

Awesome Aircraft Carriers

► In December 2016, the British aircraft carrier HMS *Illustrious* left its base in Portsmouth for its final voyage. Its destination was not Syria or another needy war zone... this formidable ship was sailing to a Turkish scrapyards to be dismantled. HMS *Illustrious* was the last aircraft carrier of its kind: a type called the *Invincible-Class*. Its sister ships included HMS *Ark Royal*, and HMS *Invincible* herself. All these vessels have now left Britain to end their days in Turkish scrapyards. A new class of ship, the *Queen Elizabeth-Class*, will be introduced over the next few years, ushering in a new era of aircraft carriers. What is notable, however, about the departure of HMS *Illustrious* is that it leaves the British Navy without an aircraft carrier for the first time since their introduction almost 100 years ago.

The Royal Navy has been in existence since 1660, and even before that time England and Scotland had naval fleets. Yet it wasn't until after the end of World War I that the first aircraft carrier was designed. Planes were still a relatively recent invention, and although they had been used during the war, this was chiefly for observing the positions of enemy troops. They were too fragile to be used in battle. Some of these planes were launched from the decks of ships that had been converted to carry a runway but it became obvious that if planes were to be used for fighting, then purpose-built aircraft carriers would be necessary. This was because planes could not fly long distances without having to refuel. Ships were needed to take the planes closer to any war zones and provide them with a runway for take-off and landing.

A plane needs to reach a sufficient speed on the ground in order to take to the air. This is usually achieved via a long runway along which the aeroplane can accelerate. The aircraft carriers of World War II were large ships but they could not provide a runway long enough for planes to take off and land safely. The solutions to these two related problems were relatively simple but required great skill from the pilot. To take off, a giant catapult system was used. This flung the plane forwards, giving it enough speed to lift up into the air. To land, the plane used a hook. This hung from the rear of the plane and, as the pilot landed, the hook caught onto some

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incredibly strong ‘arresting’ wires strung across the ship. These stopped the plane from over-running the carrier’s landing area.

Japan was the first nation to commission a purpose-built aircraft carrier in 1922. This was followed two years later, in 1924, by the British HMS Hermes, named after the Greek god. Shortly afterwards, the French launched their first carrier and in 1927 the Americans built two carriers. A decade later, when World War II broke out, those first carriers, and many others like them, played a significant role in helping the Allies defeat Hitler. Near the beginning of the war, the carriers were used to carry planes that hunted German submarines (called U-boats), but this proved disastrous as it was too easy for those submarines to target and torpedo the large aircraft carriers. Later, they were used more successfully when battleships needed support from fighter planes. Much of the war was fought well beyond the range of the airbases in England, so the carriers were positioned in the sea near the areas of attack.

Do we still need these great ships? Some people believe that, since the days when humans first started living in organised towns, and boundaries were marked between countries, the most peaceful time has been the years following World War II. It is also argued that our small country does not need new aircraft carriers; that they do not constitute a sensible use of the nation’s military budget. However, disagreements over territories, together with differing religious and political beliefs, mean that the threat of war still hangs over many parts of the world; there is a vicious war raging in Syria today. Sadly, history has shown us that what may begin as a small battle can sometimes escalate into a full-scale war when larger, more powerful countries get drawn into the fighting. Britain is an island nation and many people maintain that we continue to need a strong, well-equipped navy. Let us hope, however, that the role of the new aircraft carriers – HMS Queen Elizabeth and HMS Prince of Wales – will be to keep the peace, not to wage war.

Awesome Aircraft Carriers

1 Where was HMS Illustrious heading on its final voyage?
Tick **one**.

- To join armed forces in Syria
- A military base in Portsmouth
- A scrapyard in Turkey
- A scrapyard in Portsmouth

2 HMS Illustrious is described as a "*formidable ship*." What does **formidable** mean in this context?
Tick **one**.

- war-like
- powerful and impressive
- sadly neglected
- made mainly of metal

3 Why were aircraft carriers invented?
Tick **more than one**.

- Because planes could not fly a long way without refuelling
- Because planes were too fragile to fly long distances
- Because the runways on ships are easier to use than on land
- So that planes could be nearer the war zone in which they were fighting

4 According to the text, which of these statements are true?
Tick **more than one**.

- The catapult system was used slow the plane down when landing.
- To take off from an aircraft carrier, the plane was catapulted into the air.
- The hook hung from the rear of the plane.
- To take off from an aircraft carrier, the plane used a hook and wires.

5 **Number these events 1-5** to put them in order, starting with the earliest.

- France launched its first aircraft carrier.
- Carriers carried planes to hunt German submarines.
- Carriers were used near the war zones in which their planes were fighting.
- Britain launched its first aircraft carrier.
- World War II started.

6 Which era does the text claim has been the most peaceful in history?
Tick **one**.

- The era when human towns were first established
- The era between the two world wars
- The era before the first world war
- The era after the second world war

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7 What are the newly-commissioned British aircraft carriers to be called?
Tick **one**.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | HMS Queen Elizabeth and HMS Princess of Wales |
| <input type="checkbox"/> | HMS Hermes and HMS Prince of Wales |
| <input type="checkbox"/> | HMS Invincible and HMS Illustrious |
| <input type="checkbox"/> | HMS Queen Elizabeth and HMS Prince of Wales |

8 The statements below summarise the contents of the text's paragraphs.
Number them to show the order they appear in the text.

	Taking off and landing
	The end of Invincible-Class aircraft carriers
	The role of aircraft carriers in the future
	The role of aircraft carriers in World War II
	The first aircraft carriers

Braving the Storm

▶ “Did you hear that?” Meg exclaimed, banging the door tightly closed behind her, her lantern swinging, casting shadows in the dark room. “It sounded like thunder.”

“Wouldn’t surprise me,” Jamie replied anxiously, leaning on his crutches. “I think a storm is brewing. Do you think Dad will be back soon with the doctor? Mum is still feverish.”

“He’ll be a while yet!” Meg replied. “It’s a good two hours ride there and back – and that’s assuming the doctor’s at home and he can come straight away...”

Her voice tailed off, and the two children turned back to look out of the window, willing their father to return. It was cosy in their stone cottage, with the range lit; but outside it was dark, the wind was howling and it was starting to rain.

As they peered through the gloom, Jamie suddenly noticed a light out at sea, in the direction of Bear Rock. Meg saw it too – a faint smudge, a yellow, dancing light, winking. Then both children gasped as a soaring trail of green stars burst into the sky.

“It’s a distress flare!” Jamie cried. “Meg, there’s a ship in trouble out there. We have to get a message to the coastguard.”

“How can we?” Meg asked. “Papa’s not here. Mum’s too ill and you’ve broken your ankle. You can’t ride like that.”

“We have to do something!” Jamie cried, exasperated. “Damn this ankle.”

“I could go,” Meg suggested. “I can take Star.”

Jamie protested, “No, Meg. What if you fell off like I did? We’ve had enough bad luck recently.”

Despite Jamie’s fears, both children knew there was no alternative. High up on the hills, their cottage had a unique viewpoint of the rocky coast; it was unlikely that anyone in the village had seen the ship’s call for help. Moreover, Meg was a good rider, and Jamie’s accident was more his fault than the horse’s – he had encouraged Star to jump a low stone wall. Wishing to please his owner, the compliant horse had cleared the wall, but had stumbled when he landed, throwing Jamie. The ground was soft, but Jamie had been unlucky and his ankle had hit a rock.

The decision made, the children quickly prepared for Meg’s mission. While Jamie saddled up Star, Meg wrapped herself up in her warmest clothes. Soon she was sitting

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on Star's back, ready to leave.

"Don't worry!" she said, looking down at the concerned face of her brother. "I'll be fine."

Then, with a sharp squeeze of her heels, she urged Star forwards, tugging the reins to turn the horse away from the stable and onto the path that headed towards the village where she could raise the alarm.

Out away from the cottage, on the high path, Meg wondered if the gale would blow her off Star's back. She could barely see the track ahead, and had to rely on Star's sure-footedness.

"Not far now," she whispered to Star. "Come on, boy, you can do it! Nearly there."

It was raining hard now. Cold water dripped off Meg's nose and trickled down her neck. Star was steaming, his body hot from the exertion. He would need a good feed of oats and a rub down when they got back.

Meg was struggling. She had put on nearly every stitch of clothing she owned, but even though she was wearing her oilskin coat, the sharp wind found its way through. She kept her body low, as close to the Star's back as possible, trying to benefit from the horse's warmth.

Her eyes hurt from the wind and she closed them for a moment. She trusted the horse. He followed this route frequently, ridden by one or other of the children sent to buy items from the village. The family grew their own vegetables and relied on their hens and pigs for eggs and meat, but there were still things that needed to be bought from the store. Their father's horse and Star were their only form of transport.

But those journeys were only taken on a fine day with plenty of time to dawdle along the way. It was different at night in a howling gale. Meg began to wonder if she had made a mistake. The village seemed so far and the storm was getting worse. Just as she was losing hope, Meg saw a dim light ahead of her. As she got closer, she could make out two men on horseback, both wearing long oilskin coats. The one in front was carrying a lantern and called, "Ahoy! Who approaches?"

Meg's heart leapt. She recognised the voice and called back, "Papa! It's me!"

Braving the Storm

1 Why were the children '*willing their father to return*'?

Tick **one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | They were worried about their father, who had been gone for much longer than they were expecting. |
| <input type="checkbox"/> | Their father was out buying much-needed supplies from the village store. |
| <input type="checkbox"/> | They were worried about their sick mother, and their father was fetching a doctor. |
| <input type="checkbox"/> | They were worried that their father might decide to stay in the village rather than come back with the doctor straight away. |

2 What was the '*soaring trail of green stars*'?

Tick **one**.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | The light from their father's lantern |
| <input type="checkbox"/> | A ship's distress signal |
| <input type="checkbox"/> | A ship's lights out at sea |
| <input type="checkbox"/> | The coastguard's signal that he needed help |

3 Which of these things were **obstacles** to raising the alarm about the ship?

Tick **more than one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Jamie had a broken ankle. |
| <input type="checkbox"/> | Meg offered to ride into the village. |
| <input type="checkbox"/> | Jamie's accident had been largely his own fault. |
| <input type="checkbox"/> | Their father was not at home. |

4 In the phrase '*...the compliant horse had cleared the wall*', what does the word **compliant** mean?

Tick **one**.

- | | |
|--------------------------|-----------|
| <input type="checkbox"/> | content |
| <input type="checkbox"/> | emotional |
| <input type="checkbox"/> | obedient |
| <input type="checkbox"/> | friendly |
| <input type="checkbox"/> | exhausted |

5 '*Meg was struggling.*' What was she struggling with?

Tick **one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | The horse - she was unused to riding him. |
| <input type="checkbox"/> | Her sense of direction - she was worried she might not be able to find the coastguard. |
| <input type="checkbox"/> | The weather - she was worried about Star getting too cold. |
| <input type="checkbox"/> | The weather - she was very cold and wet. |

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6 According to the text, why did Meg *'trust the horse'*?
Tick **one**.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Star knew the route to the village very well. |
| <input type="checkbox"/> | Star was happier being ridden by Meg than Jamie. |
| <input type="checkbox"/> | Star was used to being ridden in extreme weather. |
| <input type="checkbox"/> | Star's body heat was keeping Meg warm. |

7 At the end of the text, Meg spots two men on horseback. One is her father. Who is the other likely to be?
Tick **one**.

- | | |
|--------------------------|-------------------------|
| <input type="checkbox"/> | Meg's brother |
| <input type="checkbox"/> | The coastguard |
| <input type="checkbox"/> | The doctor |
| <input type="checkbox"/> | The village storekeeper |

8 Which of these facts from the text give us clues that the story is set a long time ago?
Tick **more than one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Messages had to be taken in person, which means there were no telephones or computers. |
| <input type="checkbox"/> | The characters used lanterns for light, suggesting there was no electricity. |
| <input type="checkbox"/> | The family kept hens and pigs. |
| <input type="checkbox"/> | The family had only horses for transport. |

Dragon Rescue

► Freddie opened his eyes. His head hurt and he winced as he struggled to sit up, wondering where he was. As the room swam in and out of focus, he remembered... he had been captured! His last clear memory was of being bundled into the dark, damp lower quarters of the ship where he was shoved roughly into a small room, banging his head on the low door. He remembered hearing the chuckling of the Spanish sailors as they walked away... and then nothing. He must have knocked himself out.

Freddie wondered how long he had been asleep. Minutes? Hours? He looked around, peering into the gloom.

The room in which he'd been imprisoned smelt of rotting wood and mouse droppings; but fortunately it wasn't completely dark. Small slivers of light were flickering through gaps in the floorboards above and through a crack in the door. He deduced from the curve of the walls that he was right at the bottom of the ship. He shivered, imagining the deep ocean just beneath him.

He pressed his eye against a small hole in the door, giving it a gentle push, hoping. It didn't budge. He tried calling, softly, just to see if anyone was around.

"Is anybody there?" His voice sounded small and weak.

In reply, he heard a snort, a shuffle and a grunt, then nothing. He pushed his face against the door again, looking in the direction of the sounds. There was a guard, slumped in a chair. Asleep! Drunk!

Freddie thought that he could probably sneak past the guard, but the door was firmly locked: that was his first problem! And even if he did get past the guard, he still needed to get off the ship undetected. Freddie guessed from the ship's gentle movements that they were still at anchor in the harbour, but he didn't know for certain. "This isn't going to be easy," Freddie thought to himself and he sat back down, wondering what to do next.

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As he shifted, trying to make himself more comfortable on the damp wooden floor, he felt something in his pocket digging into his leg. The dragon whistle! Freddie nearly cried out with joy. Of course! He could call for Nemis. His friend would surely be able to rescue him.

He pulled out the whistle, and had just raised it to his mouth when he heard a commotion in the corridor.

“Wake up, you lazy oaf!” came a man’s cry. He heard a sharp thud, then a crash as a second voice groaned and complained. Freddie put his eye to the hole again. He could make out a scruffy Spanish sailor trying to pick himself up from the floor. Standing over him was a smartly dressed officer, although Freddie could only see his trousers and boots. Freddie guessed that the officer had given his drunken guard a hard kick to wake him up.

