

Huge and often striking, mountains can be found all over the world. They create picturesque backdrops and provide extreme sports enthusiasts with climbing, trekking and skiing opportunities – but what are they, exactly?

Mountains are areas of land that are higher than the land around them, but different definitions based on height exist. In Great Britain, the government's definition is a summit of 600 metres or higher. However, mountains can rise to thousands of metres in height.

Mountains are created by areas of Earth's solid crust, called 'tectonic plates', moving on the liquid magma beneath them. Some are made when plates push together and force the ground up where they meet. Some are created by magma erupting from gaps between the plates. Others have been created by underwater volcanoes, when lava reaches the surface.

A group of mountains together is known as a mountain range. Some of the world's best-known ranges include the Alps in Europe, the Rocky Mountains in North America and the Himalayas in Asia. Some of the world's best-known mountains – although not all the highest – are Everest, Kilimanjaro, Fuji and Vesuvius.

Everest

Undoubtedly the most famous mountain of them all, Everest is in the Himalayas in Asia. It is the highest mountain in the world, at a staggering 8,848 metres tall.

Many adventurous climbing enthusiasts have attempted to climb it. At times, it can be so busy that queues form along the route to the summit. Over 5,000 brave climbers are said to have reached the top, but nearly 300 have died during their attempts.

Climbing Everest requires intensive training and can cost a lot of money. Many climbers take on the challenge in order to raise funds for charities.



Kilimanjaro

Kilimanjaro is Africa's highest mountain. It is located on the northern border of Tanzania, overlooking Kenya. Its summit rises to 5,895 metres – almost 3,000 metres lower than Everest's. Despite its location, its peak is covered with snow and ice all year.

Kilimanjaro is made up of three inactive volcanoes: Kibo, Mawensi and Shira. Shira is the oldest peak. Kibo is the youngest and had the most recent major eruption – but that was around 360,000 years ago.

Fuji

Fuji, the highest mountain in Japan, is 3,776 metres tall. It is situated to the west of the capital city of Tokyo. Fuji is a volcano too, and its last major eruption was far more recent than Kibo's, in 1707. Despite being inactive for more than 300 years, it is still classified as active by geologists.

Fuji's conical appearance is famous across the world, and is an important and sacred symbol in Japan. It is also a hugely popular tourist site. Each summer, thousands climb to its snowy peak.

Vesuvius

Vesuvius is possibly the most infamous mountain in Europe, although it is only 1,280 metres tall. It's in southern Italy, close to the city of Naples – but even closer to Pompeii.

Vesuvius became famous in a dramatic way. In 79 CE, it erupted and covered the cities of Pompeii, Herculaneum and Stabiae in lava, ash and burning mud. It wasn't until the 17th and 18th centuries that archaeologists discovered these cities buried beneath them, and began to explore their remains. Huge areas of the ancient cities were discovered, many of which were well preserved due to the speed at which they were covered. The area has provided us with an incredible insight into Roman life, and now attracts millions of visitors each year.

Vesuvius is still considered to be an active volcano – and it's thought to have erupted over 50 times during the last 2,000 years.

123 SEQUENCING



Look at *Mountains of the world*. Number the statements from 1 to 5 to show the order they occur in the text. Look at the first line of each paragraph to help you.

Undoubtedly the most famous mountain of them all, Everest is in the Himalayas in Asia.

Huge and often striking, mountains can be found all over the world.

Mountains are created by areas of the Earth's solid crust, called 'plates', moving on the liquid magma beneath them.

Vesuvius is still considered to be an active volcano – and it's thought to have erupted over 50 times during the last 2,000 years.

Fuji, the highest mountain in Japan, is 3,776 metres tall.

Look at the second to last paragraph in *Mountains of the world*. Number the statements from 1 to 5 to show the order they occur in the text.

Vesuvius became famous in a dramatic way.

In 79 CE, it erupted and covered the cities of Pompeii, Herculaneum and Stabiae in lava, ash and burning mud.

The area has provided us with an incredible insight into Roman life, and now attracts millions of visitors each year.

It wasn't until the 17th and 18th centuries that archaeologists discovered these cities buried beneath them, and began to explore their remains.

Huge areas of the ancient cities were discovered, many of which were well preserved due to the speed at which they were covered.

Look at *Mountains of the world*. Number the statements from 1 to 5 to show the order they occur in the text.

It is the highest mountain in the world, at a staggering 8,848 metres high.

Some of the world's best-known ranges include the Alps in Europe, the Rocky Mountains in North America and the Himalayas in Asia.

Over 5,000 brave climbers are said to have reached the top, but nearly 300 have died during their attempts.

Kibo is the youngest and had the most recent major eruption – but that was around 360,000 years ago.

Huge areas of the ancient cities were discovered, many of which were well preserved due to the speed at which they were covered.

FILL IN THE GAP



Read the sentences and choose the correct word or words to fill the gap.

They create _____ backdrops and provide extreme sports enthusiasts with climbing, trekking and skiing opportunities – but what are they, exactly?

Mountains are areas of land that are higher than the land around them, but different definitions based on _____ exist.

However, mountains can rise to _____ of metres in height.

Some of the world's best-known ranges include the _____ in Europe, the Rocky Mountains in North America and the Himalayas in Asia.

Mountains are created by areas of Earth's solid crust, called _____, moving on the liquid magma beneath them.

Some are created by magma _____ from gaps between the plates.

Others have been created by underwater _____, when lava reaches the surface.

Some of the world's best-known mountains – although not all the highest – are _____, Kilimanjaro, Fuji and Vesuvius.

Many _____ climbing enthusiasts have attempted to climb it.

Climbing Everest requires intensive _____ and can cost a lot of money.

It is located on the northern border of _____, overlooking Kenya.

It is situated to the _____ of the capital city of Tokyo.

Fuji's conical appearance is famous across the world, and is an important and sacred _____ in Japan.

Each summer, thousands climb to its _____ peak.

Vesuvius is still considered to be an _____ volcano.

