written work.

### 1. Read all about it

Students find it challenging to engage with scientific texts. Few texts contain a driving narrative, but almost all use a wide variety of technical and semi-technical terms, as well as a complex web of logical connectives. Reading a range of scientific texts models good scientific writing to students, as well as expanding their vocabulary. So how can we help students to engage with scientific texts to broaden and deepen their vocabulary for science?

DART activities (directed activities relating to text) can be used to ensure that students are engaging with the text. The type of DART activity depends on the form of the text:

Text	DART
<b>Instruction</b> e.g. the method for a practical task.	Sequencing instructions or adding in missing instructions.
<b>Classification</b> e.g. a description of different living organisms.	Highlighting or underlining the properties of each class then grouping these together into a table or a Venn diagram, or a muddled sentence task. You could use the Teachit Science resource based upon the topic of cells: <a href="#">Designed for the job (19383)</a> .
<b>Structure text</b> e.g. a description of a structure, such as the digestive system.	Highlighting or underlining information about each part of the structure, text completion, labelling the diagram, and annotating the diagram.
<b>Mechanism text</b> e.g. a description of how something works, such as distillation.	Highlighting or underlining information about each part of the process, text completion, labelling the diagram, and annotating the diagram.
<b>Process text</b> e.g. a description of a process, such as the carbon cycle.	Highlighting or underlining information about each part of the process, sequencing the order of the process, text completion, labelling and annotating a diagram, or designing or constructing a diagram or flow chart for the process.
<b>Concept/principle</b> e.g. an abstract account on the theory of natural selection.	Highlighting or underlining the main features of the theory, text completion, sequencing and labelling segments of text, or a muddled sentence task.
<b>Hypothesis/theory</b> e.g. a hypothesis about the origin of the universe.	Text completion, highlighting or underlining the features of the theory, and grouping these together in a table with the evidence for the theory.

(Adapted from Wellington & Osbourne, 2001)

Highlighting and underlining are excellent starting points for students reading a text, but students can find themselves highlighting the whole page. Using a system consistently can be helpful for students: scientific terms in green, command words in blue, facts in yellow, and opinions in purple.

Some of these DARTs require the text to be modified before students engage with it. Sequencing requires the teacher to mix up the correct order of the instructions. A muddled sentence DART mixes up definitions or key information for students to piece together to write whole sentences. Here's an example:

Use the framework below to write definitions for *DNA*, *chromosome*, *gene*, and *allele*.

A	B	C	D	C
DNA	is a polymer	of RNA	of different	in the cytoplasm.
An allele	is one	of DNA	of the same	genetic information.
A gene	is a group	in a double helix	which contains	a sequence of amino acids.
A chromosome	is a thread	version	found	gene(s).
	is a small section	in a single helix	which codes for	in the nucleus.
		of a chromosome		a specific protein.

**Answers:**

- DNA* is a polymer in a double helix which contains genetic information.
- An *allele* is one version of the same gene.
- A *gene* is a small section of a chromosome which codes for a specific protein.
- A *chromosome* is a thread of DNA found in the nucleus.

A text completion task usually resembles a gap-filling exercise. If the vocabulary is very new, you may wish to provide terms to be filled in at the bottom or on an accompanying diagram. You could differentiate further by including definitions for these new terms.

Alternatively, add a level of challenge by giving too many or too few terms, or none at all. You could even require students to adjust the grammatical forms of words to make sense of the text. This builds their fluency with using scientific vocabulary and is demonstrated below.

Read the following text and fill in the gaps using the terms provided. You may use each term once, more than once, or not at all. You will need to change the grammatical form of the word for it to make sense.

The nucleus of an atom contains \_\_\_\_\_ and \_\_\_\_\_. \_\_\_\_\_ charged \_\_\_\_\_ exist inside the atom, but outside the nucleus, and have negligible \_\_\_\_\_. The electrons can be \_\_\_\_\_ from one material to another if one of the materials is a good \_\_\_\_\_. The materials both become slightly \_\_\_\_\_. One \_\_\_\_\_ electrons and becomes \_\_\_\_\_, and the other loses \_\_\_\_\_ and becomes positive. These \_\_\_\_\_ are known as \_\_\_\_\_ electricity.

- electron
- mass
- negative
- charge
- static
- induce
- insulate
- gain
- proton
- transfer
- neutron
- share

**Answers:**

- protons, neutrons, Negatively, electrons, mass, transferred, insulator, charged, gains, negative, electrons, charges, static

Using associated diagrams with text labels allows students to dual code the information as both words and images, improving recall from long-term memory. Try to use up-to-date, high-resolution images.

Other DARTs do not need text to be changed but require the teacher to provide a diagram or table for students to fill in while they are reading the text.

Read the following text, and then complete the table below with statements about boiling and evaporation:

Boiling and evaporation both involve a liquid turning into a gas. However, during boiling all of the particles have sufficient energy to overcome the forces of attraction between the particles, but in evaporation only some of the fast moving particles have enough energy to escape. Boiling takes place only at the boiling point of the liquid. In contrast, evaporation can happen over a range of temperatures, but the rate of evaporation increases with temperature.

Boiling	Evaporation

## 2. Semi-structured discussions for better writing

Group discussion can be an effective and efficient means of ensuring students are discussing scientific ideas and using terminology in a range of contexts. This provides important preparation for students completing independent written work (see strategy 4 below) in which a high level of literacy is required.

However, group discussion can easily stray off track without careful monitoring. To keep students focused, a few ground rules of discussion can be agreed by you and/or students at the beginning of the task. Over time, they can add new guidelines for monitoring discussions according to their experiences, generating their own norms and procedures. This is a powerful way of ensuring high-quality discussion.

Even with ground rules in place, the discussion needs to have some structure to help students to focus on the task at hand. Various different prompts can be used to centre the discussion.

### Instance tables

Many 'instances' in science can be used as stimuli for discussion:

- an observable phenomenon, for example a man failing to push a train
- explaining an anomalous result from an experiment
- evaluating conclusions which could be drawn from a practical.

Discussing instances like these in small groups can ensure that the whole class is thinking and using the intended terminology, not just the student that is giving the answer in a whole-class scenario. A table can be given as a prompt (Wellington & Osbourne, 2001), as demonstrated later in the lesson idea and accompanying resource.

## Concept cartoons

Concept cartoons provide a range of student perspectives on a situation for the group to evaluate and discuss. These feature a visual stimulus and a range of characters with different perspectives (Naylor & Keogh, 1999). The perspectives provided usually contain key misconceptions, correct statements, and irrelevant statements. In their groups students can determine:

- which statements are true or false
- which statements are plausible or implausible.

Students might be asked to:

- correct false statements
- improve statements so that they use more sophisticated scientific terminology
- write an explanation for the phenomena using ideas from the concept cartoon
- suggest methods of testing the implausible statements.

As students interrogate the statements with their groups, they will necessarily be engaging with the language used in the statements. In some cases, this may be discussing whether a word is being used in the correct context and replacing it with the correct term, or engaging with the syntax to evaluate the overall meaning, potentially changing the structure of the statement in order to correct it. Small groups can feed back to the class with their ideas and draw on their rich group discussions to express the conceptual content using more advanced terminology.

Students can also work in small groups to produce their own concept cartoons. Prompts are also helpful here. For example:

Produce a concept cartoon about evaporation and boiling. Make sure you include:

- one correct statement about evaporation or boiling
- one incorrect statement about evaporation or boiling
- two statements which can be corrected by changing one word
- one correct statement which links evaporation and boiling
- one incorrect statement which links evaporation and boiling.

## 3. Take note

Given the volume of information in the science curriculum, students' files and exercise books tend to be full of notes, but while copying from the board or receiving handouts is a safe method of ensuring students have all the notes they need, they become passive recipients.

Students need to learn how to extract the key information from talk and text, and how to structure this information into a readable format. Moreover, this is a skill which needs to be taught in science lessons.

### Modelling

It is important for students to understand the thought processes required by teachers when making notes. Teachers should model this for students before they have developed their own note-making skills. Here are some ideas for how to model note-making:

- When you have gone through information on the board, ask students to pick the most important piece of information for their notes. Discuss with them which information they chose, which you would choose, and why. Then students can add the information discussed in their own words.

- Ask students to suggest key terms used during the lesson and then structure these into notes to summarise the lesson.
- Ask each pair of students to put a fact from the lesson on the board. Then model how to go through the statements and decide which ones are important enough to include in notes. Cross out the statements which do not make the cut, and ask students to work in pairs to summarise the remaining statements for their notes.
- Add annotations to your notes on the board or visualiser in response to classroom discussion in order to highlight misconceptions, exam technique, terminology, or examples. Encourage students to annotate their own notes with this kind of information when it is relevant to them (for example, if they are unsure of a definition).

## Annotation

Good note-takers annotate their notes as they are listening to or reading information. Ensure that handouts don't include all the required information so that students can add in diagrams, annotate definitions, give examples, and make links to prior learning. Differentiate for your classes by varying the structure and the amount of information you give to students.

## Writing frames

Provide writing frames with subheadings so that students' notes are organised and relevant.

This is particularly helpful when you want students to make notes from a text or a video. Students can then write information only into the pre-identified categories, discarding information which does not fit under any of the headings.

The next level skill is for students to define the categories themselves. Use short videos or texts in class, and on the first viewing or reading students suggest the headings. Then, with the agreed headings, students watch or read for a second time, this time taking notes. Students can evaluate the effectiveness of the categories afterwards.

## 4. Extended writing

Spending time on extended writing in science lessons is not common (the exception being the ubiquitous experimental write-up), but it is important to make time for writing if students are to develop key literacy skills, such as choosing the appropriate vocabulary and register for the audience, and being able to express their scientific reasoning. Making posters, writing scientific articles, letters and speeches and even writing formal essays, are all a valuable part of science teaching.

Examiner reports from June 2018 noted that students were hampered by poor scientific writing: answers were vague, rambling, or even incoherent, and either they lacked scientific terms or those terms were used imprecisely (AQA, 2018). By building in opportunities for extended writing in science, we can support students in developing the skills required to access summative assessments.

### Experimental write-up

Writing frames can be used with students to help them to set out their plans or write-ups. Of course, not all practical work needs to have a formal write-up, and for some the received structure is not appropriate. In these cases, discuss with students why a standard write-up is not appropriate, and suggest or use alternative approaches.

A quirk of reporting scientific research is that it is written in the passive voice. This is fairly unfamiliar to students, but it is something that can be developed through their ordinary science practical work and is certainly something to consider when challenging students.

- Write instructions for a practical using the first person, the imperative, and the passive voice. Mix up the statements, and get students to sort them into three groups. Discuss why they might use different verb forms for different audiences.
- Provide students with instructions written in the first person, and ask them to rewrite the instructions using the passive voice.
- Encourage students to complete wider reading of scientific literature written in the passive voice, providing them with appropriate articles.

## Extended articles/letters/speeches

The most challenging part of setting students extended writing tasks in science is coming up with valuable subjects for them to write about. The topics will depend on your department's scheme of work. Keep a list of ideas in your department workspace that people can add to as they have ideas. Here are some suggestions for extended writing in chemistry:

- an exposé about Antoine Lavoisier getting all the credit for the discovery of oxygen, rather than Priestley or his wife Marie-Anne
- a speech by a forensic chemist to a jury which details the evidence found at the scene of a crime and its implications for the case
- a report for the Food Standards Agency on the vitamin C content in different brands of orange juice
- an article on the 'wrong turns' taken in chemistry, such as the blind alley of phlogiston
- a speech to be given to the UN on the importance of carbon-neutral chemistry
- an essay on 'What was the most important discovery in the search for the structure of the atom?'

A range of strategies can be used to support students' extended writing:

- group discussion of the issues (using a concept cartoon, instance table, or concept map)
- writing frames with suggested word counts for each section
- redrafting after feedback, at least once
- highlighting areas where students could adjust the tone or register of their writing and words which could be replaced with more scientific terms.

## Poster competitions

Posters are important forms of communication in scientific research, with poster prizes for the best entries. This can work equally well in classrooms, with students producing posters to demonstrate their research, experimental results, or a summary of a topic.