“Sorry, sir,” mumbled the sailor. “I was just resting me’ eyes.”

“I hope, for your sake, the prisoner is still under lock and key,” the officer barked. “The captain wants to see the boy now, and if you disappoint him, you’ll be fish food before the day is over.”

Freddie realised that this was his moment. He put the whistle in his mouth and blew hard. The whistle made no sound – at least not one that any human ear could detect. But high above the bay, Nemis heard it loud and clear. He had been circling the island, anxious about his human friend, but powerless without a signal. The high-pitched blast was what he had been waiting for.

Nemis’ keen ears located precisely the source of the whistle, then he plunged into a dive, flattening his wings against his back to gain speed. As he broke through the blanket of cloud, he spotted the ship and flicked his wings back out, sweeping upwards and hovering for a moment, surveying his prey. The ship was well-armed but this didn’t worry Nemis. The crew weren’t expecting an attack from an enraged dragon!

Dragon Rescue

1 What was Freddie's last memory before he was knocked unconscious?

Tick **one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Being roughly bundled onto the deck of the ship |
| <input type="checkbox"/> | Being pushed into a small room at the bottom of the ship |
| <input type="checkbox"/> | Being knocked on the head by a Spanish sailor |
| <input type="checkbox"/> | The room swimming in and out of focus |

2 How did Freddie know whereabouts he was on the ship?

Tick **one**.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | The smell of damp wood meant that he was below the waterline. |
| <input type="checkbox"/> | The curve of the ship's walls meant that he was fairly near the bottom. |
| <input type="checkbox"/> | The curve of the ship's walls meant he was at the very bottom. |
| <input type="checkbox"/> | The slivers of light showed that he was just below the main deck. |

3 What were the obstacles that Freddie faced to escape from his captors?

Tick **more than one**.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | He had to get past the guard without waking him. |
| <input type="checkbox"/> | He needed to unlock the door to the room. |
| <input type="checkbox"/> | He had to remember his identity. |
| <input type="checkbox"/> | He had to get off the ship without anyone seeing him. |
| <input type="checkbox"/> | He had to get to the captain's cabin without anyone seeing him. |

4 Why did Freddie guess that the ship hadn't yet set sail?

Tick **one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | No-one had yet taken him to see the captain. |
| <input type="checkbox"/> | He could still hear noises from the harbour. |
| <input type="checkbox"/> | The ship was too quiet to be at sea. |
| <input type="checkbox"/> | The ship was only moving very gently. |

5 Why did Freddie suddenly remember the whistle?

Tick **one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | He moved slightly and felt it in his pocket. |
| <input type="checkbox"/> | He searched his pockets for anything helpful and found it. |
| <input type="checkbox"/> | He fell over and felt it digging into his leg. |
| <input type="checkbox"/> | He heard a sailor whistling and it reminded him. |

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6 The officer warned the guard that, if he disappointed the captain, he would *"be fish food before the day is over."* What does this phrase mean?

Tick **one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | The guard would be given the job of feeding the fish. |
| <input type="checkbox"/> | The guard would be ground up into tiny pieces, like fish food. |
| <input type="checkbox"/> | The guard would be hurled overboard and left to drown. |

7 Why hadn't Nemis already set about rescuing Freddie?

Tick **one**.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Nemis was annoyed with Freddie and intended to make him wait a while. |
| <input type="checkbox"/> | Nemis was anxious about his friend but needed to find food first. |
| <input type="checkbox"/> | Nemis had no idea where Freddie had been taken. |
| <input type="checkbox"/> | Nemis thought that Freddie didn't want to be friends any longer. |

8 In what order do these events happen in the story?

Number them to reflect the correct order. *The first one has been done for you.*

	Freddie felt the whistle in his pocket.
	Nemis hovered above the harbour, surveying the ship.
1	Freddie woke up in a small room.
	An officer woke up the guard with a kick.
	Freddie blew the dragon whistle.
	Freddie looked through a hole in the door and saw a sleeping guard.

Myths of Ancient Greece

► The legends of Ancient Greece are amongst the oldest stories in Western literature. They tell of the gods worshipped by the Ancient Greeks, and of the heroes who battled against treacherous monsters and spirits. Pictures depicting scenes from myths have been found by archaeologists on pottery made as far back as the eighth century BC. During the centuries that followed, Ancient Greek poets such as Homer and Hesiod composed long, 'epic' poems that included many of the older myths and legends, woven together into a series of linked stories. These poems were designed to be performed orally – like a play – but they were also written down on sheets of papyrus (a thick paper made from the dried pith from the papyrus plant). Before the invention of books, these were rolled up into scrolls. The original would then have been copied, by hand, many times. Remarkably, some of these scrolls still exist, having been preserved for several thousand years.

There are many stories from this time, and often they overlap or contradict each other. They have also been rewritten time and again, having first been translated from the original Ancient Greek. To become an expert on the myths can therefore be a lifetime's work. To simplify the research, some historians group the stories into three main categories or periods: The Age of Gods (stories that explain the origins of the gods and our Earth), The Age of Gods and Mortals (where the gods started to control, or meddle with, the lives of humans); and The Age of Heroes (stories of god-like heroes who battled with monsters and achieved incredible feats).

The myths from The Age of Gods are the stories explaining how the world began and the origins of the gods. They describe how at first there was nothing, but out of this void emerged the Earth, love, darkness, night and the abyss (a hell-like place between Earth and Hell where the wicked were sent). The sky, mountains, sea and storms then came from the Earth. The concepts of Heaven and daytime followed, along with many aspects of emotional life such as dreams, blame, affection, sleep and distress.

Next, the Earth and the sky gave birth to twelve Titans (six male gods and six female goddesses) along with a host of other mythical creatures such as giants and cyclops (one-eyed monsters). The Titans were often jealous and fearful of each other:

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some of their legends tell of their horrible deeds. One of the most important stories tells of the youngest Titan, Cronus, who was terrified of being one day usurped by a more powerful son. His solution was to eat all of his babies until his wife finally hid one, called Zeus. Zeus took revenge on his father by poisoning him; Cronus then vomited up all the children he had eaten. Zeus did indeed go on to overthrow his father, defeating him and the other Titans and sending them all to the abyss.

Zeus, together with his brothers and sisters and their children, then ruled over mankind from Mount Olympus. This is The Age of Gods and Mortals. The twelve gods that lived on Mount Olympus are the well-known Greek gods whom school children learn about. Each had a special area of responsibility or power. Zeus was the king of the gods and was god of the sky, lightning and thunder. Hera was goddess of marriage and family. Other gods controlled the sea (Poseidon), love and beauty (Aphrodite) and wisdom and literature (Athena). Sometimes, these tales explain how things on Earth came about – such as the story of how fire was stolen from the gods and given to humankind. Other stories introduced half-god, half-human children – often with magical powers. These characters, or their children, feature in later tales from The Age of Heroes. These are exciting stories describing how individuals such as Perseus, Hercules and Theseus overcame monsters like the Minotaur and Medusa.

By this time, however, the Ancient Greek Empire was in decline, losing power to the emerging influence of the Roman Empire. Yet the Romans adopted numerous ideas from the Greeks, including many of the Greek gods; for example, Zeus became the Roman god, Jupiter. The Greek goddess Hera was known as Juno. Similarly, Aphrodite became the Roman goddess of love, Venus. To complicate matters, a new religion was also emerging at this time – Christianity. Towards the end of Roman rule, the many gods had been reduced to one all-powerful God, as Christianity became the official religion of the Empire. From then onwards, the gods of Ancient Greece were merely studied, not believed in or worshipped. Even so, nearly 3000 years after their creation, these tales of controlling gods and super-human heroes continue to fascinate.

Myths of Ancient Greece

1 How do we know the approximate age of Ancient Greek myths?
Tick **more than one**.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Scenes were found painted on ancient pottery. |
| <input type="checkbox"/> | Hesiod's diaries were discovered with details of the older stories. |
| <input type="checkbox"/> | Epic poems were found written on papyrus scrolls. |
| <input type="checkbox"/> | Recordings of oral plays were found. |

2 According to the text, which of these factors make it difficult to be an expert on Greek myths?
Tick **more than one**.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | The stories concern gods rather than humans. |
| <input type="checkbox"/> | The stories have been translated then rewritten many times. |
| <input type="checkbox"/> | The stories were originally written in many languages. |
| <input type="checkbox"/> | Many stories contradict each other. |

3 The Age of Gods myths tell how the world began.
Number these things 1-5 to show the order they were created, starting with the earliest.

	mountains
	Titans
	love
	daytime
	dreams

4 Each of the gods on Mount Olympus had special areas of power. Which of these are correct?
Tick **more than one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Hera was goddess of love. |
| <input type="checkbox"/> | Zeus was god of lightning and thunder. |
| <input type="checkbox"/> | Theseus was god of literature. |
| <input type="checkbox"/> | Athena was goddess of wisdom. |
| <input type="checkbox"/> | Poseidon was god of the sea. |

5 Cronus '*was terrified of being one day usurped by a more powerful son.*' Which of these words means the same as **usurped**, in this context?
Tick **one**.

- | | |
|--------------------------|------------|
| <input type="checkbox"/> | rejected |
| <input type="checkbox"/> | murdered |
| <input type="checkbox"/> | abused |
| <input type="checkbox"/> | supplanted |

6 Which of these are names of Roman gods and goddesses?
Tick **more than one**.

- | | |
|--------------------------|-----------|
| <input type="checkbox"/> | Venus |
| <input type="checkbox"/> | Hera |
| <input type="checkbox"/> | Aphrodite |
| <input type="checkbox"/> | Jupiter |
| <input type="checkbox"/> | Zeus |
| <input type="checkbox"/> | Juno |

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7 Why did people stop worshipping the Ancient Greek and Roman gods?
Tick **one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | People thought the gods and their stories had become outdated. |
| <input type="checkbox"/> | Christianity became the dominant religion. |
| <input type="checkbox"/> | The Romans didn't believe in any gods and outlawed religion. |
| <input type="checkbox"/> | The gods and goddesses argued too much and the stories were too violent. |

8 The statements below summarise the contents of the text's paragraphs. **Number them** to show the order that the paragraphs appear in the text.

	The Age of Gods – the 12 Titans
	Grouping the myths
	How the myths have been preserved for thousands of years
	Romans and Christianity
	The Age of Gods and Mortals and The Age of Heroes
	The Age of Gods – how the world began

Seahorses

▶ As its name suggests, the seahorse is a marine creature that resembles a horse. The most obvious similarity is its distinctive, graceful curved neck and long snout. The resemblance doesn't end there however: the spines running along its back give the impression of a horse's mane, and the position it takes up in the water reminds one of a horse rearing up on its back legs. This uncanny physical similarity is not based on any evolutionary link: the seahorse is a fish and the horse is a mammal. The resemblance is purely one of chance.

The seahorse's long, horse-like snout acts like a vacuum cleaner – its shape is perfect for poking into nooks and crannies to suck up tiny shrimps and other small sea creatures. A seahorse also finds food more easily by being able to look in several directions at the same time. Its two eyes operate independently of each other. Unfortunately, being able to see left and right, or forwards and backwards, at the same time doesn't seem to help the seahorse's defence against predators – its movement through water is relatively slow, making it difficult to outpace a hungry crab, fish or ray. Baby seahorses, called "fry", are so helpless that it is believed that only one out of every thousand born will live into adulthood.

While the head and upper body of the seahorse are similar in shape and proportion to that of the horse, its tail behaves rather like that of another land mammal – the monkey. The type of tail belonging to both the seahorse and the monkey is called "prehensile", meaning that it can grasp or hold things. Few animals have this facility; the usual functions of a tail are to swat away insects, to balance, or to communicate. A seahorse uses its prehensile tail to grasp strands of sea weed. The seahorse's body shape makes it a poor swimmer, so it employs its tail to anchor itself to plants and hold tight in strong currents.

Sadly, there are many threats to these pretty little creatures. The most significant is from the Chinese Medicine trade. The art of Chinese Medicine is

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an ancient tradition that is deeply intertwined with the Chinese people's belief in the curative power of animals and plants. Like tiger bone, rhinoceros horn and turtle shell, seahorses are considered to have almost magical medicinal powers. They are dried and powdered and sold in a pill form which the Chinese believe helps relieve stomach pain and wheezing. It is also used to try to cure skin infections or sores. Whilst modern Chinese Medicine practitioners are now developing ingredients that have a less detrimental effect on wildlife, the trade in animal parts is long-established and it is still proving difficult to control. A staggering 150 million seahorses are thought to be killed every year for this purpose.

The curious appearance of the seahorses also leads to them being sold as souvenirs in some countries. It is estimated that 1 million are bought by ignorant tourists every year. A similar number of live seahorses are caught every year for the pet trade but it is estimated that only a tiny number live for more than six weeks – for every seahorse that survives as a pet, around a thousand die.

You might imagine that the seahorse is an exotic creature that can only be found in faraway, tropical seas, but there are actually several species that live in the temperate waters along the southern and western coasts of Britain. It is rare to see one, though, and becoming increasingly difficult. Seahorses like to live amongst sea or 'eel' grass, a light, wavy weed covering large underwater areas. Sadly, these underwater meadows, especially those close to shore, are being accidentally torn up by boat anchors. In England, campaigners are battling to save the habitats of these beautiful creatures. The greater challenge, however, is to raise awareness of the plight of the millions of seahorses around the world killed every year by humans.