3

THE GUNPOWDER PLOT

Across Great Britain, fireworks and bonfires are lit on 5 November – they serve as a colourful reminder of a significant event in history. The name of Guy Fawkes is remembered and models called 'guys' still burn on many bonfires.

However, it was actually another man, Robert Catesby, who thought up the famous and doomed Gunpowder Plot.

The plot

The Gunpowder Plot was a plan to destroy the Houses of Parliament in London and kill the king, James I.

It was motivated by religion. Protestant and Catholic people are all followers of Christianity, but with differences of opinion about how to practise their faith. James I was a Protestant ruler, and the plotters were Catholic. They wanted to return Britain to Catholic rule.

Robert Catesby: plotter in chief

Robert Catesby was born around 1572, in Warwickshire. His parents were Catholics and, after a rebellious youth, Catesby too became strongly religious.

The Gunpowder Plot was not his first attempt at rebellion. In 1601, he was involved in the failed uprising of the Earl of Essex against Queen Elizabeth's chief advisor, Robert Cecil. Catesby's actions saw him wounded, imprisoned and fined. He was also believed to have discussed a further rebellion with the Spanish government.

Catesby fell under the suspicion of the British government, who saw him as a threat.

Catesby meets Fawkes

Guy Fawkes, also known as Guido Fawkes, was born in 1570, in York. Despite coming from a Protestant background, he converted to Catholicism as a child.

When he was 21, Fawkes left England to join the Catholic Spanish army during the Eighty Years' War. He was approached to take part in the Gunpowder Plot because of his military background and experience.



— The murderous plan

Catesby grew more and more dissatisfied with Protestant rule, which treated Catholics badly. His solution was the murder of the king.

He shared his plan initially with Christopher and John Wright and Thomas Winter. Winter travelled to Spain, which was under Catholic rule, hoping to find support. There he met Guy Fawkes, who returned with him. In 1604, Catesby made the plot with the Wrights, Fawkes and Thomas Percy before recruiting others to join them.

Set-up and downfall

The plotters rented a cellar below Parliament. Here, Fawkes planted barrels of gunpowder and camouflaged them with coal and firewood. He was to light the fuse and then flee to Europe. The plan seemed sure to succeed.

Then one of Catesby's recruits sent a letter to his brother-in-law Lord Monteagle, warning him to stay away from Parliament. Uncertain of its meaning, Monteagle passed on the letter, and it reached the king's advisors. Guards searched Parliament and raided the plotters' cellar – where they discovered Fawkes and the gunpowder. Fawkes was arrested and taken to the king on 5 November 1605.

The plotters' discovery

Fawkes was tortured, revealing the names of his accomplices. He was tried for his crimes and sentenced to death.

Catesby and others fled London but were tracked to Staffordshire. The authorities wanted to return them to London for a public execution. The plotters, however, decided to die fighting. After his death, Catesby's head was cut off and taken back to London.

Remember, remember ...

A popular rhyme reminds people of the events of 1605:

Remember, remember, the fifth of November: gunpowder, treason and plot.

I see no reason why gunpowder treason should ever be forgot!

Bonfire Night's fireworks represent an explosion that never happened. The burning of the guy represents the plotters' punishment – but it's only Fawkes whose figure is used. Is that fair?

Perhaps, if you celebrate, you could remember Catesby instead!



UNDERLINE OR HIGHLIGHT

Read the paragraphs below and then follow the instructions.

The plotters' discovery

Fawkes was tortured, revealing the names of his accomplices. He was tried for his crimes and sentenced to death.

Catesby and others fled London but were tracked to Staffordshire. The authorities wanted to return them to London for a public execution. The plotters, however, decided to die fighting. After his death, Catesby's head was cut off and taken back to London.

Remember, remember ...

A popular rhyme reminds people of the events of 1605:

Remember, remember, the fifth of November: gunpowder, treason and plot.

I see no reason why gunpowder treason should ever be forgot!

Bonfire Night's fireworks represent an explosion that never happened. The burning of the guy represents the plotters' punishment – but it's only Fawkes whose figure is used. Is that fair?

Underline or highlight a word that means a crime which hopes to overthrow the government.

Underline or highlight a word that means in front of all the people in a community.

Underline or highlight a word that means to deliberately cause pain over a period of time.

Underline or highlight a word that means someone who helps commit a crime.

Underline or highlight a word that means an explosive substance.

Underline or highlight a word that means to kill as a punishment for a crime.

3 THE GUNPOWDER PLOT

LABEL



Label the information with the correct person or place.

duo planned to blow up	
born in Warwickshire	
failed rebellion against	
thought up the gunpowder plot	
first rebellion leader	
Robert Cecil was advisor to	

Label the information with the correct person or place.

alternative name for Guy Fawkes	
Gunpowder Plot designed to kill	
Catesby shared initial plans with	
letter sent to	
Catesby fled from	
Catesby tracked to	

Label the information with the correct person or place.

born in York	
Catesby's head taken to	
fireworks and bonfires are lit	
decided to die fighting	
discovered under the Houses of Parliament	
joined the Catholic Spanish army	



Apostrophe Practice

You can use **apostrophes** to show where **letters are missing**, or to show **possession** for nouns. Remember that **'its'** and **'it's'** are two **different words**.

1 Shorten these words using apostrophes.

what will →

who is →

are not →

when has →

you would →

does not →

2 Fill in the missing gaps with the short and long versions of the words.

is not	.....
.....	where'll
why is	.....
have not	.....
.....	might've

.....	let's
.....	hasn't
we would	.....
.....	he's
should not	.....

3 Add apostrophes to the underlined words below, if they are needed.

My h a m s t e r s name is Hector, and I v e had him for two years.

The shark showed i t s teeth and swam towards the f i s h e r m a n s boat.

I t s been a great day, but now the park is shutting i t s gates.

D i n a s going to her d a d s house tomorrow because i t s Wednesday.