To ensure that students produce good-quality posters, it is useful to share success criteria with them before they begin.

You could share the following grid with students to show them the marking criteria:

	Good (1 mark)	Very good (3 marks)	Excellent (5 marks)
Terminology	Scientific terms are used, generally in the appropriate context.	Scientific terms are used correctly, and some are defined.	A range of scientific terms is used and all defined appropriately.
Expression	Good use of standard English, including full sentences, and bullet point lists where appropriate.	Correct use of standard English throughout, including a range of expression.	The tone is appropriate for the audience, including the passive voice where appropriate.

<b>Structure</b>	The poster has been organised into sections.	The poster has been organised into helpful sections which are clearly marked.	The structure helps the reader to grasp the key points quickly and easily.
<b>Diagrams</b>	A relevant diagram has been chosen.	Two or more relevant diagrams have been chosen and used appropriately.	Relevant diagrams have been designed to clarify the information.

Students can then peer or self-assess their posters on the quality of scientific communication. They might use sticky notes in four different colours to leave comments on posters for improvement. Students can then focus on improving their poster in the area in which it was least successful.

## 5. Focus on logical connectives

It is not just scientific terms which form part of the vocabulary gap in students: many logical terms used in science classrooms pose difficulties. Students can either miss key points in their scientific reasoning or develop misconceptions about the theory they are learning.

While *therefore* and *because* are used in science classrooms regularly, students struggle with *accordingly* and *conversely*. Use a range of logical connectives in your talk, and give synonyms and explanations for them on a regular basis, until you are confident of students' understanding.

*Teacher: Copper is below hydrogen in the reactivity series, **hence** it does not react with acids. **Because** copper is below hydrogen in the reactivity series, it is too unreactive to react with an acid.*

In this example, the teacher makes the same argument twice: a more advanced logical connective, *hence*, is clarified by following it with a simpler one, *because*.

Word completion tasks allow students to reconstruct the scientific reasoning covered in the lesson using logical connective terms. These should include familiar and less familiar words, challenging students to think through the scientific content as well as the meanings of the individual words.

Diffusion is an important concept for understanding transport in cells. Particles in gases and liquids move randomly. The overall movement is \_\_\_\_\_ from an area of high concentration to an area of low concentration. In the lungs, oxygen diffuses from the alveoli into the blood, \_\_\_\_\_ carbon dioxide diffuses from the blood into the lungs. \_\_\_\_\_, urea diffuses from an area of high concentration in the liver into the blood, where it is transported to the kidneys to be filtered.

Choose the correct combination from the options below.

<b>A</b>	consequently	and	conversely
<b>B</b>	essentially	but	similarly
<b>C</b>	consequently	however	in contrast
<b>D</b>	thus	and	analogously

**Answer: D**

Potassium is more reactive than sodium \_\_\_\_\_ a potassium atom is larger, \_\_\_\_\_ the force of attraction between the nucleus and the outer shell is weaker \_\_\_\_\_ the greater nuclear charge in a potassium atom.

Choose the correct combination from the options below.

<b>A</b>	hence	so	despite
<b>B</b>	since	thus	in spite of
<b>C</b>	nevertheless	consequently	in spite of
<b>D</b>	because	consequently	in accordance with

**Answer: B**

When a skydiver jumps out of a plane, the only force acting on them is their weight; \_\_\_\_\_, they start to accelerate downwards. Air resistance increases \_\_\_\_\_ the speed, and \_\_\_\_\_ the drag increases.

Choose the correct combination from the options below.

<b>A</b>	therefore	in line with	nevertheless
<b>B</b>	hence	similarly to	inevitably
<b>C</b>	because	conversely	naturally
<b>D</b>	therefore	in accordance with	consequently

**Answer: D**

Discuss together why one logical connective works better than another in different instances, reflecting on the tone created by the term as well as on the literal meaning. Help students to produce more interesting scientific writing by giving feedback on their use of connectives.

## Lesson idea:

### Concept maps

## Topic: Any

Materials required: A concept map framework photocopied onto A3 paper, sticky notes or A3 blank paper, and a list of terms.

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### Activity

Mapping and linking key terms in a topic can be done using a concept map. Students articulate their understanding by annotating the links between terms. For example, a link can be made between the terms *acid* and *alkali*, and the link could be annotated with *these neutralise each other*.

Concept maps work effectively in groups because students can be more sophisticated in their choices. Collaboratively, they will also discuss and refine their linking statements. This 'chunking' secures information in students' long-term memories. Differentiate by varying the amount of information you provide, as per the suggestions below.

After the activity, students can evaluate other groups' efforts. One method is to set up the concept maps in an exhibition and allow students to move around the room adding sticky notes to maps with questions for the creators to respond to. This might be suggesting a new link they have missed or questioning how the link has been articulated. Students then return to their own maps and respond to queries about their observations of other maps, as well as the comments left on their map.

### Teaching tips

- If concept mapping is new to students, you may wish to provide them with a map, including the links and terms, and simply ask them to annotate the labels, or provide them with a concept map which includes errors to correct.
- However, if students are comfortable with the process, you may wish to simply provide the list of terms and ask students to cut them out and arrange them on A3 paper themselves, making as many links as they can. An example is provided on the next page.
- You may even wish groups to identify the vocabulary themselves or allow them to add more terms to their concept map.
- There is also a version of a concept map on Teachit Science, [Keyword links template \(30485\)](#).



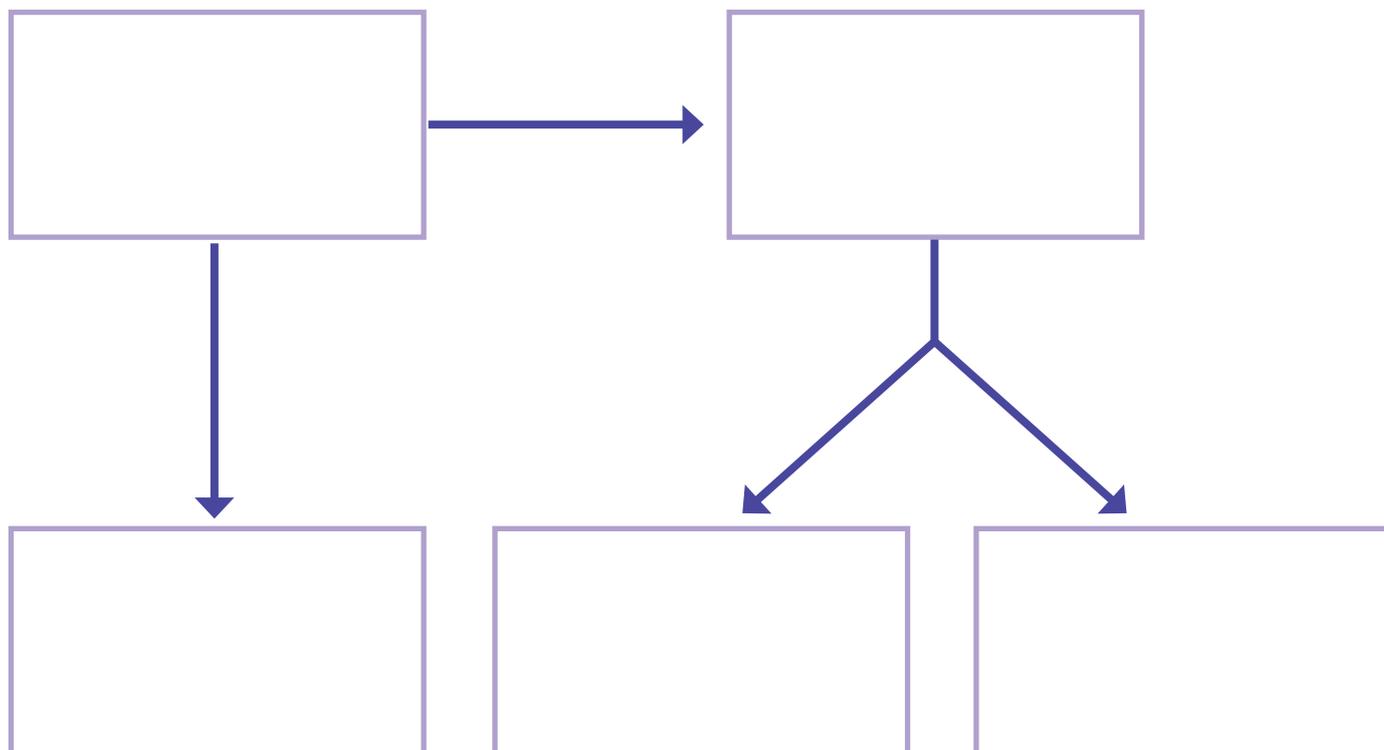
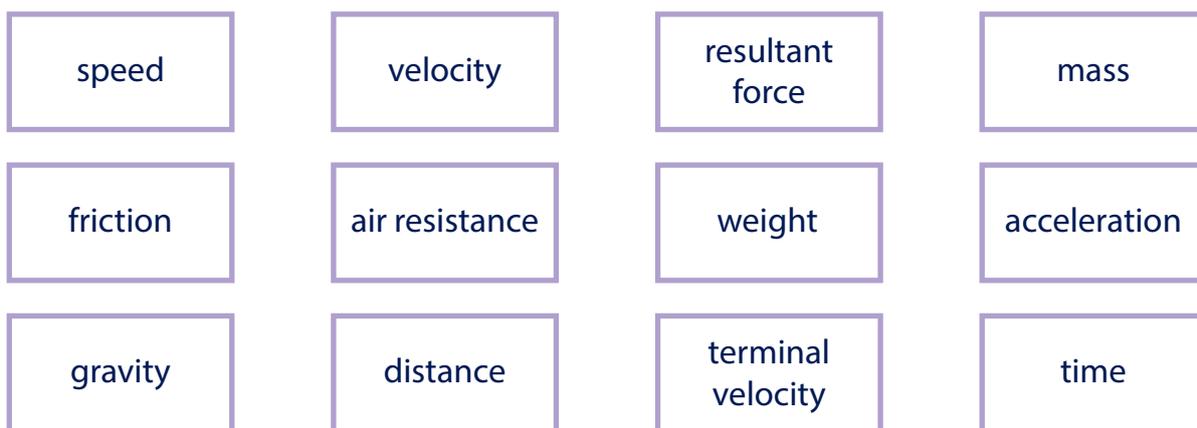
### Independent learning tasks

- Encourage students to progress in their independent ability to construct concept maps alongside the development of their vocabulary by reducing the level of support you provide.

# Classroom resource: Concept map

Here is a set of terms. Your task is to arrange them onto A3 paper to demonstrate the links between the terms. Explain the links between the terms by writing along the arrows.

Your arrows could have more than one pointed end and could split in more than one direction, as shown on the example which follows.



## Lesson idea:

# Discussion statements

## Topic: Any

Materials required: A series of discussion statements on a relevant topic.

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### Activity

As described earlier, the use of instance tables is an effective discussion mechanism which promotes students' own use of key terminology. In small groups, students can interrogate their understanding of a topic, and in providing a set of targeted common ideas in the form of statements you can steer students towards the use of appropriate academic vocabulary.

This activity works best in three stages. Firstly, students have a chance to read through the statements independently. Secondly, students discuss the statements in small groups and fill in the table with their resolutions. The independent reading beforehand ensures faster readers do not dominate the conversation. Finally, groups feed back to the class, and you provide the perspective of a scientist on the statements. You can differentiate further by asking groups to add their own statements, with supporting evidence.

An example of a complete activity for the topic of plant growth is demonstrated in the accompanying resource.

### Teaching tips

- You could base this activity upon a text and treat it as a comprehension activity (as discussed in strategy 1).
- To expose students to a greater variety of evidence sources, you could give them a number of supporting source texts on the relevant topic.



### Independent learning tasks

- To develop students' use of subject-specific terminology, challenge them to compile their own lists of statements based upon a topic. Ensure they include correct statements, incorrect statements, and some which contain elements of both.
- Provide a list of accompanying key vocabulary which students should aim to use in the discussion phase. As an extension of the evaluation phase, get students to write up their conclusions, making use of these terms.
- Challenge students who are already confident with a variety of vocabulary on the given topic to act as observers in the discussion phase of this activity. They should note down any key terminology used by the group.