Seahorses

1 In the first paragraph, which parts of the seahorse are compared to a horse? Tick **one**.

- | | |
|--------------------------|---------------------|
| <input type="checkbox"/> | Neck, legs, snout |
| <input type="checkbox"/> | Snout, ears, mane |
| <input type="checkbox"/> | Neck, snout, spines |
| <input type="checkbox"/> | Spines, tail, nose |

2 The seahorse's eyes operate independently. What is the main benefit of this feature? Tick **one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | It helps the seahorse escape from predators. |
| <input type="checkbox"/> | It helps the seahorse search for food. |
| <input type="checkbox"/> | It helps the seahorse find the best place to lay eggs. |
| <input type="checkbox"/> | It enables the seahorse to see better in the dark. |

3 According to the text, why is the seahorse so vulnerable to predators? Tick **one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Its prehensile tail anchors it to plants. |
| <input type="checkbox"/> | Its pretty appearance makes it attractive to crabs and rays. |
| <input type="checkbox"/> | Its horse-like snout makes it highly visible. |
| <input type="checkbox"/> | It cannot swim very fast because of its body shape. |

4 What does the seahorse use its prehensile tail for? Tick **one**.

- | | |
|--------------------------|-------------------------------|
| <input type="checkbox"/> | To swat away predators |
| <input type="checkbox"/> | To hold on to plants |
| <input type="checkbox"/> | To swim more quickly |
| <input type="checkbox"/> | To balance in strong currents |

5 The text tells us that ingredients for Chinese Medicine are now being developed '*that have a less detrimental effect on wildlife*'. What does **detrimental** mean? Tick **one**.

- | | |
|--------------------------|----------|
| <input type="checkbox"/> | useful |
| <input type="checkbox"/> | mortal |
| <input type="checkbox"/> | harmless |
| <input type="checkbox"/> | harmful |
| <input type="checkbox"/> | wasteful |

▶ CONTINUED FROM PAGE 1

6 According to the text, which of these facts about seahorses are true?
Tick **more than one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Seahorses are found exclusively in warm, tropical seas. |
| <input type="checkbox"/> | Around 150 million seahorses are killed every year for the Chinese Medicine trade. |
| <input type="checkbox"/> | Around 10 million seahorses are sold as tourist souvenirs every year. |
| <input type="checkbox"/> | The seahorse has a strong evolutionary link to the horse species of mammal. |
| <input type="checkbox"/> | It is thought that only one in a thousand baby seahorses lives to adulthood. |

7 What does the text state is the **main** challenge in conserving seahorse species around the world?
Tick **one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Preventing seahorses being killed by humans |
| <input type="checkbox"/> | Preventing boats from trapping seahorses in nets |
| <input type="checkbox"/> | Stopping the sale of seahorses as exotic pets |
| <input type="checkbox"/> | Preserving underwater meadows where seahorses live |

8 The statements below summarise contents of the text's paragraphs.
Number them to show the order they appear in the text.

	Snout and eyes
	Threats - Souvenirs and pets
	Habitat
	Threats - Chinese Medicine
	Resemblance to a horse
	Tail

The Jump

► I watched Jilly jump again. She took a few steps back, paused, and then ran for the sharp edge. Just for a moment, she seemed to be flying but then gravity grabbed her and she shot downwards, her squeals of delight followed by a splash and cheers from the far bank.

I peered down and saw her grinning face looking up at me; she was treading water, shaking droplets from her hair, her back to her audience.

“Come on!” she shouted. “It’s not as far as it looks.”

I frowned. Maybe not, but it was far enough. Further than I had ever jumped before.

“What about the depth?” I called. “Did your feet hit the floor?”

“It’s deep,” she replied. “Just aim for the spot where I landed.”

I watched as she breast-stroked towards the rocks. The water looked delicious. I longed to be down there in its cool embrace. Up here, it was sticky and hot.

The spectacle over, the boys turned their attention back to me and started to chant... “Allez, allez! Go, go!”

It was alright for them. They lived here. They’d probably been jumping here since they were tiny kids. They’d think nothing of throwing a somersault or back flip or daring each other to jump higher, further.

But we were only here on holiday and the highest I’d jumped till now was from the springboard at the swimming pool. This was probably five times higher. At the pool you knew exactly how deep it was... and there was a nice man in yellow and red to fish you out if you got into trouble.

“Stop shouting,” I heard Jilly call to the boys. “Let her do it in her own time.”

No chance of that – the cries came back even louder: “Allez, allez!”

► CONTINUED FROM PAGE 1

I moved backwards. I could still hear them but at least they couldn't see me now. They wouldn't see my blushing, sweaty face. Their calls weren't cruel. They wanted me to succeed. But they made it worse, upping the pressure!

Jilly appeared, her knees and hands filthy from scrambling up the dusty track that led up from the lake. She picked a pine needle from her hair.

"That was a good one!" she laughed, pleased with herself. "Are you going to jump or not? I promise you'll be fine and, once you've done it, you'll want to do it all over again."

"Yes, I am! When I'm ready!" I hissed, tetchily, although it wasn't her fault that I was too scared to jump. To be fair, I had been dithering here for ages, and she was being quite patient... if a little smug.

"It's OK. You don't HAVE to do it," Jilly said. "We can go down and do the lower jumps again. That was fun too."

I felt trapped. I wanted to jump but then I didn't. And the only alternative was the dusty scramble back down the path to the water's edge. I couldn't bear to think about it... The shame!

I peeped over the edge again. Bad idea: the chants started up again. "Allez, allez!"

"OK, count me down," I said to Jilly, decisively.

"If you're sure?" she asked.

I looked down, staring at the water, marking my landing place, blocking out the shouts. This was it – I couldn't bottle out again.

"3..., 2..., 1..., jump!" Jilly cried.

The Jump

1 Who was Jilly's 'audience'?
Tick **one**.

<input type="checkbox"/>	The narrator of the story
<input type="checkbox"/>	Local boys
<input type="checkbox"/>	The adults on holiday with the two children

2 '*The water looked delicious.*' What does this phrase mean?
Tick **one**.

<input type="checkbox"/>	The water looked good enough to eat.
<input type="checkbox"/>	The water was clean and fresh, so good to drink.
<input type="checkbox"/>	The water looked cool and inviting.

3 Why were the boys chanting on the bank?
Tick **one**.

<input type="checkbox"/>	They were encouraging Jilly to jump again.
<input type="checkbox"/>	They were encouraging the narrator to jump.
<input type="checkbox"/>	They wanted to humiliate the narrator because she was scared to jump.

4 What reasons are given in the story for the narrator being nervous about making the jump?
Tick **more than one**.

<input type="checkbox"/>	There were no lifeguards to rescue her, unlike at the swimming pool.
<input type="checkbox"/>	She had never jumped from such a height before.
<input type="checkbox"/>	She had never jumped into a lake before.
<input type="checkbox"/>	She couldn't swim very well, unlike Jilly.
<input type="checkbox"/>	She was only on holiday there, unlike the boys who were used to jumping in the lake.

5 Why did the narrator feel 'trapped'?
Tick **one**.

<input type="checkbox"/>	The path was blocked so the only way down was to jump into the water.
<input type="checkbox"/>	She was scared to jump, but would feel ashamed if she backed out.
<input type="checkbox"/>	Jilly had forced her into attempting the jump.

▶ CONTINUED FROM PAGE 1

6 Why didn't the narrator want to walk back down the path, rather than jump?
Tick **one**.

- | | |
|--------------------------|--|
| <input type="checkbox"/> | She didn't want to get her hands and knees filthy from scrambling down the track. |
| <input type="checkbox"/> | She would feel embarrassed in front of the boys if she wasn't brave enough to jump. |
| <input type="checkbox"/> | She liked the warmth at the top of the rocks and didn't want to get cold lower down. |

7 How do we know that Jilly had made the jump more than once?
Tick **one**.

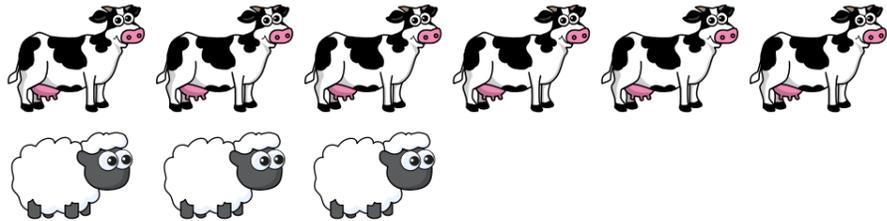
- | | |
|--------------------------|--|
| <input type="checkbox"/> | The narrator 'watched Jilly jump again.' |
| <input type="checkbox"/> | Jilly told the narrator that it was good to jump off again and again. |
| <input type="checkbox"/> | Jilly was 'pleased with herself' because she had jumped so many times. |

8 In what order do these events happen in the story?
Number them to reflect the order that they appear in the text. *One has been done for you.*

	The narrator asked Jilly how deep the lake was.
	Jilly counted down for the narrator's jump.
1	Jilly jumped into the lake.
	Jilly asked the boys to stop shouting.
	The narrator told us that she and Jilly were on holiday.
	Jilly scrambled up the track to the top again.

Using ratio language

1 Complete the sentences.

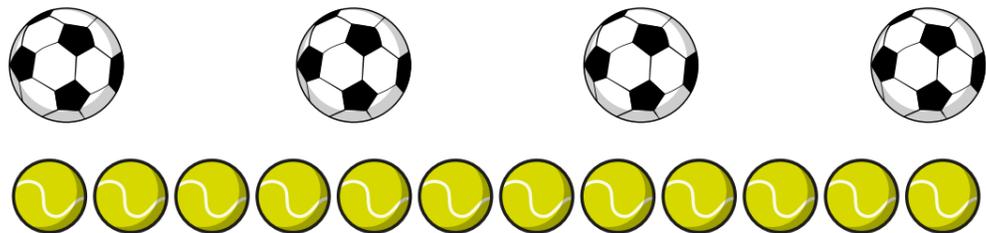


For every 3 sheep there are cows.

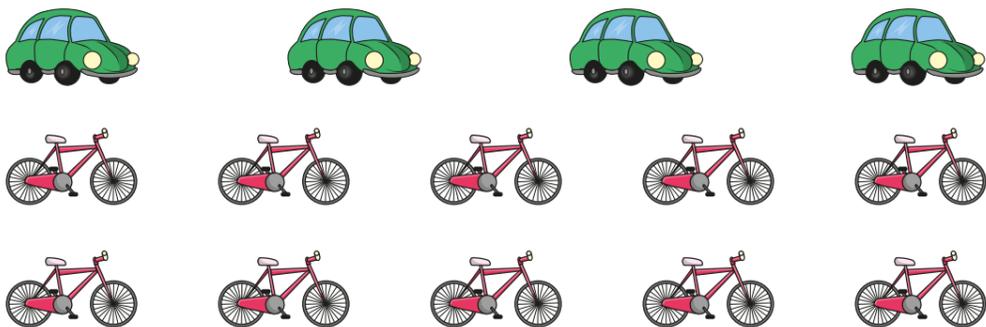
For every 2 cows there is sheep.

2 Circle groups to match the statements.

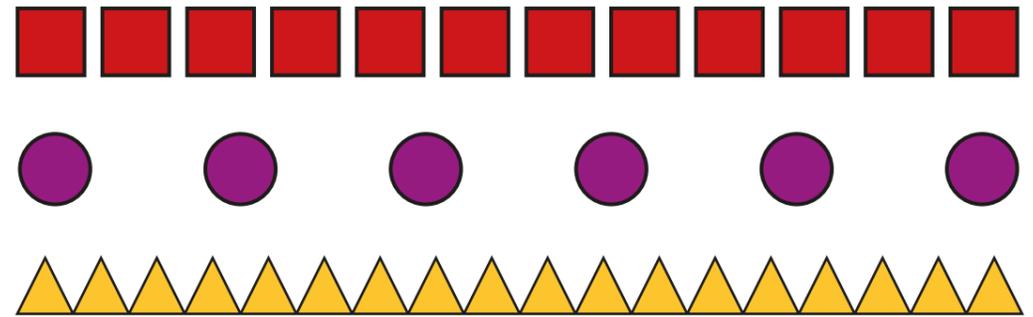
a) For every 1 football there are 3 tennis balls.



b) For every 2 cars there are 5 bicycles.



3 Here are some shapes.



Complete the sentences.

For every 6 squares there are circles.

For every 6 squares there are triangles.

For every 1 square there is a circle.

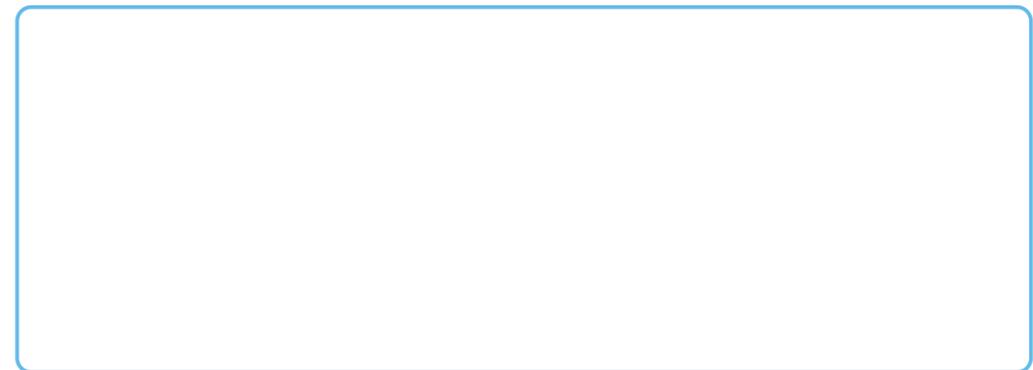
4 a) Make a tower of cubes that has 3 green cubes for every 1 red cube.

b) Compare your tower to a partner's tower.

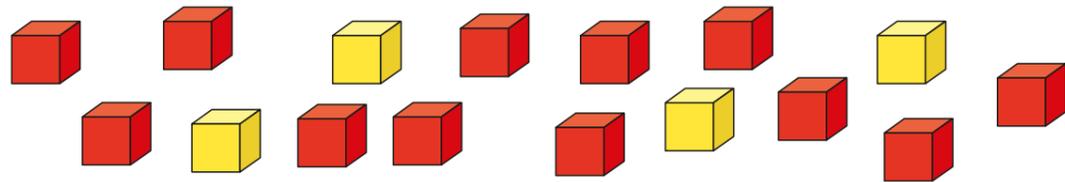
What is the same and what is different about your tower?