4 Rewrite each phrase so that it changes from singular to plural.

<u>singular</u>		<u>plural</u>
The pig's dirty snout	➔	The pigs' dirty snouts
The car's old engine	➔	
The woman's red coat	➔	
The dress's thin straps	➔	
The tiger's sharp claws	➔	
The man's good work	➔	

5 Draw lines to match the each phrase to its correct meaning.

the girl's cats

one girl owns one cat

the girls' cats

one girl owns two cats

the girl's cat

two girls own one cat

the girls' cat

two girls own two cats

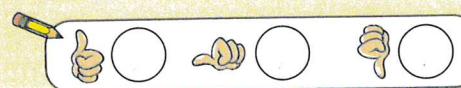
6 Write two sentences about the picture, one using 'its' and one using 'it's'.



.....

.....

"I can use apostrophes correctly."



Sentence Practice

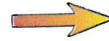


Remember — sentences should always start with a **capital letter**. They can end with a **full stop**, a **question mark** or an **exclamation mark**.

1

Write the most likely final punctuation at the end of each sentence. Then write whether each sentence is a question, an exclamation, a command or a statement.

John asked when they were leaving....



.....

Wow, Amelia, this cake is fantastic....



.....

Switch the appliance off at the mains....



.....

What time do you think we should leave....



.....

Go to the head teacher's office immediately....



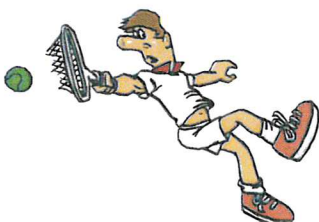
.....

2

Write a sentence for each of the pictures below. Make sure you have one that ends with a full stop, one with a question mark and one with an exclamation mark.



.....
.....



.....
.....

Question Marks



Questions always end with a **question mark** and often begin with a **question word**.

When are we leaving?

Why are you running?

1 Draw lines to match each sentence to the correct punctuation mark.

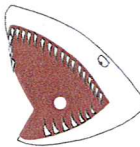
Where are you going on holiday

Here are those gloves you lost

Let's go shopping tomorrow

Is this your idea of a joke

Would you like ketchup



Are you feeling OK, Kelly

I don't know how to fry an egg

What's happening out there

It's raining a lot this week

We should order pizzas

2 Write a question to match each of the answers given below.

Q:

A: I will. I'm excellent at map-reading.

Q:

A: A packed lunch and a waterproof jacket.

Q:

A: No thanks, I'm a vegetarian.

Q:

A: Yes, that's fine. I'll come at six o'clock.

Use a capital letter to
start your sentence, and a
question mark at the end.



Exclamation Marks

Exclamation marks show that something is said **loudly** or with **strong emotion**. This type of sentence is called an **exclamation**.

That's amazing!

Exclamation marks are also used for strong commands.

Go away!

But if the command **isn't urgent** or strong, use a **full stop**.

Pass the salt.

1 Tick the three commands which are most likely to end with an exclamation mark.

Shut up

☐

Quick, get out of here

☐

Let me help you

☐

Please wait here

☐

Stop that, now

☐

Please stop crying

☐

2 Use full stops and exclamation marks to complete these sentences.

Ouch, that really hurt

My brother is really good at playing the piano

Watch out, it's going to fall over

The bathroom is the second door on the left

3 Write an exclamation using the group of words below.

sledge hill crashed

.....

.....

Capital Letters and Full Stops



Sentences always start with a capital letter and often finish with a full stop. Sentences that finish with a full stop are called statements. Use capital letters for I and for names of particular people, places or things.

On Wednesday, I am going to London with my sister.

1 Circle the words below that should have capital letters.

eiffel tower

castle

tomorrow

spain

ashley

city

friday

christmas

2 Put a tick next to the sentences that use capital letters and full stops correctly and put a cross next to the ones that don't.

mrs Flint is thirty-two her birthday is in may.

☐

My dad's favourite sweets can only be bought in Canada.

☐

My Best Friend is called Amy. She lives in Bath

☐

Jack's dog is called Spot. Spot is a Dalmatian.

☐

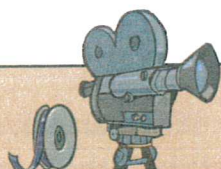
I play cricket every Friday evening.

☐

Rewrite the incorrect sentences with capital letters and full stops in the right places.

.....

.....



Film of the Month



Writers vary their writing style depending on their audience — the person or people the writing is aimed at.

There's more about writing for an audience on p. 3.

When writing for adults, you might use complex words and longer sentences. When writing for children, you might use simpler words and shorter sentences.

1

These are extracts from two reviews of the same film. Draw a line from each extract to the audience it is aimed at.

Trish Lolam's latest comedy hit, 'Hole in None', brings to mind her superb debut, which won awards in 1993.

Children

Do you enjoy comedy films filled with jolly jokes and silly stunts? Then you will love 'Hole in None'!

Adults

2

Circle the correct options from the words in bold to make the film review extract suitable for children.

Think about what makes writing suitable for children.

Golf comedies are rare, but 'Hole in None' is the **funniest / most laughter-inducing** film in years.

The plot is **really good / masterful**. Reuben, a former golf caddy, is **in financial difficulties / short of money** when he hears about a golf tournament with a **generous / big** cash prize.

Hilarity ensues / Things turn funny when he

tees off against the golfer he caddied for before their ugly falling out.



3

These sentences from a review of the same film are aimed at adults. Rewrite the sentences so they are suitable for children — use simpler language and split up the sentences.

Use a dictionary for any words you don't know.

The screenwriter creates hilarious dialogue, including the sarcastic insults and witty responses of the two main characters.

.....

.....

Bryan Penholds, the actor who portrays Reuben, has been nominated for numerous acting accolades.



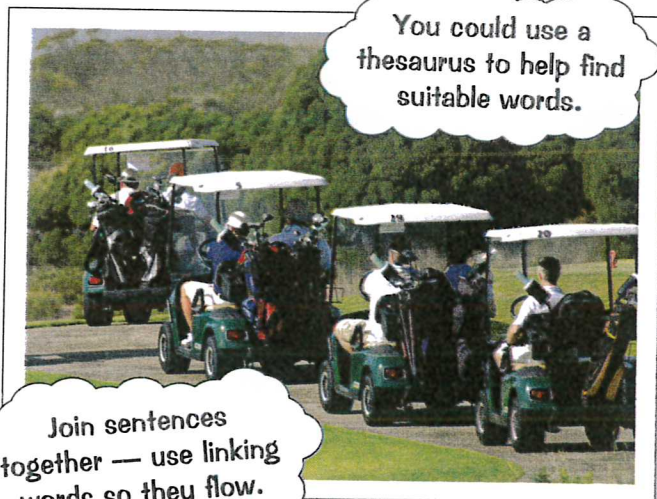
.....