## Classroom resource:

### Discussion statements

Below is a selection of common ideas about plant growth. Some are correct, but some are not. Firstly, read through the statements on your own.

Secondly, discuss with your group whether each statement is correct, incorrect, or you do not know. For those you are sure about, make a note of the evidence upon which you base your beliefs.

Finally, see if you can add some extra correct statements of your own, with evidence.

Statement	Correct	Incorrect	Don't know	Evidence
Plants can grow in the dark.				
Plants take in oxygen and give out carbon dioxide.				
Plants give out oxygen and take in carbon dioxide.				
Plants get their food from the soil.				
Most of the matter in a plant comes from the air.				
Plants do not respire like humans.				

# Reference list

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# Closing the word gap: geography

## Section 1: Vocabulary for your subject

Rose Taylor has taught geography in North Somerset for 13 years. Her writing includes educational revision guides on SPaG for the geography classroom.

She shares her practical classroom ideas for closing the word gap with strategies to develop students' understanding of the words we **read**, **hear**, and **speak**.



### Using word banks

#### Advice for teachers

To write like a geographer, students need to be explicitly taught geographical terminology. Students' writing will become more concise if they have access to word banks.

Word banks in geography can be specific to topic areas, terminology, skills, theories, and case studies (real-world contexts). These can be prepared in advance to inform lesson planning, given to students as prompts, or be created by students themselves.

#### Word banks

**Geographical terminology** can be categorised by location or theme, and then further divided by features, processes, and events. For example:

	Location	Theme
	<b>Coastal environments</b>	<b>Development</b>
<b>Features</b>	beach spit tombolo	aid slum trade
<b>Processes</b>	chemical weathering erosion longshore drift	industrialisation migration urbanisation
<b>Events</b>	flood storm surge tsunami	global summit trade agreement

Vocabulary for **geographical skills** could be divided into subcategories, for example:

<p><b>Cartographic</b></p> <p>latitude</p> <p>longitude</p> <p>scale</p>	<p><b>Graphical</b></p> <p>axes</p> <p>data point</p> <p>key</p>
<p><b>ICT</b></p> <p>geographic information systems (GIS)</p> <p>remote sensing</p>	<p><b>Communication</b></p> <p>debating</p> <p>presenting</p> <p>writing</p>

Vocabulary within **case studies** (real-world contexts) can often be categorised as follows:

<b>Causes</b>	human	physical	
<b>Effects/consequences</b>	economic	environmental	social
<b>Solutions/management</b>	long-term	short-term	

It is important that place names are included in case study vocabulary lists, especially if the places are in different countries and are difficult to spell.

### Suggested strategies for using word banks

- **Aides-memoire.** Make word banks available on students’ desks. They could be displayed on mini flip charts for students to browse through.
- **Home word banks.** Make a word bank the focus of a homework task. All words from the word bank must be used in the answer to a specific question.
- **Taboo.** Play Taboo with key vocabulary: students describe the new word to their team but must not use the banned words. Their teammates have to guess the word. Teachit Geography has a resource for [Urban settlement taboo \(17776\)](#) as well as a [Taboo template \(32149\)](#).

<p><b>Key word: anemometer</b></p> <p>Banned words:</p> <p>measure</p> <p>outside</p> <p>spin</p> <p>weather</p> <p>wind</p>	<p><b>Key word: counter urbanisation</b></p> <p>Banned words:</p> <p>city</p> <p>countryside</p> <p>migration</p> <p>rural</p> <p>urban</p>
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## Making links between key terms

### Advice for teachers

The ability to make clear links between key words is only possible when a student really understands the words. Creating these links enables students to practise applying their knowledge to new situations, a skill that is vital for success in all the GCSE Geography exam board specifications.

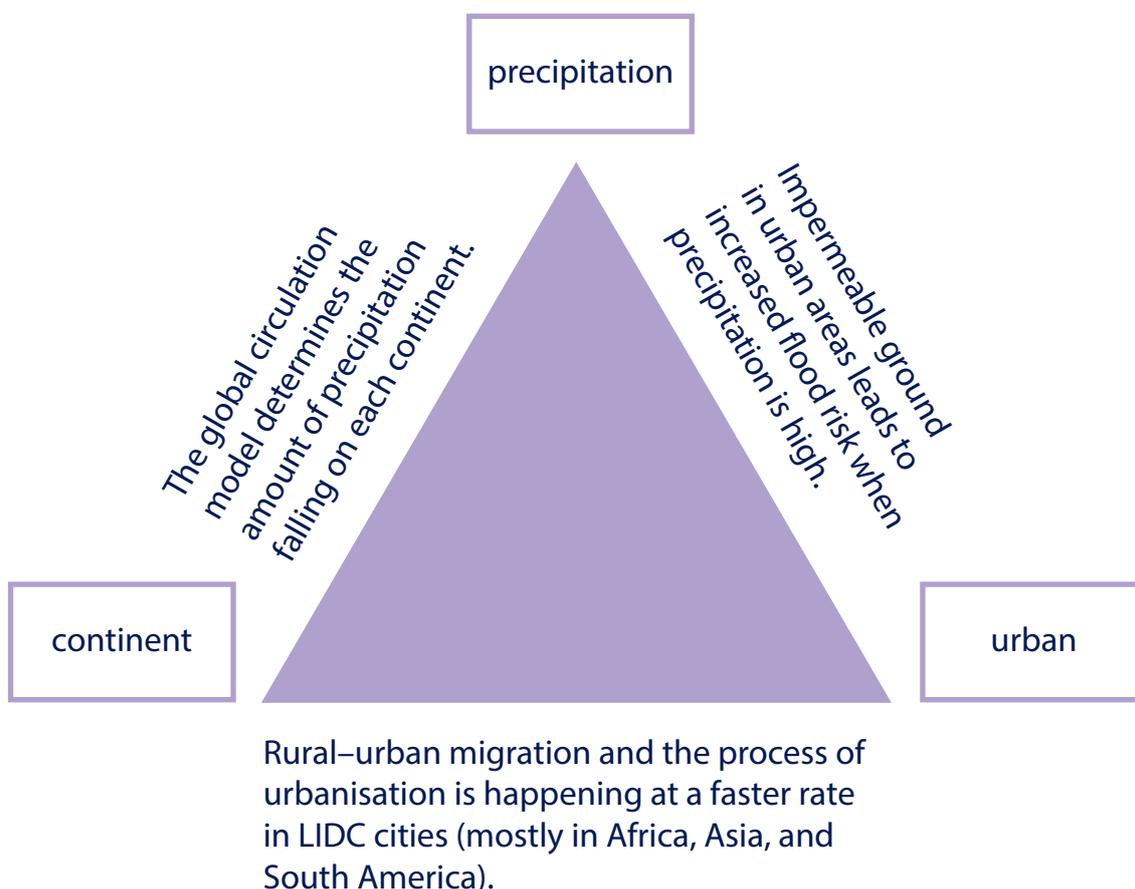
As geography is a varied subject with so many key terms, students can feel that learning the vocabulary is like learning a new language. However, links can be made between all areas of geography, and the more these links are identified, the greater the understanding of the subject.

### Suggested strategies for making links between key terms

- **Verb–subject links.** Provide students with a list of verbs and a list of geographical features/subjects (Wall et al., 2019). Students pick one word from each list then include them in a sentence. For example:

Verb	Subject
distribute	climate change
divide	NGO
reduce	tributary

- **Triangle link.** From a provided list of key words, students pick any three and write them at the three points of a triangle. They then write a linking sentence along each of the sides of the triangle. This can be made harder by extending the shape to a square or pentagon. Here’s an example using three words and sentences compiled by my A-level geographers:



- **Link the answers.** Play [Linkee](#). This is a question game where all the answers are linked. The online tool enables you to make your own question cards. Here's an example:
  1. Home of the Parícutin volcano. (Mexico)
  2. Suffered a large tsunami in 2011. (Japan)
  3. Country in which you will find the San Andreas fault. (USA)
  4. Home of the All Blacks. (New Zealand)

Clue: Johnny Cash

Linkee answer: countries in the Ring of Fire



## Independent learning tasks

- **Word pots.** This is a variation of the triangle link activity. Fill three different pots with words: one pot should include physical geography terminology, one pot human geography terminology, and the final pot places. Students pick one key word from each pot and make a link between them. By changing the word groups in the pots, you can repeat this activity to make different links. Teachit Geography has a number of word connections resources, such as [Making weather connections \(23490\)](#), [Making glacial connections \(29684\)](#), and [Making development connections \(23732\)](#).
- **Place pairs.** Provide students with a set of cards, each with a different place on it. Students pick two and identify a way the places are linked. For example, *Boscastle* and *Mozambique* both suffered a major flood. This can be made harder by including places that haven't yet been studied.

## Exploring etymology and morphology

### Advice for teachers

If a word is unknown, the ability to extract meaningful information about that word from the context is invaluable. Gaining word knowledge from reading requires good decoding skills (Beck et al., 2002).

Even if students have little previous knowledge of etymology and morphology, a simple guide can support them in decoding the meaning of new words in an unseen piece of text. Understanding the root of the word can also deepen the understanding of that word and the contexts in which it can be used.

## Suggested strategies for teaching etymology and morphology

- **Definitions.** Use a table like this one, and encourage students to work out definitions for new vocabulary:

Root word	Meaning	Examples
agr/i/o	farming	agriculture
bar/o	pressure	barometer
bio	life, living matter	biological weathering
calc	stone	calcium carbonate
cent/i	hundred	centigrade
dem/o	people	demographic
geo	earth	geography
graph	writing, recording	seismograph
sphere	ball	biosphere
terr/a/i	earth	terrain
urb	city	urban

Tables of prefixes would also enhance this activity. For example:

Prefix	Meaning	Examples
anti-	against	anticyclone
inter-	between	intercept
multi-	many	multinational
un-	not	underpopulated



### Independent learning tasks

- **Word origins.** Provide each student with one key word to research for a topic. You could get students to present their findings to the class as a starter for each lesson on that topic. Support students by showing them [Etymonline](#).

## Using talk to widen vocabulary

### Advice for teachers

Reading to students and exposing them to additional texts can help to build their vocabulary, as Geoff Barton states in *Why Closing the Word Gap Matters* (OUP, 2018). There are thousands of interesting texts to choose from in geography. For example, John Harrison's *Up the Creek – An Amazon Adventure* (Harrison, 1986) can be used to introduce the landscape of the rainforest to year 8, as well as to describe the effects of malaria to year 12 or the river's course to year 11. This can be a varied and well-received way to introduce a new topic.

Other suggested texts:

Title	Topics
<i>Miracle in the Andes</i> (Parrado, 2006)	glaciation and mountain environments
<i>If I Die Before I Wake</i> (Koch, 2018)	geology and adventure climbing
<i>Extremely Loud and Incredibly Close</i> (Safran Foer, 2006)	New York (world cities)
<i>Burial Rites</i> (Kent, 2014)	Iceland (tectonics)
<i>Memoirs of a Geisha</i> (Golden, 1997) (best suited to key stage 4 or 5) <i>The Ginger Tree</i> (Wynd, 1977)	Japan
<i>The Birthday Boys</i> (Bainbridge, 1991)	Antarctica
<i>Shantaram</i> (Roberts, 2003)	India and slums

## Suggested strategies for using talk to widen vocabulary

- **The pause.** When a student has given their verbal answer, avoid the temptation to respond with feedback straightaway. A few seconds' pause will often inspire a more detailed response.
- **Three-word synonyms.** Introduce complex vocabulary by saying three or four words consecutively with the same meanings. This method is most effective if the meanings become simpler. Here's an example of how you can do this through your talk in geography:
  - *flora, vegetation, plants*
  - *sediment, deposited material, silt and sand.*
- **Video commentary.** Play a video clip without sound. Students prepare a commentary to accompany the video clip.
- **Linking words and phrases.** Encourage students to use a range of linking words to explain cause and effect (*because, therefore*) and to exemplify (*for example*). By verbalising tier 2 vocabulary in this way, students will consolidate the words they have available for writing.