5 For every 2 pencils there are 3 rulers.

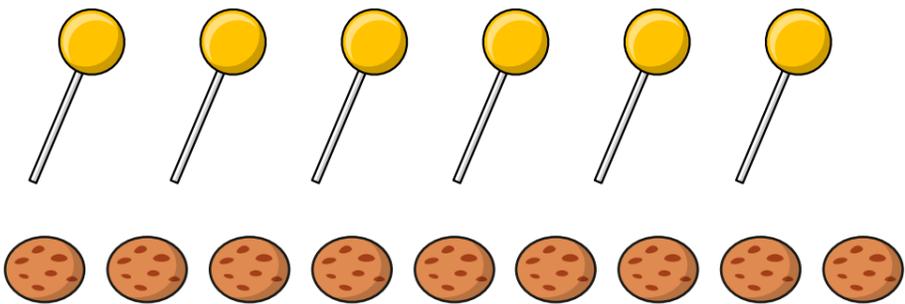
Draw a picture to show this.



6 Write three different 'For every ...' sentences for the cubes.



7 Teddy has 6 lollipops and 9 cookies.



For every 3 lollipops there are 2 cookies.

Annie

I don't agree.



Teddy

a) What mistake has Annie made?

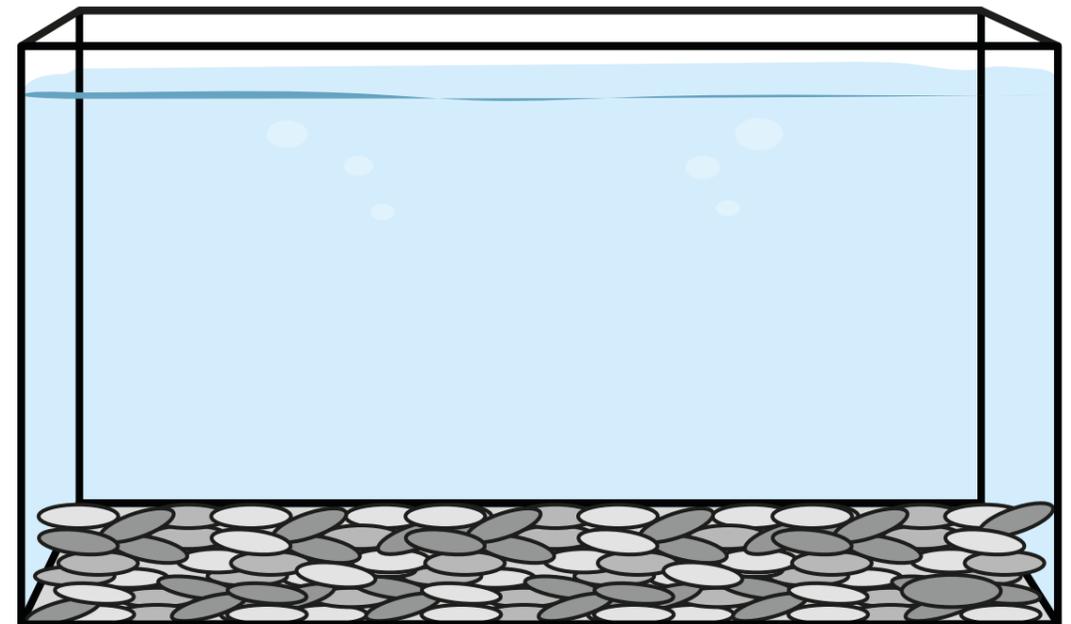
b) Write a sentence to match the picture.

8 Filip has some fish.

For every 3 red fish he has 1 goldfish.

Tommy counts at least 20 fish in the tank.

Draw the fish in the tank.



9 In Class 6, for every 2 girls there is 1 boy.

There are 12 girls in the class.

How many boys are in the class?

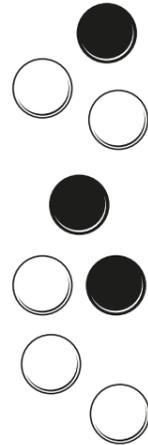
You can draw the children to help you.



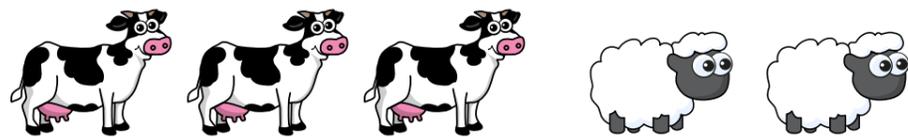
1 Here are some counters.

Complete the sentences to describe the counters.

- a) There are counters altogether.
- b) There are white counters.
- c) There are black counters.
- d) 3 out of the 8 counters are _____
- e) out of the 8 counters are white.



2 Here are some animals.



Complete the sentences.

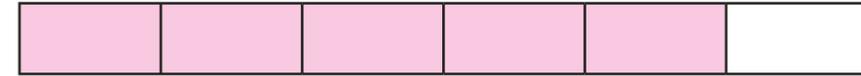
For every cows there are sheep.

The ratio of cows to sheep is to

of the animals are cows.

of the animals are sheep.

3 Part of the bar has been shaded.



- a) What fraction of the bar is shaded?
- b) What fraction of the bar is not shaded?
- c) Write the ratio of shaded to non-shaded parts. to
- d) Write the ratio of non-shaded to shaded parts. to

4 Here are some shapes.



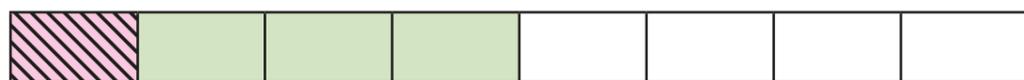
- a) What fraction of the shapes are circles?
- b) What fraction of the shapes are stars?
- c) What is the ratio of stars to circles? to
- d) What is the ratio of circles to stars? to

Can you find a different answer to each of these questions?

Compare with a partner.



- 5 The bar model shows the ratio 1 to 3 to 4



Talk to a partner about how it shows this.

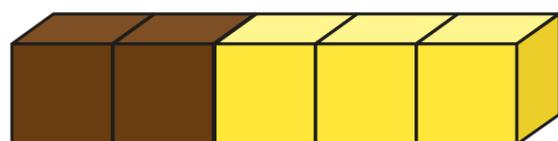
a) What fraction of the bar is striped?

b) What fraction of the bar is fully shaded?

c) What fraction of the bar is blank?



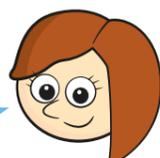
6



Jack

The fraction of brown cubes is $\frac{2}{3}$ because the ratio of brown to yellow is 2 to 3

Rosie



The fraction of brown cubes is $\frac{2}{5}$

Who is correct? _____

Explain your answer.

- 7 Scott draws a bar and divides it into 8 equal parts.



He shades 25% of the bar.

What is the ratio of shaded to non-shaded parts?

 to

- 8 A pencil case contains felt tips and pencils.

$\frac{3}{8}$ of the contents are pencils.

What is the ratio of felt tips to pencils?

 to

- 9 Ron has some limes and strawberries.

The ratio of strawberries to limes is 5 to 1

a) How do you know he has more strawberries than limes?

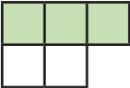
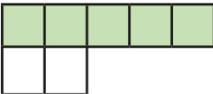
b) What fraction of the fruits are strawberries?

c) What fraction of the fruits are limes?



Introducing the ratio symbol

1 The ratios show shaded parts to non-shaded parts.
Match the ratios, statements and bar models.

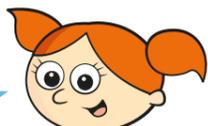
2:3	five to two	
5:2	three to two	
2:5	two to three	
3:2	two to five	

2




The ratio of purple to yellow is 5:4

Mo



It is 4:5

Alex

Who is correct? _____
Explain your answer.

3 Dani has some counters, cubes and marbles.
Complete the sentences.

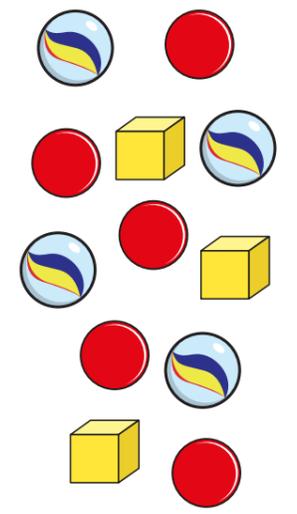
The ratio of counters to marbles is :

The ratio of marbles to cubes is :

The ratio of cubes to counters is :

The ratio of counters to cubes is :

The ratio of counters to cubes to marbles is : :



4 Brett has drawn some triangles and squares.

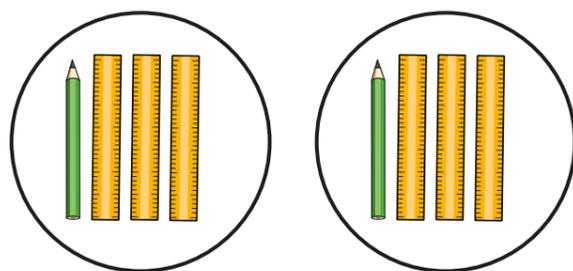
The ratio of triangles to squares is 1:3

a) Are there more triangles or more squares? _____
Explain how you know.

b) Brett has drawn more than 10 shapes.
Draw what Brett might have drawn.



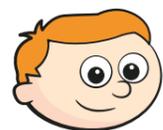
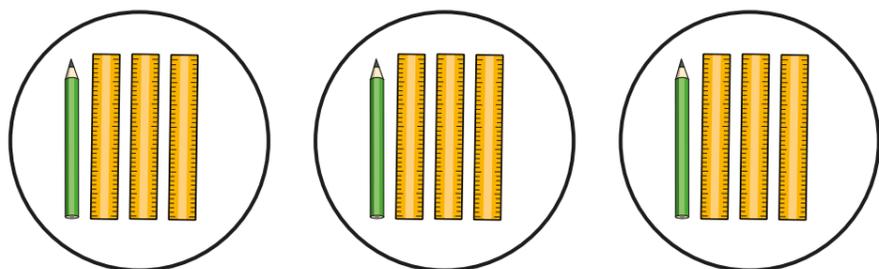
- 5 Here are some rulers and some pencils.



a) What is the ratio of pencils to rulers?

:

b) Here are some more rulers and pencils.



Ron

The ratio of pencils to rulers is the same as in part a).



Dora

Ron is wrong because there are more pencils and more rulers.

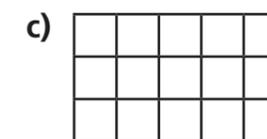
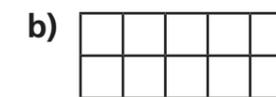
Who is correct? _____

Explain your answer.

- 6 The ratio of horses to chickens in a field is 2:5
Here are the horses. Draw the chickens.



- 7 Shade squares so that the ratio of shaded to non-shaded squares is 1:4



- 8 A box contains dark, white and milk chocolates.

$\frac{3}{8}$ of the box are dark chocolates.

$\frac{1}{2}$ of the box are milk chocolates.

The rest are white chocolates.

What does each ratio represent?

a) 1:3

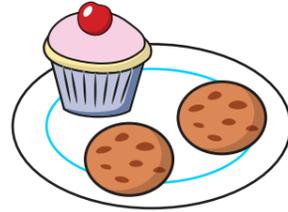
b) 4:1

c) 3:5



Calculating ratio

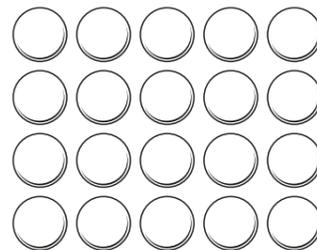
- 1 Eva is baking cakes and cookies.
For every 1 cake, she will bake 2 cookies.



- a) If Eva bakes 3 cakes, how many cookies will she bake?

- b) If Eva bakes 10 cookies, how many cakes will she bake?

- 2 The ratio of red to yellow counters is 2 : 3
There are 20 counters in total.
How many counters of each colour are there?
You can colour the counters to help you.



yellow red

- 3 Tom has 5 green cubes for every 3 yellow cubes.
He has 16 cubes in total.
Draw a diagram to represent this.

- 4 Esther is building a tower of cubes.
The ratio of red to yellow cubes is 3 : 1
The tower has 6 yellow cubes. How many red cubes are there?

- 5 Nijah plays 21 games of chess.
For every 2 games she wins, she loses 5 games.
How many more games does she lose than win?



- 6 a) Huan is making a drink by mixing 1 part juice with 5 parts water.

Complete the table to show the amounts he would need to use.

Juice	Water
1 litre	5 litres
2 litres	
4 litres	
100 ml	
200 ml	
300 ml	
	30 litres
	750 ml

- b) Huan makes 1 litre 500 ml of drink in total.
How much juice and water does he need to use?

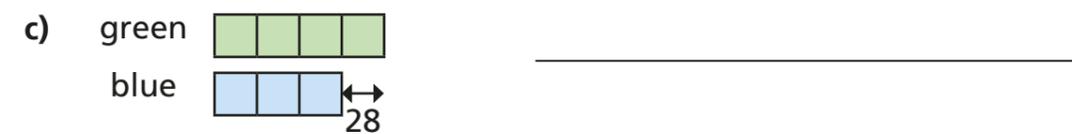
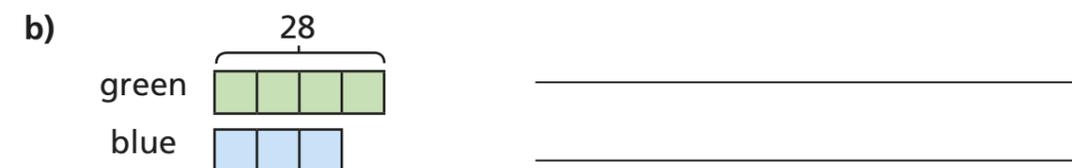
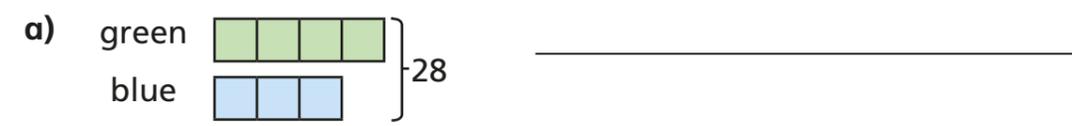
juice

water

- 7 A group of students study French or German in the ratio 3:7
- a) Which subject has the most students? _____
- b) Draw a diagram to represent this.