.....

4

Below is an extract from a review of the same film. Underline the words and phrases that show it is aimed at children, then rewrite it for an adult audience.

The coolest part of the film was the golf buggy chase at the end. The super-fast music as the good guy weaved past golfers at top speed was fab. The stuntman was awesome, which made the scene extra funny.



You could use a thesaurus to help find suitable words.

Join sentences together — use linking words so they flow.

.....

.....

.....

.....



The Wizard of Whitby



When you are writing a story, you need to describe the characters **effectively** so readers can picture them clearly and get to know what they're like.

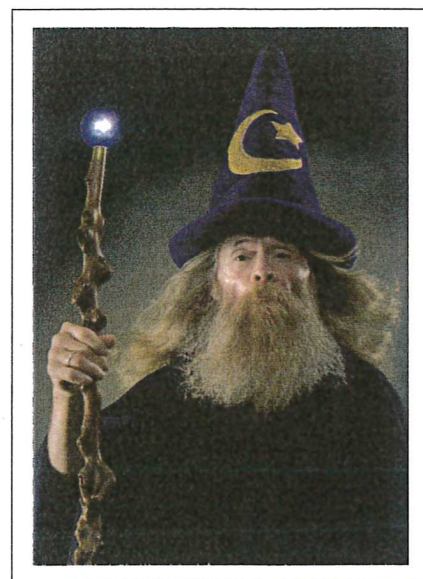
To create lifelike characters, you can use **similes** and **metaphors**. Language which appeals to the **senses** (sight, hearing, touch, taste and smell) can also help to create a vivid image of your characters.

See p.27 for more on these techniques.

1

This is an extract from a fantasy story about a wizard. Underline the similes and circle the metaphors.

Wilbert's feet were heavy weights as he trudged inside and removed his hat and cloak. His eyes were usually twinkling stars, but now they were like dull, grey pools. Yet again, he'd had no new spells to show off at the annual wizarding conference. He felt as useless as a paper umbrella.



Choose one metaphor or simile and explain what it shows about Wilbert.

.....

.....

2

Fill in each gap using a simile or a metaphor to create a vivid image of Wilbert.

Wilbert was old. His lined face was and he moved as as Achieving something unique with his magic was his desire, something that people would remember, but he felt his powers slipping away like

3 Draw a line from each of these sentences to the sense it appeals to.

Wilbert wrinkled his nose at the burnt stench of a failed spell from the night before.

Smell

He smoothed the coarse, wiry hairs of his long beard absent-mindedly.

Taste

He took a soothing sip of strong tea.

Touch



Explain how one of these appeals to the senses makes you feel.

.....

4 Fill in each gap with an appeal to the senses to vividly describe Wilbert and his owl.

Wilbert felt tears trickling down his cheeks and brushed them away. He heaved himself out of his chair, his joints with the effort, and trudged towards his bedroom. As he passed his owl, she gave a and nestled close to him. Wilbert breathed in her scent.

Think about how you want the characters to come across.

5 Rewrite the extract below to create a vivid image of Wilbert and what he's doing.

Wilbert pulled his blanket around himself and fell asleep. His gentle snores grew louder. At a sudden noise from outside, he opened his eyes and looked around.

Use similes, metaphors and appeals to the senses.

.....

.....

.....

.....

.....

Write the singular or plural form for each noun.

Singular	Plural
1. person	.....
2. cherry	.....
3.	cactuses or cacti
4. industry	.....
5.	sheep
6.	scarves
7. woman	.....
8. vertebra	.....
9.	parentheses
10. calf	.....

Write the correct pronoun from the box to replace the underlined noun in each sentence.

she

we

they

him

us

1. It's Dad's birthday. Mum bought Dad a new watch.
2. Our car broke down. Will you take Keith and me to school?
3. Hannah makes her own jewellery.
4. Our neighbours left, but the neighbours are coming back soon.
5. My brothers and I are throwing a party for my mother.

Write the correct pronoun from the box to complete each sentence. Use each pronoun only once.

you

I

it

he

them

6. Trey and Toni like sweets, so we brought some chocolate.
7. look like you have seen a ghost!
8. The gardeners who were searching for the rabbit finally noticed near the tree.
9. brought him some of my homemade chicken soup.
10. got in trouble for hitting his sister.

Circle the verb that correctly completes each sentence.

1. Tony (doesn't/don't) like chocolate cake.
2. However, our brothers and my mother (love/loves) it.
3. They always (order/orders) chocolate cake for dessert at restaurants.
4. Tony (ask/asks) for cheesecake with fruit.
5. He usually (do/does) not finish it, though.
6. Mum (eat/eats) the leftovers.
7. Dad, Lisa and Mum (prefer/prefers) chocolate cake.
8. Mum says it isn't good to eat until you (is/are) stuffed.
9. Dad does not listen, and he (do/does) it anyway.
10. Mum just (shake/shakes) her head.

Underline the common noun(s) and circle any proper noun(s) in each sentence. The number in brackets tells how many total nouns you should underline or circle.

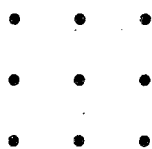
1. Stephen visited the United States capital, Washington, DC, last winter. (5)
2. He met his grandfather and his cousin, Joseph, there. (3)
3. They visited the Washington Monument and the Lincoln Memorial. (2)
4. Papa Joe wanted to visit the Vietnam Veterans Memorial. (2)
5. They could see the dome of the United States Capitol from the National Mall. (3)
6. Stephen attends Gallaudet University in the city. (3)
7. Stephen and Joseph chatted excitedly as they walked along Pennsylvania Avenue. (3)
8. They took photos of the White House but did not see the president. (3)
9. Stephen had bought a small souvenir flag of the United States. (3)
10. Joseph bought postcards of the Oval Office and the USS Philadelphia. (4)

Square and cube numbers

To find a **square number** you need to multiply a number by itself.