## Independent learning tasks

- **The high-speed ticker.** To revise a topic, create a [ticker](#) of words in PowerPoint. Your word lists are rolled through on the screen at high speed. When the ticker is stopped at random, students explain what the word means.
- **Diagrams and key words.** Provide a diagram and a list of key vocabulary. Students explain what the diagram is showing using all the key words on the list. For example, a diagram of a waterfall and the key words: *plunge pool, resistant rock, gorge, spray, cap rock, overhang, rapids, undercutting, and soft rock.*

## Avoiding common mistakes and misunderstandings

### Advice for teachers

Identify common mistakes in your classes and address these. Some typical examples:

- referring to *economic* impacts as *economical* impacts
- inappropriate use of the term *distributed* by using it in place of the word *found* (for example, 'deciduous trees are *distributed* in the UK')
- referring to Africa as a *country*.

## Suggested strategies for correcting these mistakes and misunderstandings

- **Self-assessment.** Encourage students to make a list of their own common mistakes in the back of their book.
- **Whole-class feedback.** When several students make the same mistake, address the issue with the whole class as it will be likely to benefit many of them.
- **Spot the mistakes.** Share sample paragraphs with common mistakes. Students identify the mistakes and rewrite them correctly.



### Independent learning tasks

- **Peer feedback.** Encourage peer feedback in class with a focus on clarity of written communication. Allow a period of silence, followed by time for discussion.

## Understanding vocabulary for exams/assessments

### Advice for teachers

Once a student has mastered exam technique in geography, the quality of their answers improves dramatically. Provide students with simple mnemonics to fully understand questions and answer them precisely. Here are some examples:

- For understanding the set question, use **BUG: B**ox the command word, **U**nderline the key words, **G**o back and check.
- For structuring paragraphs, use **PEEL: P**oint, **E**vidence, **E**xplanation, **L**ink.
- For *description* answers, use: **OSO: O**verall trend, **S**pecific examples, **O**dd things out.

You could also use a template to encourage identification of command words, for example, the Teachit Geography resource [Deconstructing an exam question \(32089\)](#).

### Specialist word bank

Vocabulary specific to geography exams can be divided into geographical terminology and skills terminology.

#### Geographical terminology

Physical features	Human features	Processes
crag and tail	character	managed retreat
landform	commercial	subduction
landscape	economic indicators	suburbanisation
lowland	industrial	transportation
relief	informal economies	urbanisation
seasonality	informal jobs	weathering
topography	megacity	
	regions	
	secondary jobs	
	social indicators	
	sustainability	
	world city	

**Skills terminology**

Graphical skills	Cartographic skills	Statistical skills	Fieldwork skills
data presentation technique	isoline latitude longitude	mean median modal	sampling techniques secondary data systematic sampling

Refer to the command words below from your specific exam board.

**Specialist word bank**

Command words used in GCSE Geography exams	AQA	Edexcel A	Edexcel B	OCR A	OCR B	WJEC Eduqas A	WJEC Eduqas B
annotate						✓	✓
assess*	✓	✓	✓	✓	✓	✓	
calculate	✓	✓	✓	✓	✓	✓	✓
circle	✓	✓	✓	✓	✓	✓	✓
compare	✓	✓	✓		✓	✓	✓
complete	✓	✓	✓	✓	✓	✓	✓
contrast							✓
define		✓	✓	✓	✓		
describe*	✓	✓	✓	✓	✓	✓	✓
discuss	✓	✓		✓	✓		✓
draw		✓	✓				✓
evaluate*	✓	✓	✓	✓	✓	✓	✓
examine*		✓		✓	✓		
explain*	✓	✓	✓	✓	✓	✓	✓
extrapolate							✓
give	✓			✓	✓	✓	✓
identify	✓	✓	✓	✓	✓	✓	✓
interpolate							✓
interpret							✓
justify*	✓		✓			✓	✓
label		✓	✓				
list	✓	✓	✓	✓	✓	✓	✓
make judgements							✓
name		✓	✓			✓	✓
outline	✓			✓	✓		
plot		✓	✓				
predict				✓	✓		
state	✓	✓	✓	✓	✓	✓	✓
suggest	✓	✓	✓	✓	✓	✓	✓
tick	✓	✓	✓	✓	✓	✓	✓
to what extent*	✓			✓	✓		✓
use evidence to	✓						

\*Words identified in recent examiner reports as posing difficulties for students.

## Geographical terminology

The following words were identified in examiner reports (2018) as causing confusion for students:

<p><b>AQA</b> (AQA, 2018)</p> <p>character</p> <p>data presentation technique</p> <p>median</p> <p>mean</p> <p>relief</p>	
<p><b>Edexcel A</b> (ResultsPlus, 2018)</p> <p>abiotic</p> <p>biotic</p> <p>characteristics</p> <p>convergence</p> <p>crag and tail</p> <p>deindustrialisation</p> <p>functioning</p> <p>geopolitical</p> <p>Human Development Index (HDI)</p> <p>landform</p> <p>mean and modal</p> <p>periphery and core</p> <p>renewable resource</p> <p>transportation and weathering processes</p>	<p><b>Edexcel B</b> (ResultsPlus, 2018)</p> <p>commercial</p> <p>industrial</p> <p>informal employment</p> <p>regions</p> <p>socio-economic</p> <p>topography</p> <p>trends</p>
<p><b>OCR A</b> (OCR, 2018)</p> <p>concept of landscape</p> <p>continentality</p> <p>lowland</p> <p>urbanisation</p>	<p><b>OCR B</b> (OCR, 2018)</p> <p>flora</p> <p>impacts</p> <p>isoline</p> <p>issue</p> <p>megacity</p> <p>mitigate</p> <p>urbanisation and suburbanisation</p> <p>world city</p>
<p><b>WJEC Eduqas A</b> (WJEC CBAC Eduqas, 2018)</p> <p>informal economies</p> <p>informal jobs</p> <p>subduction</p> <p>managed retreat</p> <p>sustainability</p> <p>systematic sampling</p>	<p><b>WJEC Eduqas B</b> (WJEC CBAC Eduqas, 2018)</p> <p>abstraction</p> <p>economic indicators</p> <p>latitude and longitude</p> <p>sampling strategies</p> <p>seasonality</p> <p>secondary data</p> <p>social indicators</p>

## Key areas of concern identified in examiner reports

Examiner reports from 2018 indicate some common areas of confusion for students. They mention

- frequent use of words such as above, below, left, or right rather than compass points
- confusion between the words *describe* and *explain*
- lack of evaluation throughout questions asking them to *evaluate*.

They also advise teaching connectives to prompt students to *interpret, analyse, evaluate, and justify*. Refer to the detail of your specific exam board's examiner report for further areas of development.

## Suggested strategies for teaching vocabulary for exams/assessments

- **Display the key words.** Print out your exam board's command words with definitions in a prominent place in the classroom.
- **Glossary.** Encourage students to keep a glossary of command words in their exercise books.
- **Exam feedback.** After each exam, take time to read the examiner reports to feed back to your GCSE classes.
- **Guess the question.** Give example answers and play 'Guess what the command word was in this question.' Extend this and play 'Guess the question.'
- **Write questions.** Ask students to write their own questions for each other using the command words from your exam board.



### Independent learning tasks

- **Exam questions.** Have three pots of words: one containing command words, one containing tier 2 key words (e.g. *cause, effect, response*), and a theme pot (e.g. *development, tectonics*). Students select one word from each pot and use these to write their own exam question. They practise planning their answers to these.

# Closing the word gap: geography

## Section 2: Vocabulary to improve your students' writing

Here are Rose Taylor's suggestions for effective classroom strategies to develop students' ability and confidence in using key vocabulary in their written work.

### 1. Identifying students' geographical vocabulary range and use

I have a fond memory of a disaffected year 9 student who rose to the challenge of enhancing the quality of her written communication. For the whole lesson, she pored over a thesaurus. Once she had finished, she beamed from ear to ear as she presented me with a piece of writing about the quality of the response to Hurricane Katrina. She read me her work with pride, emphasising the words 'moreover' and 'to boot'. Aside from the obvious note of caution with using a thesaurus, when students become inspired and proud of sounding 'fancy', their written work can take on a whole new life.

The following tasks give students ownership of technical or complex words and give them the confidence to use these words more frequently. Introduce your students to the tiers of vocabulary.

Tier 1 Basic everyday words	Tier 2 Academic utility words	Tier 3 Academic content words
mountain people tree	analyse evaluate populate	braiding suburbanisation terminal moraines

Give students time to review their own writing and divide it into tier 1, tier 2, and tier 3 words. This could be done (and presented) in different ways:

- using three highlighter pens to represent visually the proportions of the words from different tiers
- a tally and a bar graph
- a pie chart (perfect for checking progress several weeks later).

When students are aware of these layers of words in their own vocabularies, it will help them to understand when and how they could change tier, and make them more discriminating in their language choices.

When categorising words into these tiers becomes second nature, you could consider introducing a few of these activities into your classroom routine:

- Ask students to pick out their favourite tier 3 words and write them on a sticky note for a 'wow' wall. Making time for students to share their favourite words with the class can also work well as a plenary activity.
- Keep a set of tier 3 key word lollipop sticks for different topics. These can be used for a wide variety of activities. For example, pull them out and ask for definitions, pull two out and ask for a link, or hand them out for students to use in their writing.

## 2. Global reading

As geographers, we are blessed by a wealth of stories and adventures in literature from around the world. Dedicated story time is a lovely way to set the scene for a new topic. You can be creative in the way you do this.

When introducing rainforest ecosystems on a gloomy November day, why not turn the lights off and put a rainforest video on the whiteboard, with the pitter-patter of rain at full volume? The eerie green glow and a couple of pages of John Harrison's *Up the Creek* (1986) will set the scene beautifully. Equally, with a fireplace roaring on the whiteboard, the lights down low, and a description of Shackleton's Antarctic exploration, you can introduce the Antarctic Treaty and global commons to A-level geographers.

Scene-setting in this way appeals across the age ranges, and I have found the process really helpful in building positive relationships with students. It's something the whole class can access and enjoy as a shared experience.

There are many ways to celebrate global literature and its links to geography. Here are some other ideas:

- Fill a small bookshelf in your classroom with stories from around the world. Categorise these by continent or topic, or by suggested age group, or any categorisation to suit your classes.
- Create a reading passport scheme where students get stamps for reading books set in different places. Give out special prizes for students when they have read a story from every continent, or something similar.
- Put a sign on your door: 'Mrs Taylor is currently reading ...!' Update the sign regularly to show your students that you read books from a range of places.
- Ask your school librarian to create book boxes for different topics. Make the boxes available in your classroom for research lessons. This works particularly well with biomes as there is a wealth of wonderful non-fiction books on deserts, polar regions, and rainforests.

## 3. Sounding like a geographer

Learning banks of words or phrases (particularly tier 2 words/phrases) which offer a more refined method of expression can be invaluable. Practising them frequently will embed these and increase the sophistication of students' written answers. These words/phrases will also provide useful scaffolding for sentence and whole-answer structure.

Create tables of these words/phrases for your students. These can go in books, on shared learning mats, on the walls, or be sent home.

A useful way to start to build up these banks is with command words. Giving some useful phrases supports students' understanding and use of each command word. Here are some examples of words/phrases for comparing, contrasting and explaining:

Command word	Useful phrases
<b>compare</b>	equally likewise similarly
<b>contrast</b>	alternatively however whereas
<b>explain</b>	as a result due to which is because

You can also provide ideas for ways to enhance writing when students are focused on a specific task. Here are some examples of discourse markers for exemplification, supporting, and sequencing:

Task	Relevant words/phrases
<b>when giving an example</b>	as illustrated by for example in the case of
<b>when adding ideas</b>	additionally furthermore moreover
<b>when structuring a series of points</b>	firstly secondly subsequently finally

Finally, 'better words and phrases' are really useful. These will be specific to each class you teach, and based upon their commonly used phrases which lack geographical sophistication.