- c) There are 80 students in total.
How many more students study German than French?

- 8 Describe a situation for each bar model.



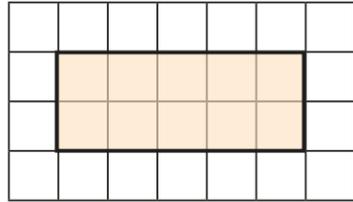
Compare answers with a partner.

What is the same and what is different?

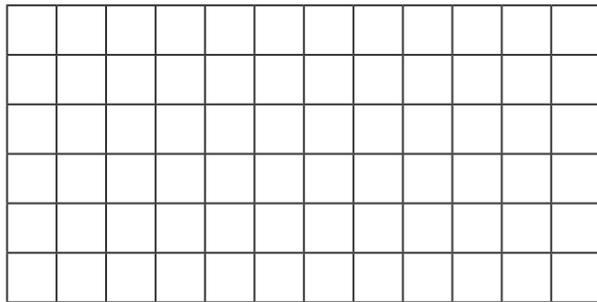


Using scale factors

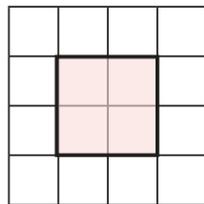
1 a) Here is a rectangle.



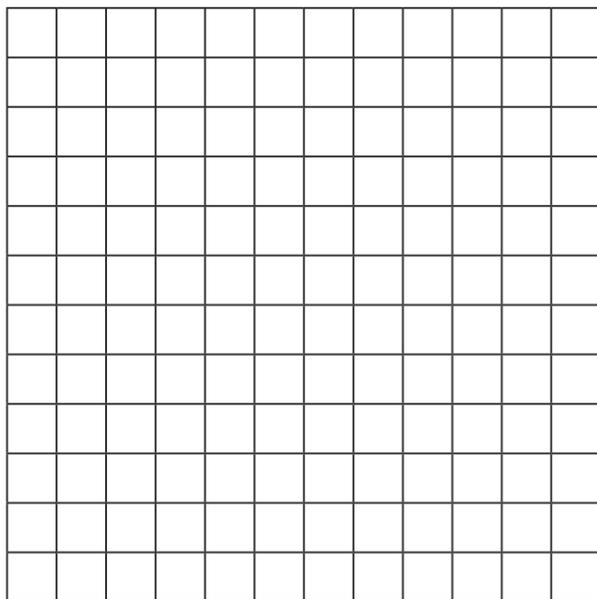
Draw another rectangle where each side is twice as big.



b) Here is a square.

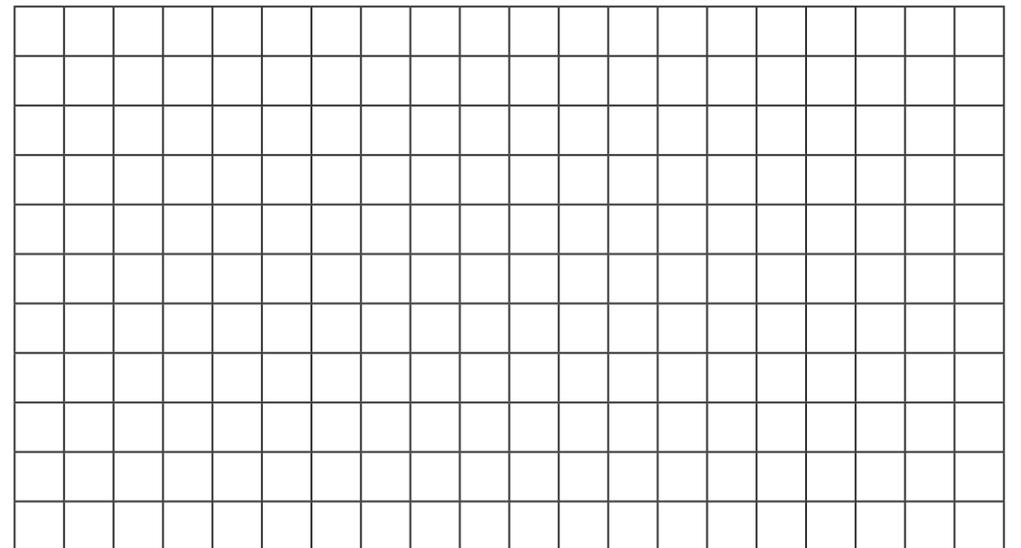
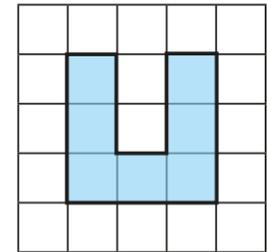
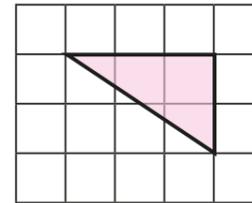


Draw another square where each side is 4 times as big.



2 a) Explain what it means for a shape to be enlarged by a scale factor of 2

b) Enlarge the shapes by a scale factor of 2



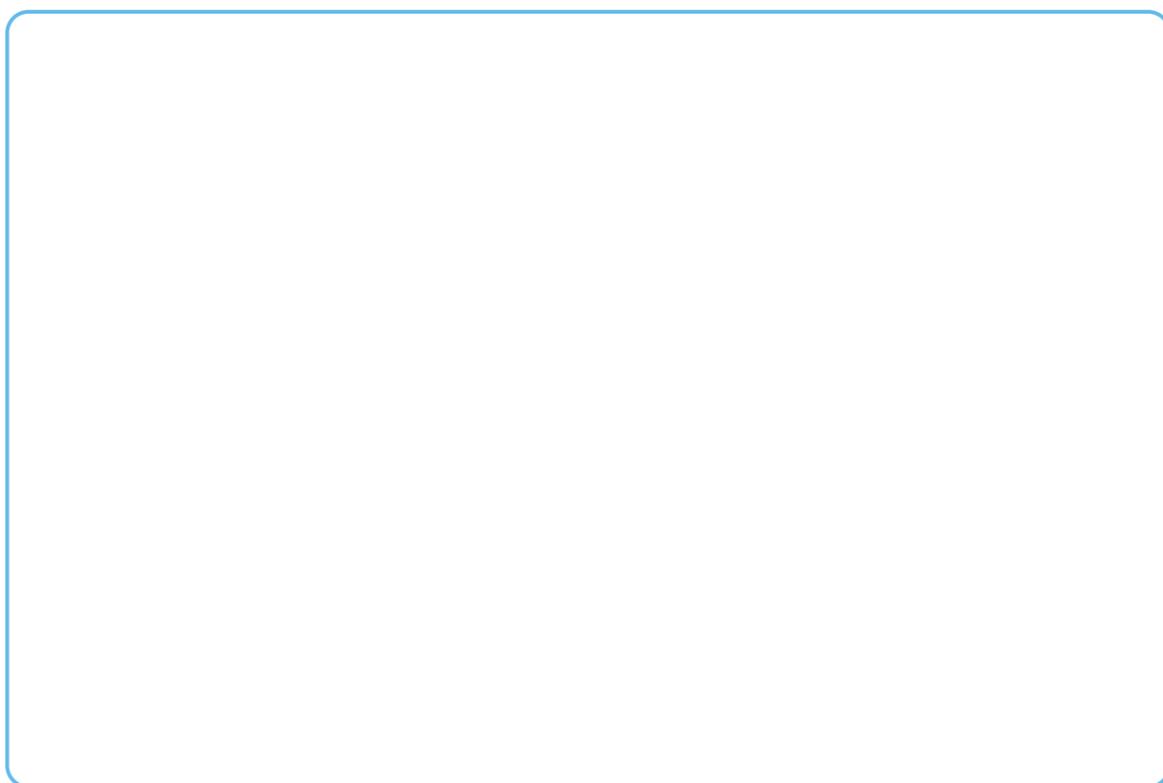
3 Complete the sentence.

A shape in which each side has tripled in size has been enlarged by a scale factor of

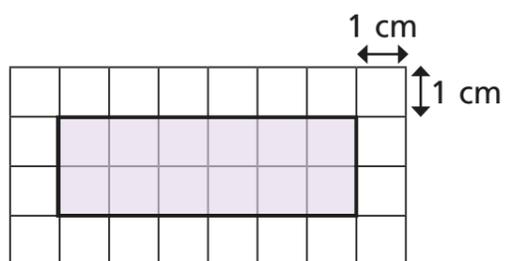
- 4 Here is a rectangle.



- a) Measure the side lengths of the rectangle and label them on the diagram.
 b) Enlarge the rectangle by a scale factor of 3 and label the side lengths.

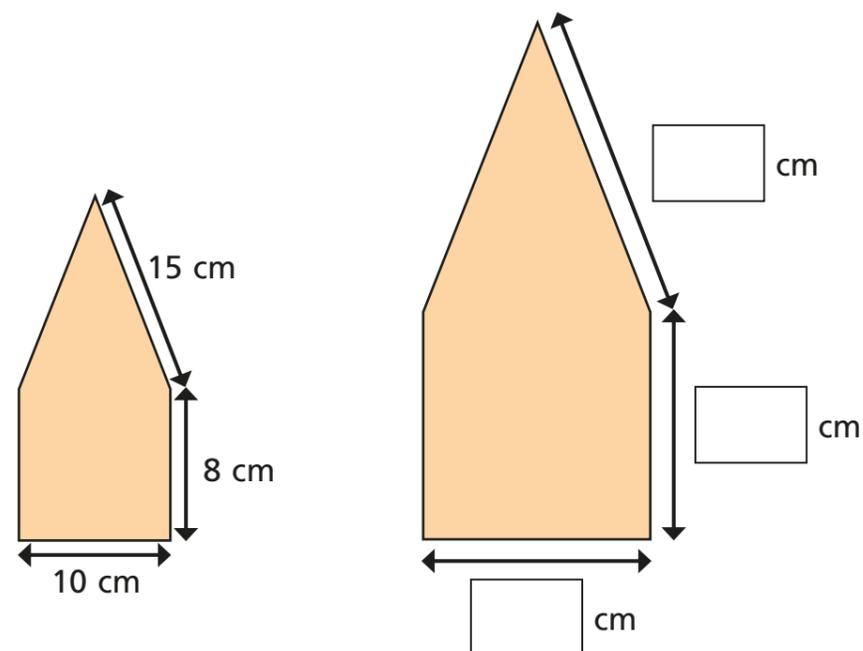


- 5 The sides of the rectangle are increased by a scale factor of 2
 What is the perimeter of the new shape?

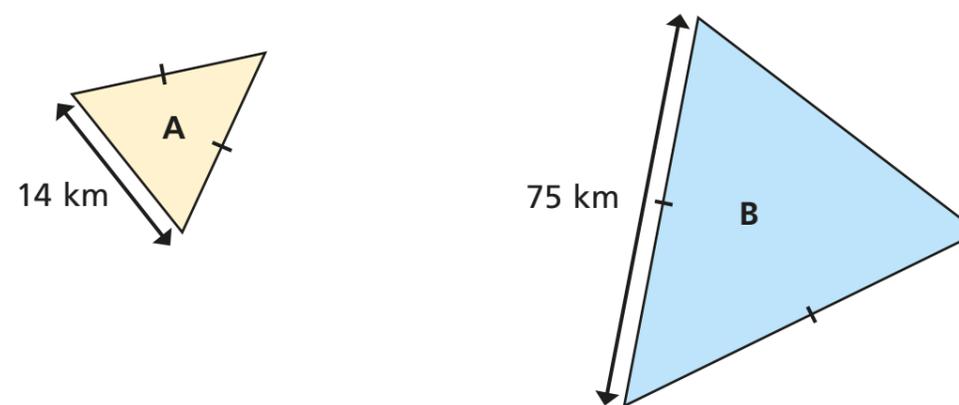


cm

- 6 The shape has been enlarged by a scale factor of $1\frac{1}{2}$
 Fill in the dimensions of the new shape.



- 7 Triangle A has been enlarged by a scale factor of 5 to make triangle B.
 Find the perimeter of each triangle.

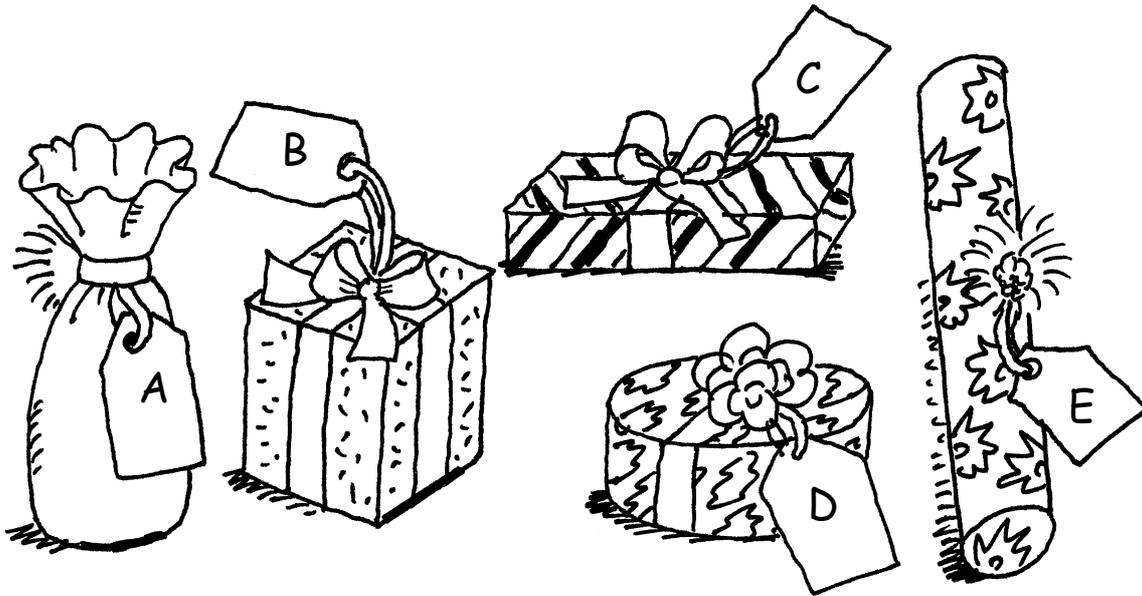


perimeter of A = perimeter of B =



Presents

Gurmit paid £21 for five presents.