Write a square number less than 10.

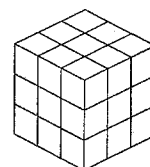
$3 \times 3 = 9$, so 9 is a square number that is less than 10. The simple way to write 3 squared is 3^2 .



To find a **cube number** you need to multiply a number by itself twice!

Write a cube number less than 30.

$3 \times 3 \times 3 = 27$, so 27 is a cube number. The simple way to write 3 cubed is 3^3 .



Ruby



Write down the square number(s) in each set.

1 3 7 9 15 18 21

2 4 25 35 42 52 60

3 5 17 36 41 70 82

Write down the cube number(s) in each set.

4 8 16 32 40 48 55

5 4 9 15 64 81 100

6 1 5 26 36 60 125

Pearl



Calculate these square numbers.

1 2^2

2 5^2

3 6^2

Calculate these cube numbers.

4 4^3

5 2^3

6 3^3

Diamond



1 A square has an area of 121 cm^2 .

What is the length of its side?

2 Which three different square numbers add together to make 140?

$$\square + \square + \square = 140$$

3 Joe says the sum of the first five square numbers is equal to 11 groups of five.

Do you agree? Explain your reasoning.

4 Raj thinks of a number and cubes it. He gets 1,000. What was his number?

5 Amy tells Dan that 1 is a cube number. Convince Dan that Amy is correct.

Number sequences

A **sequence** is a pattern of numbers or shapes that follows a **rule**.

Each number in a number sequence is called a **term**.



This is a sequence of numbers: 45,536, 45,636, , 45,836, 45,936,

To find the missing terms in the sequence:

- 1 Find the rule for the number sequence by calculating the difference between two consecutive terms.

The difference between 45,536 and 45,636 is 100, the rule is + 100

- 2 Apply the rule to the sequence.

$$45,636 + 100 = 45,736 \text{ and } 45,936 + 100 = 46,036$$

Ruby



Find the rule for each number sequence.

- 1 225, 250, 275, 300, 325, 350, 375 ...
- 2 2,000, 3,000, 4,000, 5,000, 6,000, 7,000, 8,000 ...
- 3 280, 287, 294, 301, 308, 315 ...

Complete the missing numbers in each number sequence.

- 4 909, , 927, 936, , 954, 963, 972
- 5 , 690, 700, 710, , 730, 740, 750
- 6 240, 246, , 258, 264, 270, 276,

Pearl



Find the rule for each number sequence.

- 1 95,689, 96,689, 97,689, 98,689...
- 2 3,004, 2,994, 2,984, 2,974...
- 3 1,102, 1,002, 902, 802...

Complete the missing numbers in each number sequence.

- 4 6,689, , 6,889, 6,989,
- 5 15,678, 14,678, , , 11,678
- 6 99,078, , , 129,078, 139,078

Diamond



- 1 Jake says that if you count in steps of 1,000 from any number, each term in the number sequence will end in three zeros.

Do you agree?

- 2 Two terms in a sequence are 15,678 and 11,678. These terms are not consecutive.

Write a sequence counting in steps of 1,000 that could include these two terms.

- 3 Sam describes this sequence as counting in steps of 102.

1,456, 1,556, 1,656, 1,756, 1,856

Do you agree? Explain your thinking.

I can use am and pm for 12-hour clock times and convert these to 24-hour clock times.

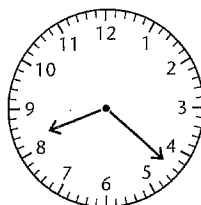
Analogue clocks have faces.
Read the minutes as:
past before 30 minutes
to after 30 minutes.

Digital clocks have figures only.
The minutes are always shown
as minutes past the hour.

12-hour clock time uses am and pm.
am means before 12 noon.
pm means after 12 noon.

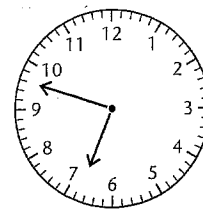
24-hour clocks always have four
digits on display. Midnight is 00:00.

Examples



8:22

morning
8:22 am



6:48

evening
6:48 pm

08:22

18:48

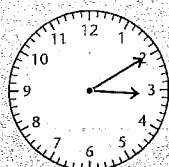
A

Write each time shown to the nearest minute:

a) in words

b) in 12-hour clock time using am and pm.

1



afternoon

5



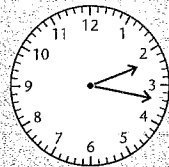
night

9



afternoon

13



morning

17



night

2

12:03

lunchtime

6

7:12

evening

10

3:34

morning

14

5:52

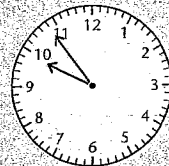
afternoon

18

9:43

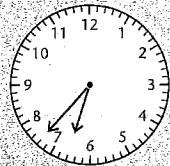
evening

3



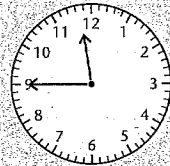
morning

7



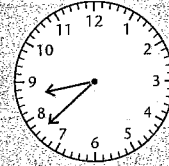
evening

11



night

15



breakfast

19



morning

4

4:49

night

8

5:58

morning

12

6:23

morning

16

10:01

night

20

1:15

morning

Multiply and divide by 10, 100 or 1,000



To multiply by 10, 100 or 1,000 moved the digits to the left 1, 2 or 3 places.

To divide by 10, 100 or 1,000 moved the digits to the right 1, 2 or 3 places.

A place-value grid is very useful to help do this!

	thousands						$\frac{1}{10}$
	T	O	H	T	O		t
			4	5	6		0
$\times 100$		4	5	6	0		
$\div 100$				4	5		6

Ruby



Multiply these numbers by 10 and 100.