First attempt	Better words and phrases
the river was next to the field	the river was to the west of the field
make it last	make it sustainable
rain	precipitation
the side (of a hill or volcano)	the flank
chopping down trees	deforestation
too many people	overpopulation or densely populated
plants	flora
animals	fauna
spread everywhere	evenly distributed
animal homes	habitats
to do with people	social
to do with money	economic
to do with the type of people	demographic

To encourage frequent use of such words and phrases, assign a points system (similar to Scrabble) where more complex words and phrases are worth more. Writing can be peer assessed and awarded a score. A Scrabble-themed display board celebrates students' use of sophisticated language. Use this space to display high-scoring written work by students from different year groups. A top-scoring, tier 3 Scrabble word of the week also works nicely as an addition to this display. My favourites include:

- **Pneumonoultramicroscopicsilicovolcanoconiosis, 69 points:** a type of lung disease caused by the inhalation of volcanic particulates. It is technically invalid, since its length exceeds the size of a standard Scrabble board! (Thank you to Freddie in year 8 for this one – he even pronounced it correctly.)
- **Pluviophile, 21 points:** a lover of rain. (Thanks, Alex in year 11.)

Students will become familiar with these new words and phrases. They should be encouraged to look out for them in others' work when peer reviewing and offering up improvements where appropriate.

## 4. Locating mistakes

Once you have modelled the use of more sophisticated vocabulary (strategy 3), provide opportunities for students to gain confidence in using these new words. Play quick-fire quizzes with multiple-choice questions displaying subtly different answers, or one correct use and three misuses of a word. [Kahoot!](#) is a useful online tool that you can use to create and tailor these, especially if you have access to an ICT suite. If not, you or your students can make cards to then share with or read out to the rest of the class.

For example:

*Afforestation/afforested/afforest* are often used incorrectly.

<p>The forest was <i>afforested</i> to make it bigger so there was less flooding. (Incorrect)</p>	<p>The <i>afforestation</i> happened, and this reduced the flood risk. There was an increased number of trees, and water soaked into the ground more easily. (Incorrect)</p>
<p>The flood risk decreased as a result of the <i>afforestation</i> programme. The density of vegetation increased interception and infiltration, and reduced runoff. (Correct)</p>	<p>The trees were <i>afforested</i> in order to reduce the flood risk. The extra <i>afforestation</i> meant that the land was no longer going to get flooded. (Incorrect)</p>

Students’ mistakes can also be a great learning opportunity. Over the last five years I have been noting down the more amusing mistakes made by my students. If there are a couple of minutes to spare at the end of a lesson, my classes take great delight in hearing these strange and wonderful malapropisms. Asking the class to correct these delightful mistakes can boost their own lexical confidence!

Here are a few gems from my students:

- *South America is more of a country than the equator.*
- *I thought it was an island, so it's not a country.*
- *What equator is Ghana on?*

It’s not just students who make mistakes. You could even share some of the widely publicised vocabulary mistakes made by public figures on Twitter.

## 5. Geography – it’s all about colouring in!

As geographers, we’re used to claims of our subject being all about colouring in. I like to harness this skill by colouring in with highlighters when I give feedback! Highlighter marking visually illustrates the quality of written work to both teachers and students.

Use two or three coloured highlighter pens to pick out evidence of different writing skills from the student’s written work. The student can then see which colour is lacking or how the balance/order of colours looks, providing a very easy way for students to identify what changes need to be made for redrafting.

The process can be adapted to emphasise other elements of feedback. Here are some suggestions:

## Topic: Any

Materials required: Practice exam question.

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### Lesson idea:

## Margin mapping

### Activity

To reach the top marking band in the 9–1 GCSE Geography paper, the structure of the written answer needs to be spot on. Margin mapping (or structure strips) is a simple and efficient technique that ensures all answers are well structured and cover the demands of the questions. Using one margin to note down tier 2 and 3 words will ensure that the final answer achieves the desired sophistication and clarity of communication.

Margin mapping is suited to questions that are worth six or more marks. The idea is that the question is subdivided into the elements required, and each of these is jotted into the margin with an approximation of how much space should be dedicated to that part of the answer. It works on the principle that two lines of writing paper are provided for each mark, so, for instance, a question worth six marks will have 12 lines of space in which to write the answer.

Here is an example:

Choose either a drought or a flood.

Assess the extent to which short-term impacts are more significant than long-term impacts. Use an example you have studied. (9 marks) [+3 SPaG marks]

This example is modelled on a question set by AQA. The command phrase *Assess the extent* requires students to evaluate, where 'there should be a discursive element' (AQA, 2018) which addresses whether, and to what extent, short-term impacts are more significant than long-term impacts.

The answer should be split into these 18 lines:

- a brief introduction of the chosen case study (three lines)
- a summary of the short-term impacts, including evidence (four lines)
- a mini conclusion stating how significant the short-term impacts were (three lines)
- a summary of the long-term impacts, including evidence (four lines)
- an overall conclusion (four lines).

The tier 2 and 3 words can then be added into the right-hand margin to act as prompts for using sophisticated vocabulary.

### Teaching tips

- This method is useful to practise in the classroom.
- When starting to use the technique, provide students with the margin plan and vocabulary prompts.



### Independent learning tasks

- Students can peer or self-assess their answers to see how many of the key words they were able to include. With practice, the skill will be well rehearsed for writing in the exam setting.

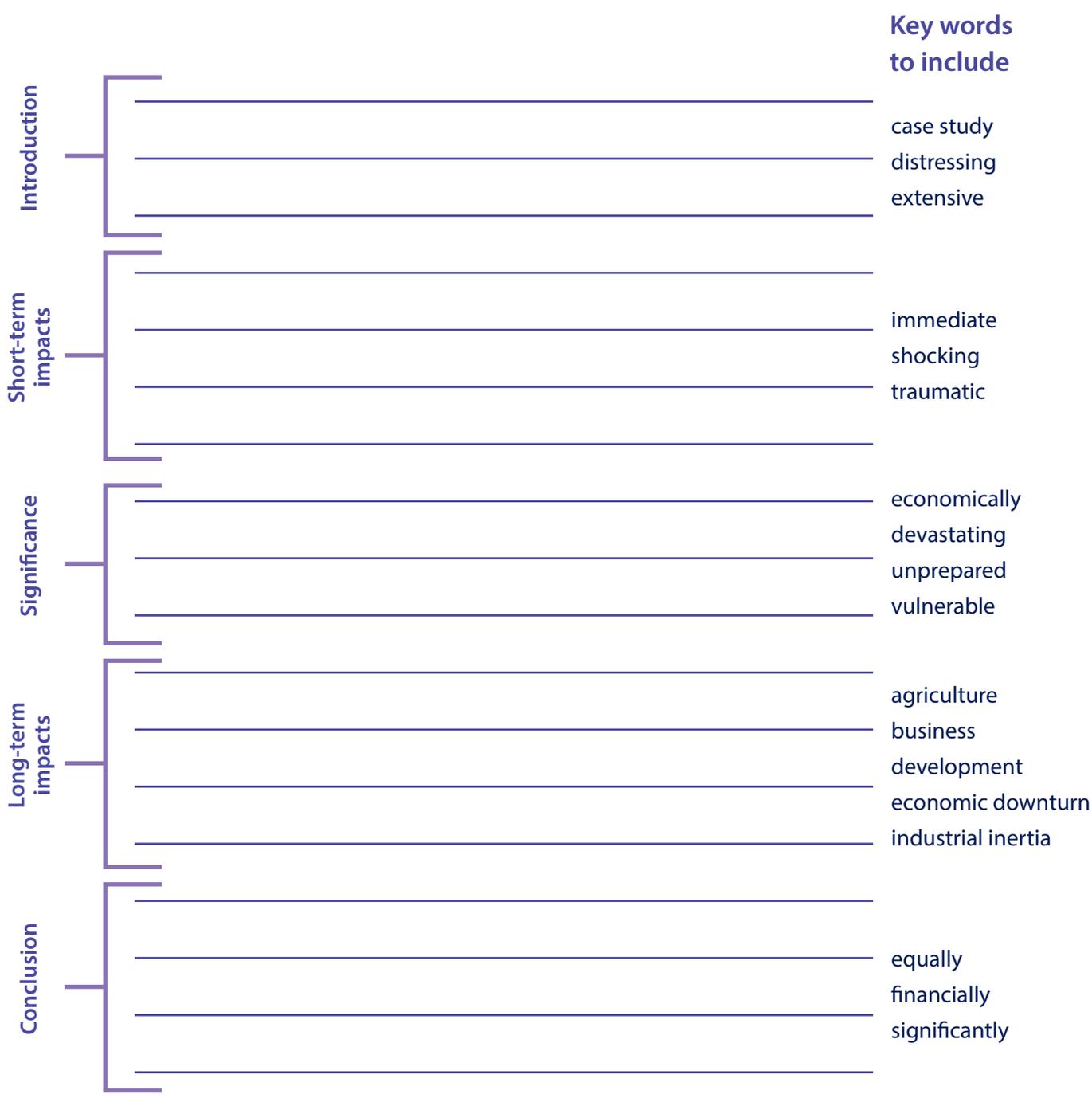
# Classroom resource:

## Margin mapping

The margin map below demonstrates how you could plan an answer to this question:

Choose either a drought or a flood.

Assess the extent to which short-term impacts are more significant than long-term impacts. Use an example you have studied. (9 marks) [+3 SPaG marks]



## Lesson idea: Vocabulary tracker

### Topic: Any

Materials required: Vocabulary tracker sheet (and some rewards!).

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### Activity

Seeing an improvement in students' vocabulary indicates that a focus on terminology and use of language has been successful. To encourage this, a vocabulary tracker can be introduced. With a competitive element (and a few well-chosen rewards), this activity can bring students' writing to life. The tracker gives students ownership of their expanding vocabulary.

You may need to allocate specific lesson time to completing the tracker, but after a while it should become everyday practice and part of the routine of the classroom. The onus is on the student to complete the table. The teacher can sign to confirm each accurate use of the word. This task is self-differentiating as each new word is individual to each learner.

### Teaching tips

- Support students who need more support by highlighting the vocabulary in their books.
- Give out rewards for each use of extended vocabulary, and to students with the most extended vocabulary over the period of a topic.



### Independent learning tasks

- Encourage students to complete the table by themselves as they learn. This can be done in school or at home.
- Ask parents to get involved too by signing against new uses of extended vocabulary.

Use the tracker below to note when you use new words in your writing. One row has been completed as an example.

## Classroom resource: Vocabulary tracker

New word	Meaning	Use in a sentence	Evidence of use in writing	Evidence of use in conversation	Evidence of use in questioning
exacerbate	make worse	Climate change is exacerbated by industrial emissions.	Used in an answer about malaria and tropical diseases. 04/11 Signed: RT	Used in a conversation with Mrs Taylor about lunchtime behaviour. 11/11 Signed: RT	Asked a question in class: 'Why is flooding exacerbated by deforestation?' 14/12 Signed: RT

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# Closing the word gap: history

## Section 1: Vocabulary for your subject

Lindsay Bruce is a history teacher and lead practitioner in a secondary school in the Midlands. She writes KS3 and GCSE history textbooks and blogs for Oxford University Press.



She shares her practical classroom ideas for closing the word gap with strategies to develop students' understanding of the words we **read**, **hear**, and **speak**.

### Using word banks

#### Advice for teachers

A word bank can be so much more than words on the wall; it can be a way to consolidate, test, apply, and revisit knowledge. Research supports the idea that you need to teach vocabulary in the context of students' learning rather than in isolation.

Start with your KS3 syllabus or GCSE specification, where you will find key words, terms, people, and factors, and try to group the words into themes such as academic words, question words, or words that feature across units and even exam papers. Try to avoid producing word banks with far too many words as this can be overwhelming for students.

My school has adopted a knowledge-rich approach, and we are using knowledge organisers to embed and revisit key words. The knowledge organisers function as word banks which relate to the bigger picture – what students need to learn. We were mindful that knowledge organisers could be a 'fad', as Christine Counsell (2017) has observed, when we adopted them; we did not expect or want them to be the full extent of students' learning, but to support their learning. Students use them at home to support their online homework or in class during different lesson phases.