For A and B he paid a total of £6.

For B and C he paid a total of £10.

For C and D he paid a total of £7.

For D and E he paid a total of £9.

How much did Gurmit pay for each present?

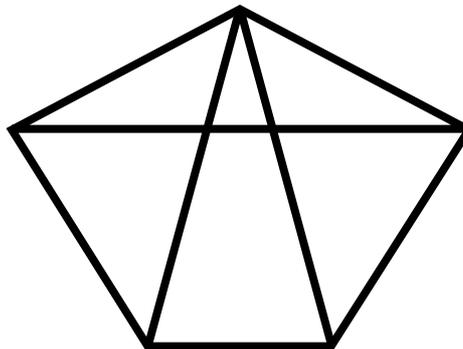
57

Teaching objectives

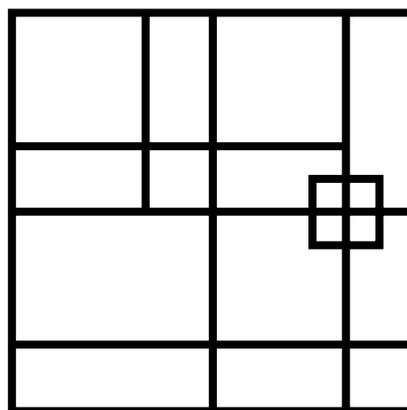
Solve a given problem by organising information.
Explain methods and reasoning.

Spot the shapes 2

1. How many triangles can you count?



2. How many squares can you count?



3. Draw your own diagram to count triangles.
Don't use too many lines!
How many triangles can a friend find?
Can you find more?

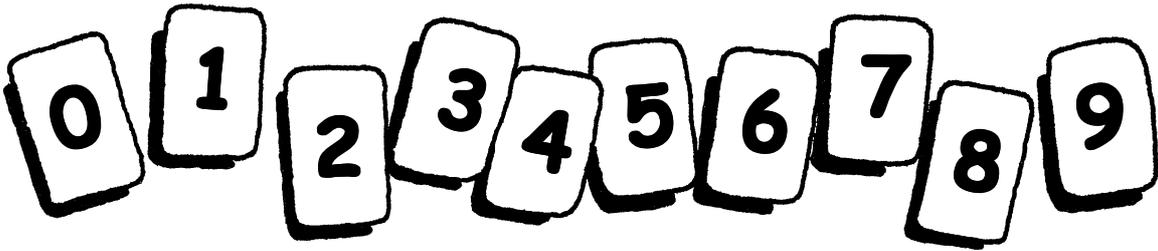
Teaching objectives

Solve mathematical problems or puzzles.
Visualise 2-D shapes.
Explain methods and reasoning.

58

Make five numbers

Take ten cards numbered 0 to 9.



Each time use all ten cards.

Arrange the cards to make:

- five numbers that are multiples of 3
- five numbers that are multiples of 7
- five prime numbers

Make up more problems to use all ten cards to make five special numbers.

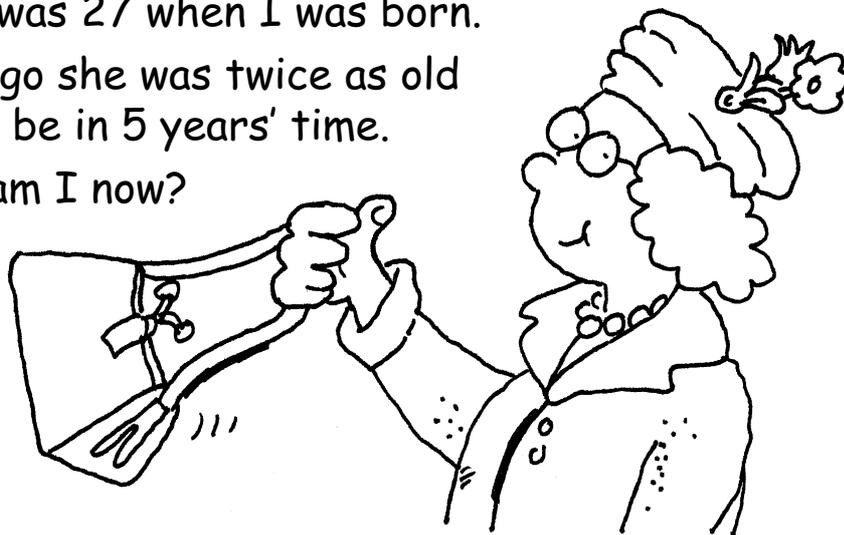
61

Teaching objectives

Solve mathematical problems or puzzles.
Know 3 and 7 times tables.
Recognise prime numbers.

Age old problems

1. My age this year is a multiple of 8.
Next year it will be a multiple of 7.
How old am I?
2. Last year my age was a square number.
Next year it will be a cube number.
How old am I?
How long must I wait until my age is both
a square number and a cube?
3. My Mum was 27 when I was born.
8 years ago she was twice as old
as I shall be in 5 years' time.
How old am I now?

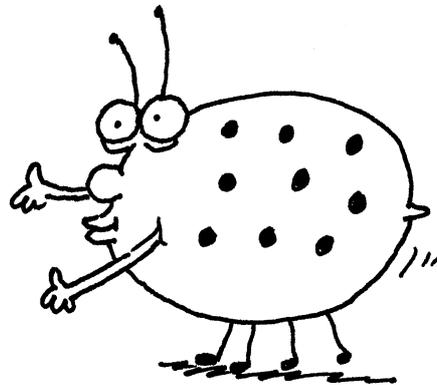
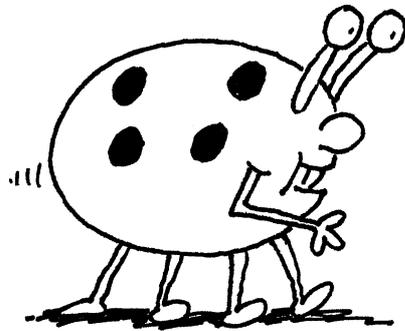


65

Teaching objectives

Solve mathematical problems or puzzles.
Know multiplication facts to 10×10 .
Recognise square and cube numbers.

Zids and Zods



Zids have 4 spots.

Zods have 9 spots.

Altogether some Zids and Zods have 48 spots.

How many Zids are there?

How many Zods?

What if Zids have 5 spots, Zods have 7 spots,
and there are 140 spots altogether?

Find as many solutions as you can.

Teaching objectives

Solve mathematical problems or puzzles.

Know multiplication facts to 10×10 .

Add two-digit numbers mentally.

66

Pupil Exercises – VERBS

1 Underline the correct form of the verb in these sentences:

The lions was / were hunting the herd of gazelle which was / were panicking
We don't like / likes going to school every day: we want / wants to play football instead
The children watch / watches television too much, and their mum get / gets annoyed with them
When we go / goes to Grandma's she cook / cooks for us

2 Underline the correct use of the past tense:

My brother bringed / brought me a brilliant present for my birthday
I catched / caught the ball that she threw over to me
The ship sunk / sinked / sank to the bottom of the sea
We was sat / were sitting in the playroom, watching TV
The laptop was stoled / stealed / stolen / stole by the thief

3 Insert the correct verb from the list:

The flock of sheep _____ panicking because there is a dog in the field	are
Sam _____ a great idea for his story	have
The children _____ going to a party today	has
We _____ lost our place in the queue because you left it	is

4 Change the verb in these sentences from the past to the present tense:

The dog buried the bone under the carpet	The dog _____ the bone under the carpet
Meg and Jamie enjoyed going to the cinema	Meg and Jamie _____ going to the cinema
He hopped all the way to school for a joke	He _____ all the way to school for a joke
I did not like the film about the Titanic	I _____ not like the film about the Titanic

Pupil Exercises – VERBS

5 Underline all the verbs in the following passage and sort them into the correct tense box

The last time I went on holiday I was looking forward to it a lot. We were going to Malta, and I had heard that it was a beautiful place. My mother told me that we were going to catch the plane on Thursday from Bristol, and that, as the journey would last four hours, we would eat a meal on the plane.

‘I am really going to enjoy myself,’ I had told my mum, as I packed. ‘I will swim every day and I will spend lots of time in the sun. You know I love hot weather.’

‘I like it too. Are you packing your suitcase?’ she called from downstairs. ‘I am getting lunch and then taking your hamster to the neighbours, so hurry up. Time is moving fast, and we need to go straight after lunch!’

I finished my packing, and ran downstairs. I was feeling very excited about this holiday, and we were hoping we would enjoy it a lot. I had never flown before either, so I was nervous about the plane. It seemed as if I would explode with excitement.

I had thought I would have fun on holiday, but I didn’t. I was being sick all through the flight, and when we got there it didn’t stop. I had imagined I would be able to enjoy myself, but by the time I had been throwing up for two days, and had been suffering from the worst tummy bug ever, all I could think of was sleep. I have never been so disappointed in my life.

Pupil Exercises – VERBS

Simple Present: (I go)	Present Continuous (I am going)	Simple Future (I will/I am going to)	Modal verbs (I would/might)
Simple Past (I went)	Simple Past Continuous (I was going)	Past Perfect (I had gone)	Past Perfect Continuous (I had been going)

Formal and informal writing



Practise using formal and informal words and phrases

i Some words are more suitable for formal writing than others e.g. **proceed** could be used as a more formal word for **go**. **Formal** writing is used for reports and formal letters; it also *must* use spelling, punctuation and grammar correctly. **Informal** writing is used in stories, dialogue and everyday speech. It often includes contractions, e.g. *I won't* instead of *I will not*. Often, contractions are used in **question tags** - short questions that are added to the end of a statement as an informal way of asking something, e.g. You did do it, *didn't you?*

A

Write a more **formal** word or phrase for the words underlined:

It is time to start the lesson.

He is feeling ok now.

That bloke is here again.

I got a book for my birthday.

B

Add question tags to these sentences. The first one has been done:

We enjoyed the film, didn't we?

That dog is barking again, ?

You won't be here tomorrow, ?

I could sleep in this bed, ?

SPaG PRACTICE

Circle the less formal words in these sentences:

I booked / reserved seats for the performance / show.

That lady / woman has just purchased / bought the last two tickets.

Write some speech for each of these people and include some question tags, e.g. You remembered my book, didn't you?

.....

.....

CHALLENGE
Think • Talk • Write



Active and passive voice

Practise recognising and using active and passive voice



i Most sentences are in what is called the **active voice**; they start with a subject followed by a verb that the subject does, e.g. *He ate*. Most sentences also have an object that receives the action of the verb. e.g. *He ate an apple*. In the **passive voice**, the subject and object change places, e.g. *The apple was eaten by him*. The word **by** shows who or what is doing the verb. The passive voice is generally used in more formal writing.

A

Are these sentences in the active or passive voice? Circle your answer:

The bell rang to signal the end of break.

active

passive

We were led into the hall by a teacher.

active

passive

The piano was being played by Mrs Jones.

active

passive

The children sang a lovely song for us.

active

passive

B

Rewrite these sentences in the passive voice:

The dog munched his biscuit.

A stone broke the window.

Sam is reading the poem.

I gave him a drink.

My cat caught the mouse.

SPaG
PRACTICE

Rewrite this sentence in the active voice:

The missing ring was found by the security guard.

.....

Write an active and a passive voice sentence about what is happening in the picture. You can use any tense you like.

.....
.....

CHALLENGE
Think • Talk • Write



Tenses

simple past

This tense states the **action** that **has already happened**.

simple present

This tense allows us talk about **things that don't change** like facts, habits or regularly repeated actions -e.g. the things we like or don't like.

Present perfect - the have past

This tense suggests either that an **action has completed** - 'perfected' - or that an action that started in the **past now continues in the present**.

present progressive - the is/am -ing

This tense allows us talk about things that are happening **now** and **haven't finished yet**.

past perfect (pluperfect) - the had past

This tense is used to refer to **something that occurred earlier** than the time being considered, when the time being considered **is already in the past**.

past progressive - the was -ing

This tense is often used to refer to **things that happened at a particular moment in the past**.

Tick the box in each row to show which tense the sentence is written in.

Sentence	simple past	past progressive	simple present	present progressive	present perfect	past perfect
I am eating cakes.				✓		
She ate cakes.						
They were eating cakes.						
The children learnt about Romans in history.						
The computer works well.						
The computer worked well.						
I have lost my trainers.						
The children are choosing what they want to do.						
They added raisins to the muffins.						
He was hiding in the laundry basket.						
Elaine has wanted to be a police officer for 15 years.						
Sam is playing on the computer.						
Sam often reads and plays on the computer.						
Sam often read and played on the computer.						
They have eaten all the cakes and now they feel sick.						
I have never been to Legoland.						
That was annoying.						

Flip this sheet over and ask someone to test you.

cover me

1st Try

2nd Try

nuisance		
rhythm		
appreciate		
ancient		
interfere		
equipment		
twelfth		
privilege		
variety		
develop		

'rhythm' can be tricky. Think of it as *rh-i-th-m*. Now think about 'rhyme'. The *y* makes a different sound completely.



c has an /s/ sound when followed by *e*, *i* or *y*. Which two words in the list follow this rule?

A

Take at least two words from the list above and make a sentence that includes both:

.....

.....

.....

B

Circle the words that are spelt incorrectly. Write their correct spellings below:

You are the twelfth person to come here and apreshiate the ancient equipmant used in this old laboratory. It is a privelidge to be able to show you around.

.....

This week's words

nuisance rhythm appreciate ancient interfere
equipment twelfth privilege variety develop

You could try these too

commitment development intervene sacrilege spacious



TES SPaG Practice Test

Level 3-5 set 1

Grammar, punctuation and spelling

Short answer questions

This test emulates the current formal SPaG test to help pupils familiarise themselves with the format and types of questions they might see.