- 1 a 6×10 b 6×100
 2 a 27×10 b 27×100
 3 a 3×10 b 3×100

Divide these numbers by 10 or 100.

- 4 a $8 \div 10$ b $8 \div 100$
 5 a $34 \div 10$ b $34 \div 100$
 6 a $78 \div 10$ b $78 \div 100$

Pearl



Multiply these numbers by 10, 100 or 1,000.

- 1 342×10
 2 71.45×100
 3 $802.1 \times 1,000$

Divide these numbers by 10, 100 or 1,000.

- 4 $2,748 \div 10$
 5 $235.95 \div 100$
 6 $614.78 \div 1,000$

Diamond



- 1 Jake says 7×100 is the same as 70×10 .

Do you agree? Explain your reasoning.

- 2 Tom says: 'If I divide a four-digit number by 1,000 it always has a number after the decimal point.'

Is he right? Explain your answer.

- 3 Dan collects 1p coins in his money jar. He has saved £106. How many coins are in the money jar?

- 4 a Sam says after dividing his number by 1,000 his answer is 67.23. What is Sam's number?

- b Lou says after multiplying her number by 100 her answer is 54.98. What is Lou's number?

Place value

The value of a digit in a number depends on its **position** in the number.

Read the number 764,132. Use the **place value** of each digit to help you.

To identify place value, write each digit under the correct place-value heading.

	thousands					
M	H	T	O	H	T	O
	7	6	4	1	3	2

So 764,132 is *seven hundred thousand, sixty-four thousand, one hundred and thirty-two*.

Ruby



Write the value of the digit 7.

- 1 7,996
- 2 4,437
- 3 57,892

Complete the missing numbers.

- 4 $8,782 = \square + 700 + 80 + \square$
- 5 $56,845 = \square + 6,000 + 800 + \square + 5$
- 6 $89,433 = 80,000 + \square + \square + 30 + 3$

Pearl



Write the value of the digit 2.

- 1 342,567
- 2 298,105
- 3 147,625
- 4 327,803

Complete the missing numbers.

- 5 $754,892 = \square + 50,000 + \square + 800 + 90 + 2$
- 6 $612,561 = 600,000 + \square + 2,000 + \square + 60 + 1$

Diamond



- 1 Bev says 706,542 is larger than the number 43,598 but the value of the digit 5 in both the numbers is the same. Do you agree? Explain your reasoning.
- 2 Use the digits 4, 5, 1, 8, 7, 6 to write the largest six-digit number you can.

Now use the same digits to write the smallest six-digit number you can.
- 3 Write four different numbers that contain five ones and six hundreds. Which is the largest number in your data set? How do you know?
- 4 A 4-digit pass code for Gavin's banking app is made from the digits 7, 5, 3, 2. The pass code is less than the number 5,000. What are the possible pass codes for Gavin's banking app? Use each digit once only.

B

- 1 Copy and complete the table.

TIME IN WORDS	12-HOUR CLOCK	24-HOUR CLOCK
quarter to eight in the morning	7:45 am	07:45
		20:30
		10:35
		03:52
		14:24
	4:08 am	
	10:19 pm	
	9:37 am	
	6:16 pm	
28 minutes past 11 in the morning		
7 minutes to 7 in the evening		
4 minutes past 1 at night		
12 minutes to 4 in the afternoon		

- 2 For each of the above times work out how many minutes there are to the next hour.

C

Write each time shown to the nearest minute:

a) in words

b) in 12-hour clock time

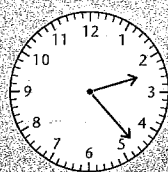
c) in 24-hour clock time.

1



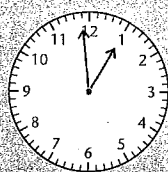
morning

2



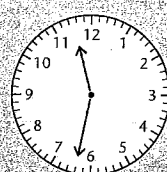
afternoon

3



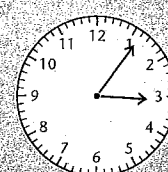
night

4



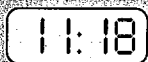
night

5



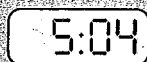
night

6



morning

7



afternoon

8



lunchtime

9



evening

10



sunrise

- 11 For each of the above times work out how many hours and minutes there are to midnight.

- 12 Copy and complete the table, changing 12-hour clock times to 24-hour clock times.

	Jan. 2nd	March 6th	May 1st	July 3rd	Sept. 4th	Nov. 6th
Sunrise	8:06 am	6:36 am	5:34 am	4:49 am	6:17 am	7:02 am
Sunset	4:03 pm	5:49 pm	8:23 pm	9:20 pm	7:41 pm	4:26 pm
Daylight length	7 h 57 mins.					

d j m r p d w t r e t s s g r
 c e w o l u h e v s n h s l m
 d t n u r r l e r b e o o w q
 k e o i o n r l v e r u r h p
 k c t u a y i e e t e t c e y
 y n g i t l n n h d f e a r x
 u h i h c o p e g l f d k e a
 f b i h y x r x f r i e h t y
 l n q r t e e c e r d h d e k
 g d e t s e r e t n i g l l e
 g v b e c a u s e s w d u r s
 e l i k e d e h g u a l o w e
 s h o u l d g p y x k f w k u
 p s o p v i y t k q e d c a k
 j d i c w o u p o b w z e y v

across
 because
 before
 could
 different
 everyone
 everything
 excited
 explained
 interested
 laughed
 liked
 morning
 pulled
 should
 shouted
 their
 there
 think
 through
 were
 where
 would

Recall multiplication and division facts for tables up to 12×12

1 Complete the following, as quickly as you can.

a $4 \times 7 = \square$ $4 \times \square = 48$

b $6 \times \square = 48$ $9 \times 6 = \square$

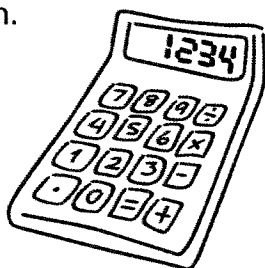
c $9 \times \square = 27$ $54 \div 9 = \square$

d $12 \times 8 = \square$ $7 \times \square = 56$

e $11 \times 11 = \square$ $12 \times 12 = \square$



2 Complete the missing numbers in the multiplication table, as quickly as you can.



\times	4		7			
5		30			55	
	44					132
	48			96		

3 Complete the calculations below.

a

```

      4 × □
       / \
6 × □ — (36) — \ □ × 3
    
```

c

```

      □ × 12
       / \
8 × □ — (72) — \ □ × 3 × 3
    
```

b

```

      □ × 8
       / \
4 × □ — (48) — \ 2 × □
    
```

d

```

      1 × □ × 8   12 × □
       / \       / \
      (96) — \ 3 × 4 × □   2 × 4 × □
    
```

Identify multiples and common multiples



1 What am I?

a I am a multiple of **6**. I am between **45** and **50**.

b I am a multiple of **12**. I am between **70** and **80**.