Word banks can be a wonderful tool if students play a part when they are being collated. This will help you to address any misconceptions students have about key terms and provides an opportunity for students to hear the words spoken aloud, which can help to embed new vocabulary. Research suggests that students need to hear a word 10 times before they become confident in understanding and applying it to different contexts (Schmitt, 2008).

## Word banks

Using the template below, students can test themselves or friends by folding the page over. Encouraging students to use the concept/term will help to push their responses into higher bands in the GCSE exam.

Content	Concept/term I expect to see
Hitler's foreign policy	Grossdeutschland/Lebensraum
Abyssinia	Hoare–Laval/self-interest
Not stopping Hitler	appeasement
Anschluss	plebiscite

This word bank could be used to introduce new vocabulary or as part of a knowledge organiser. Encourage students to write their own definitions or annotate existing definitions so that the words are meaningful on a personal level.

Key term	Definition
housecarls	Warriors who fought using a battleaxe. They had large round shields and chainmail.
witan	The meeting of the most important bishops and earls in England. They advised the king.
fyrð	They supported the housecarls. They could have swords and javelins but most used farming tools.

## Suggested strategies for using word banks

- **Highlight key words.** Use word banks to help students to assess their own written responses by highlighting key vocabulary in their work. This is a powerful visual tool to enable them to see how often they use key words, and to track their learning as they work.
- **Collaborate and compete.** Break a unit down into three parts and have three teams of students compete with each other to collate the most comprehensive word bank. For example, a unit such as *Conflict and tension 1918–1939* could be broken into the Treaty of Versailles, the League of Nations, and Hitler's foreign ambitions. These word banks could then be evaluated and adapted by everyone. Consider using window crayons for easy reference when writing or discussing.
- **Elicit student responses.** Try using call and response techniques to consolidate new vocabulary and key concepts across topics and key stages. For example, use counting to elicit whole-class responses simultaneously ('on the count of three: one, two ...') or use non-verbal gestures such as using a looping motion with the finger. Alternatively, use changes in your tone or volume to signal that you are asking a question and to elicit a class response. You will need to work with students to find techniques that work in your classroom.



## Independent learning tasks

- **Chunking and revising.** Get students to chunk knowledge organisers and word banks onto flash cards. This way they can use them to revise, quiz friends, and match key words to content.
- **Grouping words.** Subcategorising word banks is a good way to get students thinking about how they can group content and how questions may be asked in an assessment or exam.

For example:

<b>Economic</b> poll tax, scutage, picket	<b>Social</b> poverty, unsanitary, laissez-faire
<b>Religious</b> pious, indulgences, monasteries	<b>Government</b> revolution, reform, aristocracy

## Making links between key terms

### Advice for teachers

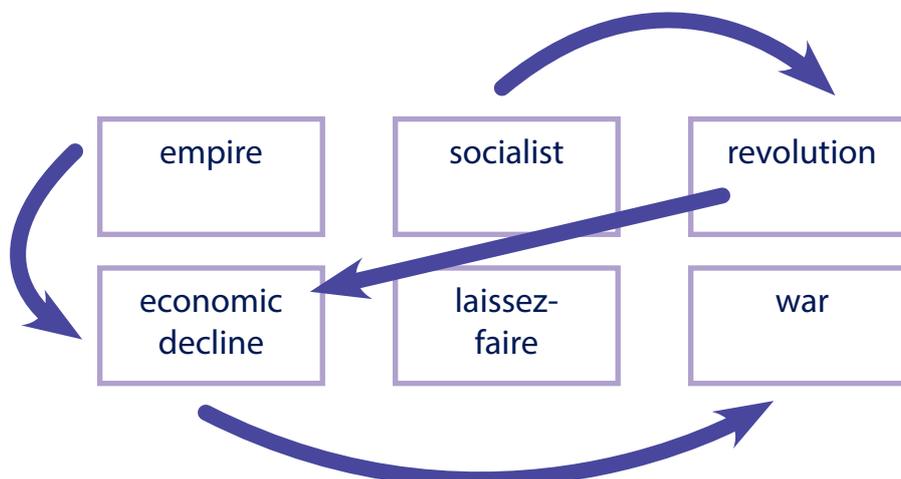
Using word banks will be fruitful only if students understand how words fit into their background knowledge, building on something they already know. This is what Jean Gross was referring to when she used a ‘football net’ analogy to describe how some students are able to connect new words to their existing word net, whereas others struggle to do this (OUP, 2018). By knowing the key terms and how they fit into the wider context, students are better able to make meaningful links between them.

Students should also be making links between key concepts. Can they show, for example, that *revolutions* can have the same aim – which is to enable change – but that they come in different forms and use different methods for different reasons, or understand the different *authority* that exists throughout history?

Understanding the changing definitions in key concepts is vital for vocabulary and knowledge development.

### Suggested strategies for making links between key terms

- **Stringing things together.** Write key events on pieces of paper, and have each student hold one while standing in a circle. After discussing each event/person/date, get a ball of string, and ask students to throw the ball (while still holding on to the string) to someone else, who has to create a link with a key term/concept such as *religion, power, democracy, foreign policy, supremacy*, etc. This task is also useful for monitoring how developed each student’s vocabulary is.
- **Timelines.** Concept timelines are a great tool for showing links between words and will help students to explain key words in context. Using symbols is a valid form of vocabulary too and can be used to show visually how one event leads to another or links to key terms.
- **Full house.** Concept Bingo is a great activity for revisiting or testing vocabulary and links between concepts. Once full house has been called, students can either annotate the Bingo card to show all relevant links or explain the links to their class (with the teacher recasting their words to boost their vocabulary if appropriate).





## Independent learning tasks

- Students can track their vocabulary development throughout the year, key stage, or course:

Key term/concept	Topics linked to the key concept	Further definitions of the key concept
Empire	Norman Conquest, Crusades, British Empire, slavery, Elizabethan voyages of discovery, Windrush etc.	Religious empires ...
Revolution	French Revolution, slave rebellions, Industrial Revolution, American Revolution, Spartacist uprisings, etc.	Revolution of ideas, physical revolution

## Exploring etymology and morphology

### Advice for teachers

Understanding the history of words can help students to make sense of the new vocabulary and 'can greatly enrich our understanding of our own language' (J. & D. Murphy, 2018) too. Here are some useful root words which you could share with students and/or display in your classroom:

Root word	Meaning	Examples
ana	up, back, again	analysis, anachronism
arch	chief, principal, superior	archbishop, patriarch
bell	war	bellicose, belligerent
chron	time	chronological, synchronise
dem/demo	people	democracy, epidemic
tempor	time	contemporary, temporary

Knowing more about how prefixes and suffixes can change a word could potentially help students to decipher the different demand and command words of exam questions. Students need to feel confident enough to break words down, put them in the context of the question, and give them a go. A few years ago, there was an exam question where events in Berlin were referred to as a *flashpoint*. Many students didn't answer the question – which was a straightforward question – because they had never encountered the word before. If they had been able to break down the word, and consider the meaning and connotations of *flash*, they might have been able to attempt the question.

Prefix	Meaning	Examples
con-	with	conjunction, conflict
auto-	self	autocrat
pre-	earlier, before, in front of	pre-WW2

Suffix	Meaning	Examples
-cracy	rule, government, power	aristocracy, democracy
-crat	someone who has power	autocrat
-ism	action, system of belief or practice	communism, nationalism

## Suggested strategies for teaching etymology and morphology

- **Regular practice.** Introduce a new root word every month, and get students to link it to their learning.
- **Decode.** Build on students' understanding of root words, prefixes, and suffixes by decoding new vocabulary in a challenging documentary. For example, a colleague and I planned a session where year 7s watched a clip from *Civilisation* and were then given a transcript of the documentary. Using their knowledge about root words, prefixes and suffixes, they were able to break down the meaning of some of the most complex new words and explain them to peers.



### Independent learning tasks

- **History of words.** Ask students to research the particular etymology of a word – there are lots of excellent etymological dictionaries online. Students can present their findings in a visual way or even record audio observations. You could divide students into groups, for example, some focusing on words of Latin origin and others on Greek words. You could use Teachit's [History etymology posters \(24765\)](#) as a springboard for students' own poster work.
- **Root word maps.** Students could create root word mind maps that show all the key terms and concepts that the root word links to. The mind maps could then be added to literacy displays to give students ownership of the words.

## Using talk to widen vocabulary

### Advice for teachers

Research tells us that it helps students with their vocabulary development to hear their teacher or another adult read a word aloud and to use the words themselves. They need to hear the inflection and emphasis used; this is what helps to consolidate the meaning.

### Suggested strategies for using talk to widen vocabulary

- **Talk like a historian.** Use lessons as a time to encourage students to talk like historians. Recast vocabulary and explanations to model new words, and expect students to offer subject-specific language in their answers to questions. Build on students' understanding of different types of historical vocabulary, and make this as challenging as you feel is appropriate.
- **Make time for talk.** Give students a speaking and listening exercise that focuses on key terms and concepts or play word games such as Taboo, Just a Minute, or word tennis.
- **Use role-play.** Market place activities can be used to focus on key vocabulary. For example, you could give each student a card with a short explanation for why someone voted for Hitler in 1932, ensuring you have covered all relevant groups in society. Students revise their cards and then have to introduce themselves to the class in role. Not only will they have a well-rounded idea of who voted for the Nazis and why, but they will also have practised new vocabulary and key words.

- **Call and response.** Use call and response activities to encourage students to chant key words back to you. For example, give students the definition, and they have to say the key word in unison, or ask students to link concepts. This approach is proving very effective in my school with students retaining and recalling vocabulary more effectively.



### Independent learning tasks

- **Assembly presentation.** Ask students to prepare an assembly for their year group, explaining one key event they are studying using as many key words as possible.
- **Video commentary.** Students could watch a short YouTube documentary without sound. They should narrate the clip using key words and linking second-order concepts (*change, continuity, causation, etc.*).

## Avoiding common mistakes and misunderstandings

### Advice for teachers

In my school, we use a feedback log to record misconceptions during lessons and after, when we are also checking books for SPaG errors. This log, which takes just a couple of minutes to fill in, helps to structure the next lesson as we can address any misconceptions before we move on to new content or apply content from a previous lesson. Find your own way to track to common mistakes and misunderstandings.

In her book *Learning to Read*, Margaret Meeks notes that errors can increase as students 'move into a more complex stage of thinking' and have to find the language to match (Meeks, 1982). In writing tasks, use the first draft for students to sort their ideas, vocabulary, links, and argument. Use the second draft as an opportunity to address misconceptions and errors, and to organise their argument. This will also help to secure as many SPaG marks as possible in exams.

Students commonly make mistakes by not explicitly answering the question, by confusing key terms that are similar in time and feature, such as *Abyssinia* and *Manchuria*, or by confusing *factors* with *isolated causes* or *consequences*. Work with students to identify explicitly the mistakes that they commonly make.

### Suggested strategies for correcting these mistakes and misunderstandings

- **Sequencing.** Cut up a text or a sample exam question response, and get students to put it in order. This will help with making sure content and evidence are focused on the question and will show students a range of ways to link back to the question.
- **Visual signposting.** After an extended piece of writing, give students three highlighters: one for key words for the question, another for evidence and key terms, and the third colour for information that now seems irrelevant and they don't know why it is there. This visual signposting will help students to excavate their written work for errors.
- **Share misconceptions.** Use a visualiser to share feedback on misconceptions promptly and in front of the whole class. It can have a massive impact when used in the revisiting phase of the lesson.



### Independent learning tasks

- **Bookmarking.** Encourage students to use a bookmark to make a note of any words they are unfamiliar with while reading textbooks or to record their own common spelling mistakes.
- **Reflect.** Encourage students to read and reread their work for errors and to reflect on their learning.
  - Have you checked your bookmark for common spelling errors?
  - Have you used the new vocabulary you have learned?
  - Write a checklist to help you to review your work before your teacher looks at it.

## Understanding vocabulary for exams/assessments

### Advice for teachers

The increased content demands of the current History GCSE has left us scrabbling for time to get students through the different units, and some schools have started to teach the course over three years to do this more effectively. In this context, it is easy to forget that students need time to practise applying this content. We have all taught students who instinctively understand the demands of a question, but they are not in the majority. We must help students to access the examination questions by making them fluent in the command words of the exam and by using the strategies outlined above to give them the confidence to break down unfamiliar vocabulary.