While the level of questions used in this test has been based on the existing framework for 2013 to 2015, please do not use it or the accompanying answer sheet as a definite predictor for what will be in the actual test in May.

It is assumed that the format and content of the SPaG test will change in 2016 to reflect the new curriculum, at which point this test will be updated.

Name: _____ Date: _____

Mark: _____

Teacher use only

- 1** Choose the most suitable **conjunction** from the list below and add it to the sentence to complete it.

Jasmin worked hard at school _____ she wanted to do well.

although so until while if because 1 mark

- 2** Circle **one** word below that will make the sentence correct.

The ball was _____ by the thief.

stoled steal stealed stolen stold 1 mark

- 3** Complete the sentences below using 'I' or 'me' in the correct place.

I asked my Dad to take _____ to the football match.

Although we were tired, Joe and _____ had a great time.

Mum asked Ellie and _____ to lay the table for dinner.

1 mark

- 4** Underline any words in the sentence below that need a **capital** letter.

amy is going to germany in july to stay with her nan in berlin.

Choose **one** of the words you have capitalised, and **explain why** it needs to start with a capital letter.

Chosen word: _____

2 marks

- 5** The four sentences below each have missing verbs. Join each **verb** to its sentence. The first one has been done.

I _____ been to London recently.

are

Dad _____ made a pizza for lunch.

is

The teacher _____ taking us outside.

has

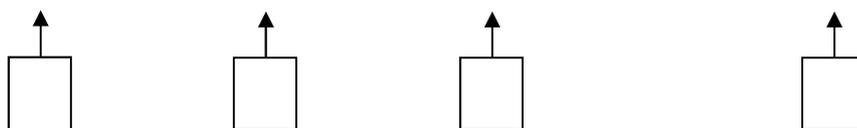
The children _____ playing nicely.

have

1 mark

- 6** Tick **one** box to show where the missing question mark should go.

Julia asked, 'Do you like my new top.' when she saw me.



1 mark

- 7** Change the command below into a **question**.

Command: 'Get my coat!'

Question: _____

1 mark

- 8** Draw lines to match the words below with their **most likely** punctuation. Use each punctuation mark **ONCE**.

Get out of there	?
Are we nearly there yet	.
I don't like ice cream	!

1 mark

9 Use the **connective** and **conjunctions** provided below to complete the sentence.

_____ Anna enjoyed dancing, she did not want to be a professional dancer, _____ Sally (her best friend) did, _____ it was going to be difficult.

but although even if

1 mark

10 Are the underlined words in the sentence **nouns** or **adjectives**? One has been done for you.

Jamie thought that the play was interesting, but Sam said he had found it dull.

	noun	adjective
interesting		✓
play		
dull		

1 mark

11 Which pair of pronouns best completes the sentence below?

The coach split _____ into groups so that _____ could all practise shooting and passing.

Tick **one**

her she

we us

I me

them they

1 mark

12 Find **one** word that can complete both sentences.

I can't wear these odd socks; they don't _____

Are you coming to the _____ on Wednesday?

1 mark

13 Which sentence uses the correct **plural** ?

Tick **one**

Are the childs in the coach yet?

Lots of peoples are going to the match.

There are twenty sheep blocking the road.

The geoses are on the loose!

1 mark

14 Which sentence contains **two** verbs?

Tick **one**

That was a very interesting lesson.

Run and find out!

Do not walk in the dangerous road.

Tom and Ali usually play football together.

1 mark

15 Which sentence below uses **commas** correctly?

Tick **one**

You, need eggs butter milk salt pepper,
a small saucepan and a wooden spoon.

You need, eggs, butter milk salt pepper
a small saucepan and a wooden spoon.

You need eggs, butter, milk, salt, pepper,
a small saucepan and a wooden spoon.

You, need eggs, butter, milk, salt, pepper,
a small saucepan and a wooden spoon.

1 mark

16 Underline all the **adverbs** in the following sentence.

Unsurprisingly, when I opened the door and peered cautiously inside, I could see you.

1 mark

17 You are looking over your writing and decide to replace the word **pretty** with another word that has a similar meaning.

The pretty box was filled with rings and necklaces.

Choose another word and write it in the box.

1 mark

18 Which of the sentences below is punctuated correctly?

When I go away, Andy my neighbour who lives next door will (look after the dog).

Tick **one**

When I go away, (Andy my neighbour) who lives next door will look after the dog.

When I go away Andy (my neighbour) who lives next door will look after the dog.

When I go away, Andy (my neighbour who lives next door) will look after the dog.

1 mark

- 19** Decide whether the words chosen from the sentences are **nouns** or **verbs**. One has been done for you.

A huge mountain rose before us. As we ascended, we realised that the climb would be extremely hard.

	noun	verb
rose		
climb		
mountain	✓	
ascended		

1 mark

- 20** Look at the passage below. Change all the verbs from the **present simple tense** to the **past simple tense**. One has been done for you.

This morning, I wake (**woke**) up with a start and realise (_____) that I have (_____) to go to school. I throw (_____) my books into my bag and run (_____) out of the door. Unfortunately, I trip (_____) and cut (_____) my knee.

2 marks

21 Underline all the **adjectives** in the sentence below.

My kindly, local post-woman always stops to say hello to the elderly people she meets, as she does her daily round.

1 mark

22 Which sentence uses **commas** correctly?

Tick **one**

Although, I tried hard to learn my spellings, I seem to have got most of them wrong.

Although I tried hard to learn my spellings, I seem to have got most of them wrong.

Although I tried hard to learn my spellings, I seem, to have got most of them wrong.

Although I tried hard, to learn my spellings, I seem to have got most of them wrong.

1 mark

23 Circle the **connective** in the sentence below.

Meanwhile, Jo, who could not run as fast as Maia, was lagging behind in the race.

1 mark

- 24** Write a correctly punctuated **question** beginning with the word below.

Where _____

1 mark

- 25** Write the correct **singular** or **plural** form for the nouns in the spaces below. One has been done for you.

One fox, several foxes.

One _____, a pack of wolves.

One tomato, a bowl of _____.

One _____, a herd of deer.

1 mark

- 26** Which of these should be written as two separate sentences?

Tick **one**

Lucy is my best friend because she is kind.

Amir does not like maths, he prefers English.

You don't like going shopping, do you?

I'm not good at football but I am good at rugby.

1 mark

- 27** Put **three** commas in the correct place in the sentence.

Please buy me some broccoli a cauliflower a pack of cheddar a pint of milk and some butter.

1 mark

- 28** Rewrite the sentence below using a more effective word for **said**.

‘Come down here at once!’ said Dad. ‘Who gave you permission to sell my bike?’

Write your sentence here.

1 mark

- 29** Underline all the **nouns** in the sentence below.

The red roses in the garden were lovelier than any that Anna’s father had ever seen before.

1 mark

30 Which **two** of these sentences are statements?

Tick **two**

Turn that light out!

He crumpled the pages of his book.

Where are you going?

Stop doing that!

He put his things down on the table.

1 mark

31 The word 'rose' has several different meanings. Write **two** sentences that show the different meanings.

1. _____

2. _____

1 mark

32 Put a letter in each box to show the **word class**.

A noun

B verb

C adjective

D adverb

The sly fox jumped quickly over the lazy dog.

↑

↑

↑

↑

↑

1 mark

33 Which words are nearest in meaning to the **opposite** of 'infrequently'?

Tick **one**

thoroughly / properly

often / many times

seldom / occasionally

painfully / with difficulty

1 mark

34 Use the correct form of the **verb** to complete the sentences from the choices in the table.

We _____ you very well.

She _____ very happy on her birthday.

They _____ want to come to dinner tomorrow.

He _____ that he saw you in the library.

was / were	do / does
think / thinks	know / knows

1 mark

35 Write two different **adverbs** in the spaces below to add to the description of what Jill (the cat) is doing.

Jill stretched _____ in the warm sunshine
and rolled over _____ on the grass.

1 mark

36 Put a **tick** in the correct column to show whether the underlined words are a **main** clause or a **subordinate** clause.

	main clause	subordinate clause
<u>Although I like school</u> , I don't like doing homework.		
<u>John</u> , who is older than I am, <u>likes to tease me</u> .		
The laptop, <u>which you have just touched</u> , is broken.		
<u>I need to put the dishes there</u> , where there is room.		

1 mark

37 Rewrite the passage below adding appropriate **punctuation**.

it was raining heavily while meg was walking to connie's house she stepped in a big puddle and got her feet wet

1 mark

- 38** Add a prefix (a letter or group of letters) to the beginning of each word to give it an **opposite** meaning.

_____ pleasant
_____ probable
_____ legible
_____ understanding

1 mark

- 39** Punctuate the following direct speech correctly by adding **inverted commas**.

The last English king of England, said the teacher,
was Richard the Third, whose body has just been
discovered under a car park in Leicester.

1 mark

- 40** Underline which of these words makes **happy** an adverb.

happier happily happiness happily happiest

1 mark

41 Is the apostrophe in each sentence one of **omission** or **possession**? Tick the correct box for each.

	omission	possession
The best writing in the class is Jenny's.		
I know it's difficult, but please try.		
Jenny's the best creative writer in our class.		

1 mark

42 Use a **contraction** to replace the words underlined and write them in the spaces in the sentences below.

1. You have got to hurry or you will be late.

_____ got to hurry or _____ be late.

2. I would not have been late if I had seen the time.

I _____ been late if _____ seen the time.

2 marks

43 Underline the **preposition** in the sentence below.

The barrier is open: walk through it please.

1 mark

44 Put a **tick** in the correct column to show whether the underlined part of each sentence is a **phrase** or a **clause**.

	phrase	clause
Storm clouds boiled <u>across the grey, windswept sky</u> .		
<u>As we walked outside</u> , the force of the wind hit us.		
Our umbrellas, <u>which were flapping in the breeze</u> , instantly turned inside out.		
Hastily, we retreated indoors, <u>into the warmth and comfort of our cosy house</u> .		

2 marks

45 The sentence below contains several examples of an **article**. Underline each one.

Everyone says that an apple a day keeps the doctor away, but I'd like to know if a pear works just as well.

1 mark

46 Circle the word that is closest in meaning to **iridescent** in the sentence below.

The peacock's feathers were iridescent in the sunlight.

purple bold elegant shimmering

1 mark

Our quick, easy to do activities provide fun ideas to get children practising their computational thinking skills.

Split into the six computational thinking concepts it's easy to discover new ways to introduce and reinforce learning from school and at home.

Algorithms - Making steps and rules

Cooking

Activity

Make something to eat with your child. Can they draw or write the instructions (an algorithm) for someone else to follow to recreate the dish?

Learning

Algorithms are used in everyday life, such as recipes. It is just producing a set of instructions or rules which can be followed accurately.

My Amazing Game

Activity

Ask your child to invent a game to play around the house and write out the rules (an algorithm). Play the game with them - do the rules explain everything about how to play? Can you find any loop holes in their rules?

Learning

Algorithms can be rules as well as a sequence of instructions. The rules need to be precise and specific.

Robotify Me

Activity

Ask your child to write the instructions (an algorithm) for something they've done today. Would a robot version of themselves be able to follow this? Is their algorithm precise enough? Test it!

Learning

Here your child has written an algorithm. Algorithms are a precise sequence of instructions or set of rules for completing a task.

Timetable

Activity

Ask your child to create a step-by-step timetable for tomorrow. What will they do first? Next? Then? Can they present their timetable in an easy to read format for others to follow?

Learning

Algorithms can be presented in different ways, here our timetable showing what we will do first, second, next is an algorithm.

Teddy Hunt

Activity

Ask your child to hide their teddy/toy in another room in the house. Ask them to draw, write or speak the instructions (an algorithm) for someone to find it. They need to be precise with their instructions if they want their teddy found quickly!

Learning

This activity helps demonstrate why algorithms need to be precise. If they're not, the teddy won't be found!

Abstraction - Removing unnecessary detail

I Tell

Activity

Play the game, 'I Tell' with your child which is like 'I spy', but you use 3 adjectives to describe the item you're thinking of and see if the other person can guess it.

Learning

Abstraction is about simplifying things and focusing on important information. This game helps your child focus on the important adjectives which describe what they're thinking of.

Abstract Art

Activity

Create a piece of abstract art with your child. Choose an inspiration for your art (person, object, view) but rather than recreating this exactly, use simplified shapes to represent what you can see. E.g. triangles for trees, or an oval for a face.

Learning

Here your child is creating an abstraction within their artwork. They're not trying to reproduce what they see exactly, but are representing key features with simplified shapes.

Timetable

Activity

Ask your child to create a timetable for tomorrow set out as a table. What are the key activities they will do? How will the day be structured?

Learning

A timetable is an example of an abstraction as it contains key events but doesn't include unnecessary detail - like 'nipping to the toilet between English and Maths'!

5 Word Film Game

Activity

Ask your child to think of a film. Ask them to describe it using 5 key words or less. Can you guess the film they were thinking of? For example: Princess, Prince, Snowman?

Learning

This game encourages your child to abstract as they think of the key features of the film to help someone guess.

My Magnificent Movie

Activity

Ask your child to create a storyboard for a movie they'd like to make which provides a summary of the main events in the plot.

Learning

The storyboard your child creates is an abstraction as it summarises their ideas for a movie, providing the key features and not all the detail.

Mini Missions

to build computational thinking skills

Evaluation - Making judgements

WWW **Activity**

We're not talking about websites here, but 'What Worked Well!' Ask your child about the work they completed yesterday, what went well? How do they know - what criteria are they using to measure their success against?

Learning

Evaluation is about making judgements in a systematic way. Here your child is evaluating their own efforts by considering what criteria to judge themselves against.

Be a Critic **Activity**

Ask your child to write a review of a book or film. Before writing the review, come up with a set of success criteria. E.g. exciting plot, interesting characters.

Learning

Here your child is evaluating the work of others against a set of criteria which they have defined. They are making systematic judgements.

My Daily Workout **Activity**

Ask your child to design a workout for members of their family. Consider what would make a good workout first, and create a success criteria list.

Try your child's workout with your family and ask everyone to evaluate it against the criteria.