2 For each of the following, tick the numbers which are multiples of the numbers in the boxes.

a

200

32 30

8

448 48

82

c

35

42 21

7 and 3

210 24

b

47

65 39

13

143 104

30

d

24

36 16

6 and 8

72 66

3 Solve the code to find the missing word.

a	b	c	d	f	g	o	p	r	s	t	u
15	42	24	63	12	33	36	48	132	42	21	32

a A multiple of **5**.

b A multiple of **8** below **30**.

c The lowest common multiple of **3** and **7**.

d A common multiple of **9** and **3** between **30** and **40**.

e A common multiple of **2**, **3** and **11**, but it's not the lowest common multiple.

f What word has been made?

Gestation Periods Information Booklet

By _____

What does 'gestation' mean?

Did you know?

Do animals have different
gestation periods?

Fun facts:

Materials Properties

Differentiated Property Words

Easy	Medium	Hard
smooth	flexible	non-magnetic
blunt	transparent	magnetic
strong	dull	reflective
soft	tough	absorbent
bendy	runny	permeable
stretchy	waterproof	brittle
hard	opaque	translucent
weak	solid	conductive
rough	rigid	slimy
sharp	shiny	liquid

Materials Properties and Definition

Put the correct definitions with the property words in this table.

magnetic	
reflective	
absorbent	
permeable	
translucent	
flexible	
hard	
flammable	
insulating	
transparent	



Is attracted to magnets.	Easy to bend.
Will bounce light off its surface.	Will easily catch fire and burn quickly.
Is able to soak up liquid easily.	Solid, firm and rigid, not easily broken, scratched or pierced.
Will allow liquids and gasses to pass through it.	Will stop energy such as electricity or heat from transferring through.
Will let some light pass through them but not enough to see detailed shapes.	Light passes through easily and objects are seen clearly.

Materials Properties and Definitions

What object is it?	What is it used for?
What materials are used?	Why choose those materials?

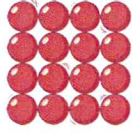


Year 5 Properties and Changes of Materials

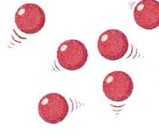
Revision Activity Mat

Match the state of matter to the picture that shows how the particles behave.

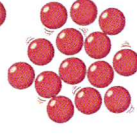
solid



liquid



gas



Write the meaning of these properties of materials.

permeable _____

absorbent _____

Fill in the gaps by writing the name of the state of matter next to the correct description.

_____ are materials that take the shape of their container. They can flow or be poured.

_____ are materials that keep their shape unless force is applied to them. They can be hard, soft or squishy.

_____ are materials that do not have a fixed shape but do have a fixed mass.

Complete the sentences with the name of the change of state being described.

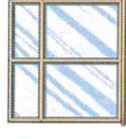
When a solid is heated and it changes into a liquid, it is said to be _____.

When a liquid cools and changes into a solid, it is said to be _____.

When a liquid changes into a gas or vapour, it is said to be _____.

When a gas cools and changes into a liquid, it is said to be _____.

Explain why the properties of these materials make them suitable for their uses.



A glass window: _____



A copper saucepan: _____

Give an example of when a material wouldn't be suitable for certain uses due to its properties.

Year 5 Properties and Changes of Materials

Revision Activity Mat

Put a circle around all the materials that will dissolve in water.

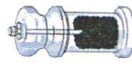
coffee granules



sugar



pepper



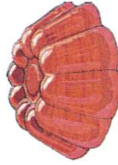
salt



sand



jelly cubes



olive oil



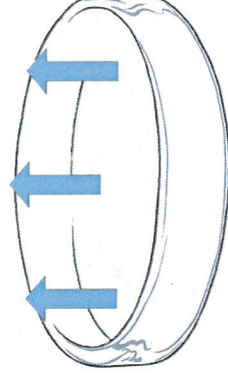
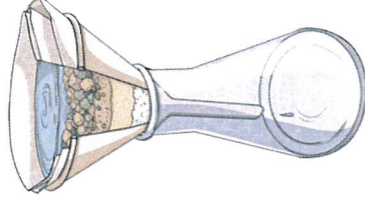
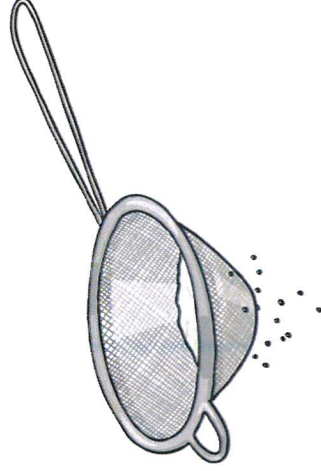
Give an example of an irreversible change.

What is the scientific term given to a material that dissolves in water?

Fill in the missing word in this sentence.

A _____ change is when a material changes state but can change back to its original state.

Reversible changes can be reversed in several ways. Underneath each picture, write the method that is being used.



Year 5 Properties and Changes of Materials

Revision Activity Mat

Draw a line from each word to its meaning.

conductor

insulator

solution

suspension

A mixture containing the particles of another substance that won't dissolve.

A material that allows heat or electricity to easily travel through it.

A material that does not allow heat or electricity to travel through it.