Consult with your exam board's examiner reports for more detail about the key words which specifically pose difficulties for students.

### Specialist word bank

Words used in GCSE History	AQA	Edexcel	OCR A	OCR B	WJEC Eduqas
account*	✓	✓	✓	✓	
accurate					✓
analyse		✓	✓	✓	✓
change and continuity		✓	✓	✓	✓
compare*		✓		✓	
connection			✓	✓	✓
convincing*	✓		✓	✓	
describe	✓	✓	✓	✓	✓
enquiry		✓			✓
evaluate		✓	✓	✓	✓
explain	✓	✓	✓	✓	✓
extent					✓
how far do you agree?	✓				
identify			✓	✓	✓
impact/change			✓	✓	✓
importance*	✓		✓	✓	
infer		✓			✓
investigate			✓	✓	
judgement		✓	✓	✓	✓
outline					✓
purpose					✓
significance	✓	✓			✓
similar	✓				
summary			✓	✓	
useful*	✓	✓	✓	✓	✓

\*Words identified in recent examiner reports as posing difficulties for students.

Encourage students to engage with exam key words by creating their own annotated summary table.

Word		Word	
<b>convincing</b>	Does it give a good/accurate account?	<b>similar</b>	Can you find any things in methods, outcomes, aims, causes, etc. that are the same despite the time difference?
<b>critical/opposes</b>	Against something.	<b>supports</b>	In favour of something.
<b>change</b>	What impact did it have?	<b>account</b>	A narrative, which usually flows chronologically.

You could create a similar template to check students' confidence in using key words, using a scale from 1 to 5 (5 is most confident). Record the dates they use the words verbally or in their written work to show how their confidence rating changes.

Word	Confidence rating 1 to 5	Date used	Word	Confidence rating 1 to 5	Date used
<b>autobahn</b>	2	10/12/18	<b>ensorship</b>	5	9/1/19
	4	9/1/19			
<b>communism</b>	1	1/11/18	<b>Führer</b>	1	20/1/19
	5	20/1/19			

## Suggested strategies for teaching vocabulary for exams/assessments

- **End the fear.** Prevent the exam paper from being something scary. Pass one round after the summer exams with year 10 students and look at how the questions are written. For each section of the paper, print all the different samples and past papers. For example, you may teach a depth study on Germany, but by looking at the stems and tails of the same question in every content option you will be able to explore all possible variations of the question.
- **Mnemonics.** If you use any mnemonics such as PEE or PEEL to help students with paragraph structures, you can also use these to help students to focus on question demands. Here's a structure that we've used effectively in my school:
  - W:** What is your point? (This has to answer the question directly using the words from the question.)
  - E:** Explain this point using evidence that can be linked directly to the demands of the question.
  - L:** Link back to show how everything you have written answers the question (using the wording from the question).
- **Model exam words.** A straightforward approach is to use the language of exams all of the time. Ask students to provide definitions for the whole class when they use a key command word, and be explicit about their meanings when you use them too.



## Independent learning tasks

- **Rewriting tasks.** Ask students to rewrite textbook questions or activities to look like exam questions. This will help students to understand the demands of exam questions and test their ability to use the key words correctly.
- **Collaborate.** Encourage students to work in a group, answering an exam question on a piece of A3 paper. Each time someone writes a line, they pass it to the next person. This can be a challenging exercise in thinking about command words, so you will want to consider how to differentiate it, perhaps by providing a range of sentence starters or relevant key words.

# Closing the word gap: history

## Section 2: Vocabulary to improve your students' writing

Here are Lindsay Bruce's suggestions for effective classroom strategies to develop students' ability and confidence in using key vocabulary in their written work.

### 1. Model key vocabulary to all abilities

As teachers, we differentiate for our classes. I had considered myself reasonably good at it: I stretched those who needed challenge and supplied extra information for those needing more support. I later spoke to a friend who is developing literacy in his school, and he mentioned the Matthew effect (Cunningham & Stanovich, 2001). A little research revealed that I had not been helping the students who needed the most support: I had instead been depriving them of key words, concepts, and themes. I had been depriving them of literacy and knowledge.

To interrogate how you model key vocabulary, record yourself teaching the same content to different ability levels. I found that I gave rich explanations to my higher-attaining students but simple, generic explanations to my lower-attaining students. The word-poor were getting poorer while the word-rich continued to get richer. I was in fact widening the word gap!

I now make a concerted effort to expose lower-attaining students to concepts and more advanced vocabulary in advanced texts and sources. I can emphasise and explain these as I read. Here are some suggestions for how to explore key vocabulary:

- Annotate Big Questions (open-ended for exploratory discussion) to break down language without dumbing it down.
- Allow students to highlight and explore tier 2 words (skills words, many of which are command words) and tier 3 words (subject-specific, academic words), and use root words to decode meanings.
- Give students access to background knowledge and substantive knowledge, allowing them to build understanding.

### 2. Knowledge-rich: the football net of words

To engage with the knowledge-rich approach to teaching, you can use the philosophy of building substantive knowledge over the course of your curriculum, giving students the chance to build on their subject knowledge and develop their vocabulary. A sensible departmental approach would include mapping out what key concepts, knowledge, and vocabulary students need to know by year 11, and where this can be taught and revisited, starting from year 7.

In *Why Closing the Word Gap Matters*, Jean Gross's football net analogy shows the importance of this in relation to vocabulary: some students can connect new words with words in their existing word net, whereas others struggle to do this because they have far fewer words available to them (OUP, 2018).

It is so important that first-order concepts (such as *empire, parliament, war, monarchy, revolution*) are taught and revisited to show that words/concepts can have multiple meanings. Giving time to building an understanding of concepts through knowledge should prevent students from feeling that they are repeatedly starting again.

- Expect students to make links and recall content from the previous unit, year, or key stage. By continually revisiting substantive knowledge, students will be able to retain a word's meaning.
- Allow students to discuss differences in key concepts and terms. Help them to make sense of how a word can mean the same thing in different contexts, but also to realise that this is not always the case.

### 3. Create the right environment

We can expose students to varied vocabulary and employ the strategies and techniques outlined earlier, but to do this, the right climate for this learning is vital. Students need an environment where they feel safe to say the words, discuss the words, and write the words so that they know they are important and relevant for them. As teachers, we have to show students that we also value vocabulary by spending whole lessons incorporating key vocabulary into students' written work.

I was starting a unit on the Industrial Revolution with a year 7 class. They wanted to know how the word *revolution* was relevant to our new unit about factories, given that they had previously studied the French Revolution, and had some prior understanding. After questioning them and, importantly, listening to their understanding of the word and the events, they realised that there was a *revolution* of ideas, people, and things. We agreed that TIP (things, ideas, and people) would be our way to remember this. The confidence they displayed in their writing about the factory system was hands down the best thing they had ever written for me. Without time for discussion, this would never have happened.

- Allow time for and give importance to building an understanding of terms and then applying them to writing activities.
- Make knowledge organisers freely available in the classroom as a checklist for vocabulary. This self-assessment will help students when it comes to GCSE as they will know what to look for as they proofread responses.
- Use Lemov's *Teach Like a Champion* techniques like Cold Call (asking students their answer regardless of whose hands are up) and No Opt Out (getting a student to revisit an incomplete or incorrect answer they have given, following some support from other students, and improving on their original answer in order to practise getting it right). These methods encourage all students to be ready to use key words in their talk and subsequently incorporate them into their writing (Lemov, 2015).

### 4. Time to read

Both academic and anecdotal research shows that for young people to develop their vocabulary and understand how to apply new vocabulary to their writing, they need time to read.

To promote reading in your classroom, gather different articles and books about the topic. My recommendations for higher-tier vocabulary are *BBC History* magazine, the Historical Association's articles, and *History Today*.

- Reading to students allows you to emphasise meaning and model how words can be used.
- Reading with students can lead to discussions about how vocabulary can be applied in their writing. This is a good exercise for identifying more advanced connecting words.

## 5. Organised writing

When analysing the demands of GCSE mark schemes, the top band always requires a clear, organised response with sustained judgements throughout. Some students will require writing frames and paragraph structures as a starting point for learning how to do this, while for others it is a skill they already have, partly as a result of having a wide vocabulary.

Modelling the use of connecting words such as conjunctions and tier 3 vocabulary (subject-specific academic words) can help students to incorporate more sophisticated language into their written work. Using a visualiser, you can quickly model good language use before, during, and after writing tasks. I annotate articles with my students to show where connections have been made, judgements given, and comparisons explained. When students have done this in their work, I have used it as a model of good practice.

- Gradually remove essay-writing structures as students develop confidence in their own vocabulary range and writing style.
- Use academic texts to show students how tier 3 language can be incorporated into their written work.
- Use feedback logs to track students' work during lessons. This will help you to determine which students' work could be used as models in the next lesson.

## Lesson idea:

# Mining academic texts

## Topic: Any

Materials required: Academic texts, A-level texts, article reviewing a piece of historiography, and mind map template.

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## Activity

Academic texts can be used to help to extend students' vocabulary choices. I have used academic texts such as Hobsbawm's *The Age of Extremes: The Short Twentieth Century, 1914–1991* to teach how to compare arguments and to help students to widen their use of connectives to introduce new ideas.

Students highlighted vocabulary used to compare historical concepts. They then presented the vocabulary they had chosen and explained what they thought of Hobsbawm's analysis, using his vocabulary. Their exam responses have since shown that the students are more able to compare arguments and ideas.

## Teaching tips

- Give students a number of texts: A-level, academic, or review articles. Give them a mind map template like the one below, and ask them to complete the mind map in groups.
- Allow students to repeatedly mind map ideas, vocabulary, and connections with prior vocabulary knowledge from academic texts before you expect to see any new vocabulary in their writing. In the football net analogy, they are working on attaching this tier 3 vocabulary to their pre-existing vocabulary.
- Share good examples of new vocabulary to agree on ways that words, a turn of phrase, or style in general can be applied, and then get students to redraft their work.