A liquid containing the particles of another substance dissolved in it.

Which methods of separation would be best to use when separating the following things:

a) large particles from small particles

b) solid particles from liquid

When finding out which materials dissolve in a liquid, what two things could you do to make a material dissolve faster?

1. _____

2. _____

Some materials can change state when they are heated or cooled. Draw a line from the change of state to either the word 'heat' or the word 'cooling'.

solid to liquid

heat

liquid to solid

cooling

liquid to gas

Materials Properties and Definition

Answers

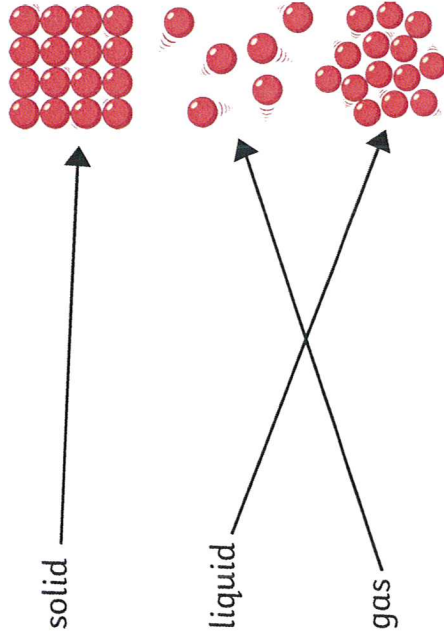
Put the correct definitions with the property words in this table.

magnetic	Is attracted to magnets.
reflective	Will bounce light off its surface.
absorbent	Is able to soak up liquid easily.
permeable	Will allow liquids and gasses to pass through it.
translucent	Will let some light pass through them but not enough to see detailed shapes.
flexible	Easy to bend.
hard	Solid, firm and rigid, not easily broken, scratched or pierced.
flammable	Will easily catch fire and burn quickly.
insulating	Will stop energy such as electricity or heat from transferring through.
transparent	Light passes through easily and objects are seen clearly.

Year 5 Properties and Changes of Materials

Revision Activity Mat - Answers

Match the state of matter to the picture that shows how the particles behave.



Write the meaning of these properties of materials.

permeable – A material that allows liquids or gases to pass through it.

absorbent – A material that soaks up liquid easily.

Fill in the gaps by writing the name of the state of matter next to the correct description.

Liquids are materials that take the shape of their container. They can flow or be poured.

Solids are materials that keep their shape unless force is applied to them. They can be hard, soft or squishy.

Gases are materials that do not have a fixed shape but do have a fixed mass.

Explain why the properties of these materials make them suitable for their uses.

A glass window: **Glass is transparent so it lets light pass through. It is hard so it keeps wind and cold air out. It can be cut into different shapes.**

A copper saucepan: **Copper conducts heat so it allows food to cook. It can be shaped into a saucepan shape but it is also hard so it will keep this shape.**

Give an example of when a material wouldn't be suitable for certain uses due to its properties.

Any answers that show an unsuitable material for a use. Examples include a paper umbrella, a metal oven glove, a plastic saucepan, etc.

Complete the sentences with the name of the change of state being described.

When a solid is heated and it changes into a liquid, it is said to be **melting**.

When a liquid cools and changes into a solid, it is said to be **freezing**.

When a liquid changes into a gas or vapour, it is said to be **evaporating**.

When a gas cools and changes into a liquid, it is said to be **condensing**.

Year 5 Properties and Changes of Materials

Revision Activity Mat - Answers

Put a circle around all the materials that will dissolve in water.

coffee granules



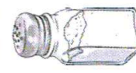
sugar



pepper



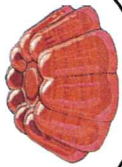
salt



sand



jelly cubes



olive oil



Give an example of an irreversible change.

Any answers that show an irreversible change. Examples include burning wood or mixing vinegar and milk.

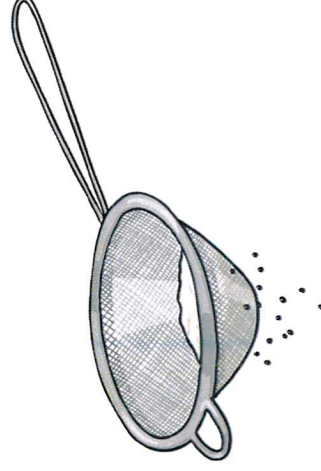
What is the scientific term given to a material that dissolves in water?

soluble

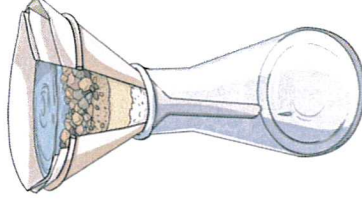
Fill in the missing word in this sentence.

A **reversible** change is when a material changes state but can change back to its original state.

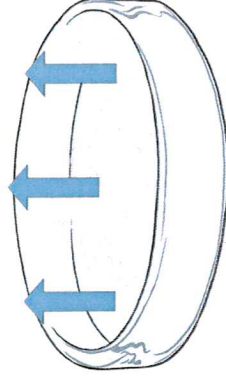
Reversible changes can be reversed in several ways. Underneath each picture, write the method that is being used.



sieving



filtering



evaporating

Year 5 Properties and Changes of Materials

Revision Activity Mat - Answers

Draw a line from each word to its meaning.

conductor

insulator

solution

suspension

A mixture containing the particles of another substance that won't dissolve.

A material that allows heat or electricity to easily travel through it.

A material that does not allow heat or electricity to travel through it.

A liquid containing the particles of another substance dissolved in it.

Which methods of separation would be best to use when separating the following things:

a) large particles from small particles

sieving

b) solid particles from liquid

filtering or evaporating

When finding out which materials dissolve in a liquid, what two things could you do to make a material dissolve faster?

- 1) **Stirring**
- 2) **Raising the temperature of the liquid**
- 3) **Making the particles of the dissolving substance smaller**

Some materials can change state when they are heated or cooled. Draw a line from the change of state to either the word 'heat' or the word 'cooling'.