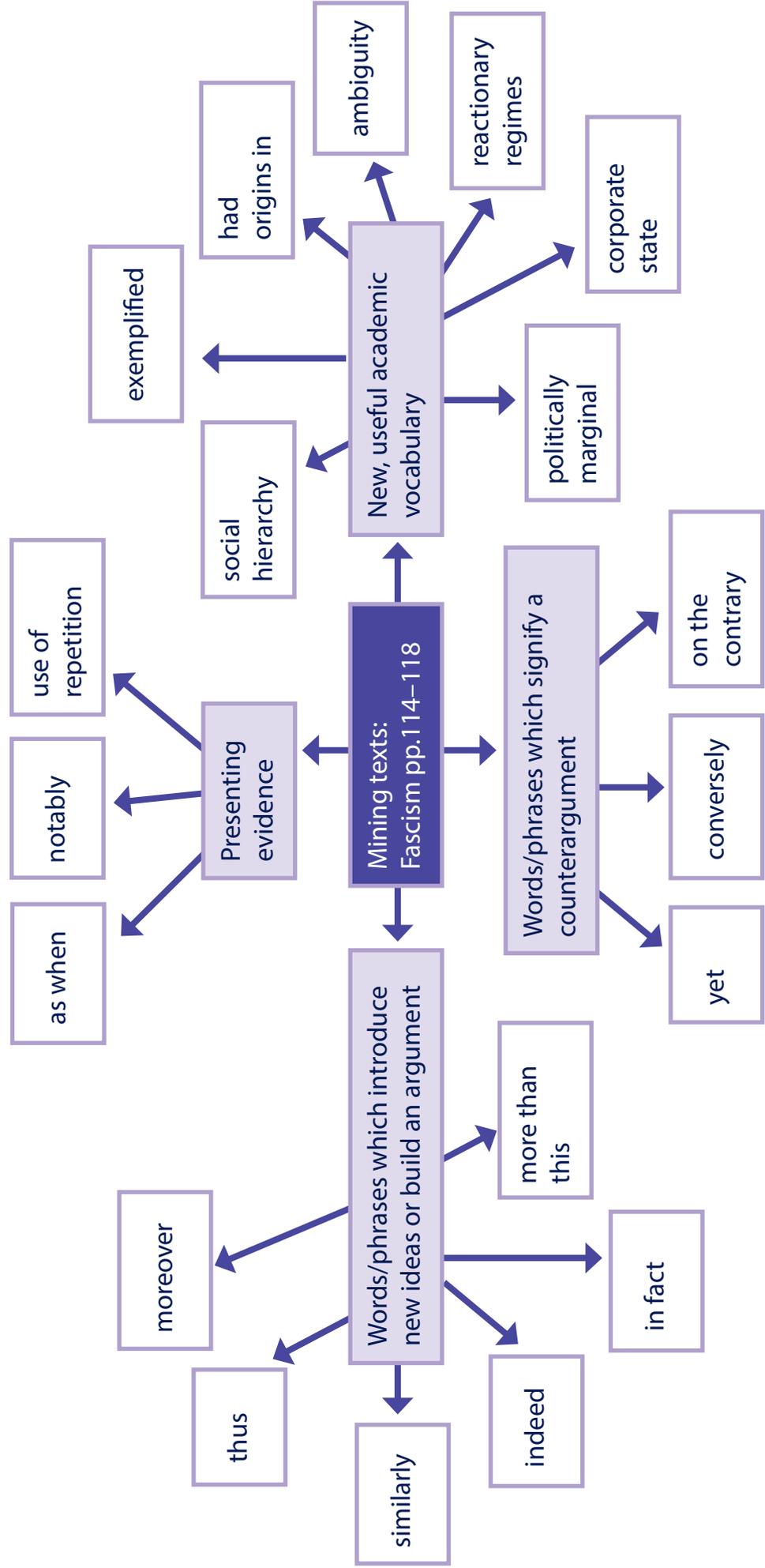


## Independent learning tasks

- Develop low-stakes quizzes for matching definitions to new advanced vocabulary.
- As an alternative to classroom texts, share details of interesting broadsheet newspaper articles or satirical TV shows with your students.
- Key stage 3 students might find the Teachit History resource [Handling challenging texts in history \(19517\)](#) a helpful starting point for looking at academic texts.

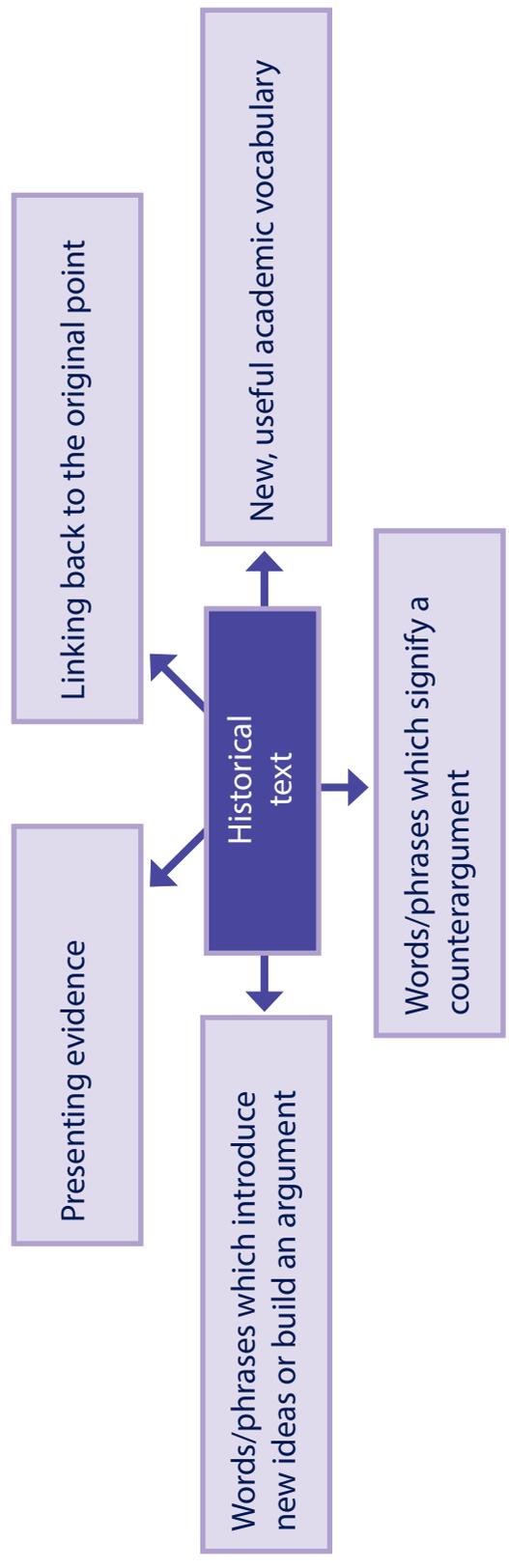
Here is an example of a mind map using an extract about fascism from Hobsbawm's *The Age of Extremes: The Short Twentieth Century, 1914–1991*.

**Classroom resource:**  
**Mind map**



# Classroom resource: Mind map template

Use this mind map template to help you to find useful academic vocabulary in a historical text or to help you to plan your own writing.



## Lesson idea:

# Building knowledge-rich vocabulary across year groups

**Topic: Any**

Materials required: History department planning documents, and zone of relevance template.

## Activity

Plan how you will teach key concepts and build them over time. Decide what students need to know by the end of year 11, and work backwards to inform how you teach throughout key stages 3 and 4. Substantive knowledge and second-order concepts can therefore be planned throughout the five years. Here's an example from my department (Moreton School, 2019):

Year 7	Year 8	GCSE
Monarch – Norman invasion and medieval monarchs ↓ Changes in Tudor and Stuart periods	Introduce the concept of Empire and how this had an effect on the monarchy in Victorian Britain.	Power and the people – challenges to royal authority Elizabethan systems of government
Church – medieval England ↓ Reformation	Use the Reformation for the context of the Troubles in Northern Ireland.	Elizabethan Church and religious change
Revolution – English Civil War ↓ French Revolution	Apply the definition to a completely different kind of revolution – Industrial Revolution.	Germany in revolution American Revolution (context) Revolution in 19th-century policing

This activity can be done as a department or with your classes. Share the bigger picture of what students are learning across the key stages – what is it leading to? Then try to break it down into big questions and then small questions. The learning is then mutually agreed, and students understand the context of their written work, which is more coherent and sustained as a result.

Our experience as a school of sharing knowledge-rich, big-picture planning with students is that it helps to democratise the learning process. Students are more comfortable making links across and between time periods and more able to compare events using key terms and concepts, reinforcing new vocabulary. They are increasingly confident when articulating their ideas, and their developing historical vocabulary is evident in their speaking, listening, and writing.

Use the zone of relevance template to encourage students to join in with the process of charting and owning their learning. At the end of each topic, students could fill in the template, using the three different zones to summarise core content and vocabulary in order of relevance/importance, with the central zone being the most relevant.

This flexible template can be adapted to work in a range of other ways too:

- Use only two zones – the zone of relevance and the zone of irrelevance – and you have a useful template for quickly sorting, assessing, and analysing key information.

- Change the headings in the zones, and you could use it for peer or self-assessment following an extended piece of writing to summarise key strengths, areas for development, and use of key vocabulary. Alternatively, use it for planning extended writing, with each zone being used for key evidence, useful terms, and exam command words, for example.

## Teaching tips

- Check your long-term planning is effective by using feedback logs (see example below) to track students' understanding of key concepts. Use insights from these feedback logs to inform lesson planning, to track students' use and understanding of new vocabulary, and to reflect on and share teachers' strengths in embedding key vocabulary and links.
- Give students a big-picture checklist of periods, people, themes, and events studied from year 7 onwards.
- Plan what writing tasks you will use to answer the big questions.
- Share big and small questions to let students see the direction their learning is taking.

Example of a feedback log:

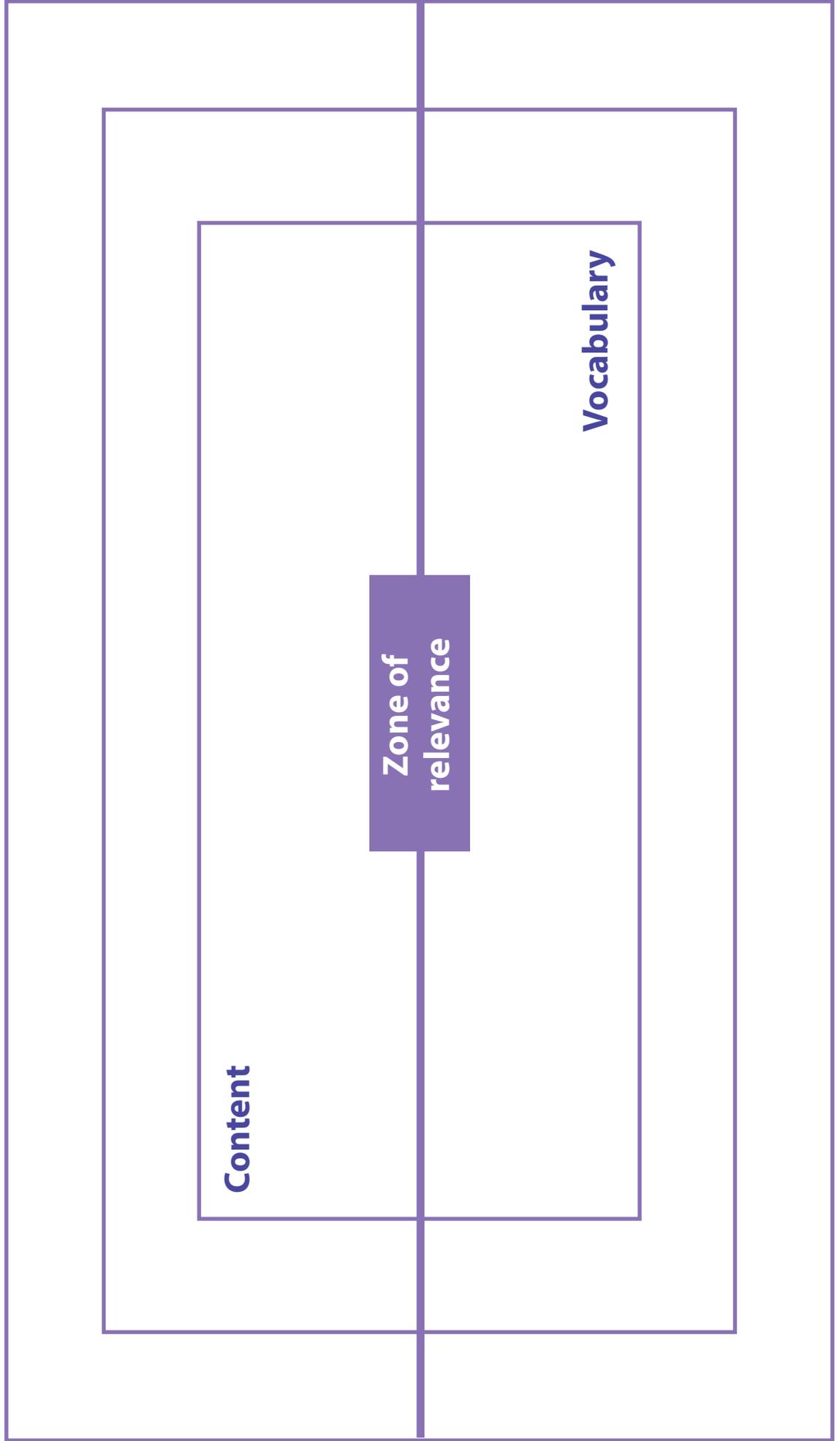
Big question:		
Small question/s:		
Previous learning that feeds into this lesson:		
Key vocabulary:		
Positives:	Any misconceptions?	Next steps:



## Independent learning tasks

- Get students to write a key stage 3 or GCSE textbook entry for each topic to highlight key vocabulary and how it feeds into the bigger picture.

**Classroom resource:**  
**Zone of relevance**



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