Learning

Here your child identifies the criteria for evaluation of a successful workout. They receive feedback on their workout against these criteria.

A New Healthy Sandwich **Activity**

Can your child come up with a sandwich that both tastes great and is healthy? Let them create their sandwich and evaluate it themselves. Have other family members try it and give feedback too.

Learning

Here your child has been given a challenge and the criteria against which it will be evaluated. They self evaluate their own efforts and receive feedback from family members.

Be an Engineer **Activity**

Using any construction materials, challenge your child to build the tallest tower. Discuss success criteria - it must stand up on its own for example. Encourage your child to regularly evaluate their tower against the criteria and use this evaluation to make changes.

Learning

Your child is regularly evaluating their tower and making use of their ongoing self evaluation to inform changes in their design.

Decomposition - Breaking down into parts

Break it Down **Activity**

Ask your child to choose an item they can see. Ask them to sketch it and break it down by labelling as many different parts as possible. This can be run as a competition - who can break it down the most?

Learning

In computing decomposition allows us to break complex tasks into more manageable tasks. Here your child practises decomposing objects around them.

Design your ideal back garden **Activity**

Ask your child to look at their own garden or think of a local green space and break it down into different parts.

Grass, patio, decking, pond, vegetable patch. Get them to design their own perfect garden by sketching ideas for each part.

Learning

Here your child has made the task of designing a garden easier by breaking it down and looking at each section separately.

Comic Flick Book **Activity**

With your child, cut, fold and staple paper into a little flick book. Ask them what they want to happen in their animation and together break this down into steps for the drawings on each page.

Learning

Here your child has decomposed the animation into a sequence of individual images. What other animations can your child create?

Design an App **Activity**

Ask your child to think up a new app. This could be a game, fitness or travel app for example. Ask them to create a design for the app by breaking it down and sketching out the different screens the user will see.

Learning

Decomposing the app down into the different screens allows your child to create a design to illustrate how their app would work.

Dodgy Dance Moves **Activity**

With your child select a favourite party song which you can learn the dance to, such as the YMCA or Macarena. To learn the moves, break the song down into different sections, then look at the actions for each section.

Learning

Decomposing the dance sequence down into verse, chorus and then smaller chunks makes the task of learning the moves easier.

Mini Missions

to build computational thinking skills

Pattern – Spotting and using similarities

Garden grab

Activity

Ask your child to pick a range of leaves or petals (carefully) and sort them based on similarities and differences. How many different ways can they sort them? What features are they using to sort them?

Learning

Your child is making careful observations and identifying similarities and differences between objects, which helps identify patterns.

What's next?

Activity

Using a variety of fruits or other suitable food (e.g. pasta pieces) arrange a repeating pattern and ask your child to predict what comes next and explain how they know.

Learning

By spotting similarities and differences, your child can identify patterns and create rules to predict what comes next.

Tidy up!

Activity

Ask your child to tidy their wardrobe! Can they sort their clothes based on similarities? They could sort by colour, purpose or even how much they like wearing them.

Learning

Identifying similarities and differences between objects helps us to identify patterns. Here your child might spot a pattern that all their favourite clothes are yellow for example.

Kitchen cupboards

Activity

Ask your child to help sort the kitchen cupboards. What food goes where and why? Can your child spot patterns in where different foods are stored? Can they use these patterns to predict where new food from the shops might be stored?

Learning

Your child is identifying similarities and differences and spotting patterns, which can help them to make predictions about where new foods might be stored.

And the next number is...

Activity

Provide your child with a range of number sequences which follow a rule, for example: 2,4,6,? or 3,8,18,? Can they work out the rule and give the next number in the sequence?

Learning

By spotting similarities between each consecutive number, we can work out rules which govern patterns and predict what will come next.

Logic – Predicting and analysing

Noughts & Crosses

Activity

Play this classic game with your child. This game is full of logical thinking. Ask your child to explain where they plan to go with each move and why.

Learning

This game encourages your child to think logically about the implications of each move. Encourage them to share their thought process.

Magic Square

Activity

Provide your child with a 3x3 square. Can they add the digits 1–9 using each digit once so that all the rows, columns and diagonals add up to 15? Encourage your child to explain their thinking as they tackle the challenge.

Learning

This maths puzzle helps your child develop both trial and improvement, and logical reasoning skills.

Boxes

Activity

With your child, take turns to join dots with a line on dotted paper. Whoever completes a square puts their initial in it and gets an extra turn. The winner is the player with the most completed squares.

Learning

This game encourages your child to think logically about the implications of each move so as not to give their opponent the advantage.

Triangles

Activity

Ask your child to lay 10 objects to create a flat pyramid pattern:



Challenge them to move only three items so the triangle points downwards instead of upwards?

Learning

To complete this puzzle your child must think logically about which items to move. Encourage them to share their thought process.

Bedroom BattleShips

Activity

Play this classic game with your child by creating a giant grid and using a variety of teddys to represent ships. Encourage your child to think logically about where to strike next and why.

Learning

Once you've got a 'hit', this game encourages your child to think logically in order to try and sink the ships (teddys) with as few shots as possible.



Activities for 8-10s

Number 1, 24/03/2020

Activity 1: Watch Play Like Share, Episode 1

- Find *Play Like Share* at www.thinkuknow.co.uk/8_10/watch/
- Watch *Episode 1: Block Him Right Good, Alfie* with your child.
- Use the following questions to chat about the cartoon:
 - **What did you think? What did you like about Play Like Share?**
 - **What different things do Sam, Ellie and Alfie do online?** [E.g. make videos, talk to people, learn to sing, share their songs]
 - **What problem did Alfie face at the beginning of the cartoon?** [Another gamer messaged Alfie, asking to game with him. Alfie said no as he had to go to school]
 - **How did the gamer make Alfie feel?** [Happy at first and then uncomfortable and worried when he started making threats]
 - **What did Alfie do when he realised something wasn't right?** [Didn't reply. Told a trusted adult, his mum. Blocked the gamer. Reported to the website.]
 - **What happened when Selfie's video was made public? How did it make them feel?** [People they didn't know wrote nasty or strange comments. Received links to adverts. They felt worried and uncomfortable.]

Activity 2: Design a poster for Selfie

- Ask your child to create a poster for Sam, Ellie and Alfie's new band *Selfie*. Encourage them to come up with a design that shows off each character's talents and personality.
- We'd love to see your work! If you like, find us on Facebook (**Click CEOP**) and share a photo of your child's picture.
Artwork only please! Do not share your child's name or personal information, or any pictures of your child.

About Thinkuknow

Thinkuknow is the online safety education programme from the National Crime Agency. Once a fortnight, On Tuesdays, we will produce an activity sheet to help you support your child while schools are partially closed.

You'll find lots of support and advice for parents and carers on keeping your child safe online at: <https://www.thinkuknow.co.uk/parents/>

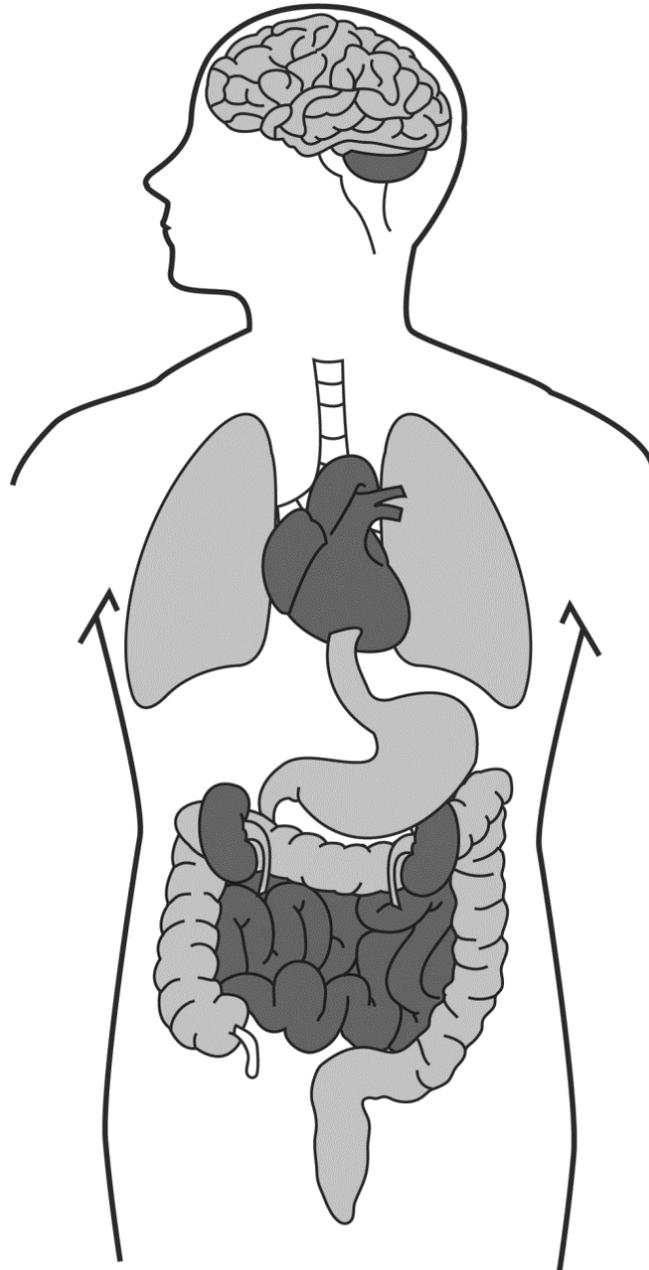
Worksheet 1.1

Label body organs

Name: _____ Date: _____

Label the drawing of body organs. Use the words in the box to help you.

brain heart intestines kidneys liver lungs stomach



Worksheet 1.2

How William Harvey explained circulation

Name: _____ Date: _____

Read about how William Harvey's observations and experiments led him to understand and explain how the circulatory system works.

William Harvey was an English doctor who lived 400 years ago. At that time, doctors and scientists thought that the lungs moved the blood around the body and that the body used up the blood for energy as it flowed to the different organs. They also thought the heart's job was to control our feelings. Harvey observed water pumps in London which gave him the idea that the heart pumped blood around the body. He studied the heart and blood vessels and carried out experiments. He was very thorough in his work and spent many hours repeating experiments and going over every detail. He also read the work of early doctors to help him build up his own ideas.

Harvey's results showed him that the heart works by muscle contraction to pump blood to body organs and that blood is carried away from the heart by arteries and returns to the heart through veins. He observed that in one hour the heart pumps more than the body's weight in blood. This showed him that the body did not use up the blood that flowed to body organs. Harvey explained how blood flows in one direction throughout the body and that gases enter and leave the blood in the lungs.

William Harvey's work became so admired that he became the court physician to King Charles I, who took a great interest in his work on circulation.

1 What incorrect ideas did doctors and scientists have about circulation 400 years ago?

2 What observation made William Harvey start to think about how the heart works?



Worksheet 1.2

3 a How did Harvey obtain evidence about how the circulatory system works?

b Why did he repeat his experiments?

4 a How did Harvey show that the body does not use up the blood that flows to the organs?

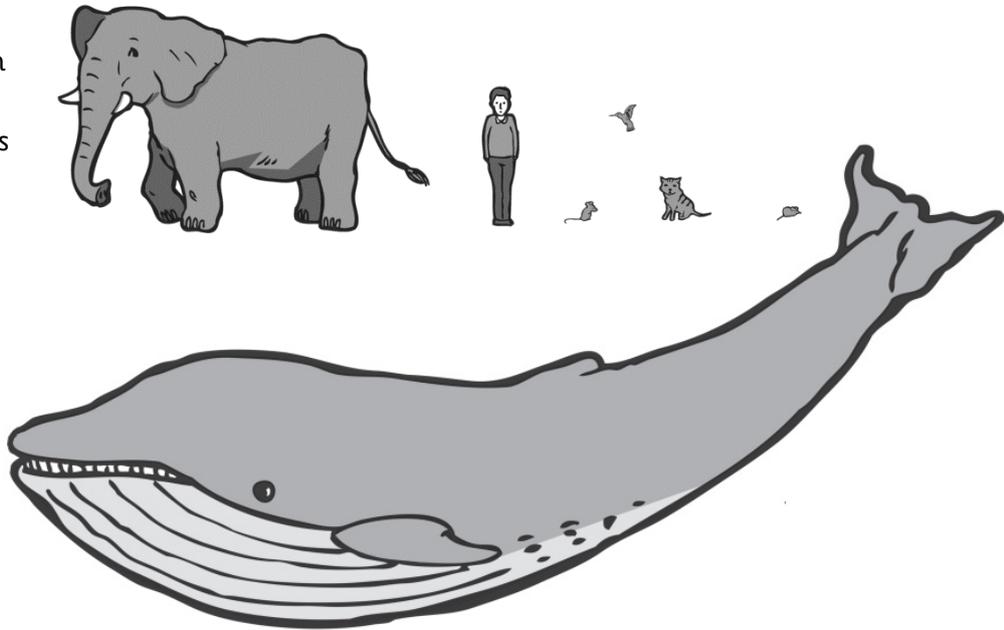
b Name **three** other discoveries that William Harvey made about the circulatory system.

Worksheet 1.3a

Comparing heartbeats

Name: _____ Date: _____

Some animals have faster heartbeats than others. The table shows some of them.



Animal	Heartbeat in beats per minute
human	70
elephant	30
mouse	500
blue whale 1	10
cat	150
humming bird	1300

1 a Which animal has the fastest heartbeat? _____

b Which animal has the slowest heartbeat? _____

2 a Which animal is the biggest? _____

b Which animal is the smallest? _____

3 a List the animals in the table according to their heartbeats. Start with the slowest heartbeat.

b What pattern do you notice in the results?

Worksheet 1.3a

4 a Write a conclusion about animal heartbeats from these results.

b Predict the heartbeat of a:

horse _____ shrew _____

c Do some research to find out if your prediction is true or not. Does the evidence support your prediction?

Challenge:

When the average bat hibernates, its heart rate drops to about 20 beats per minute. Why is this so?

Worksheet 1.3b

Draw a bar chart of pulse rate

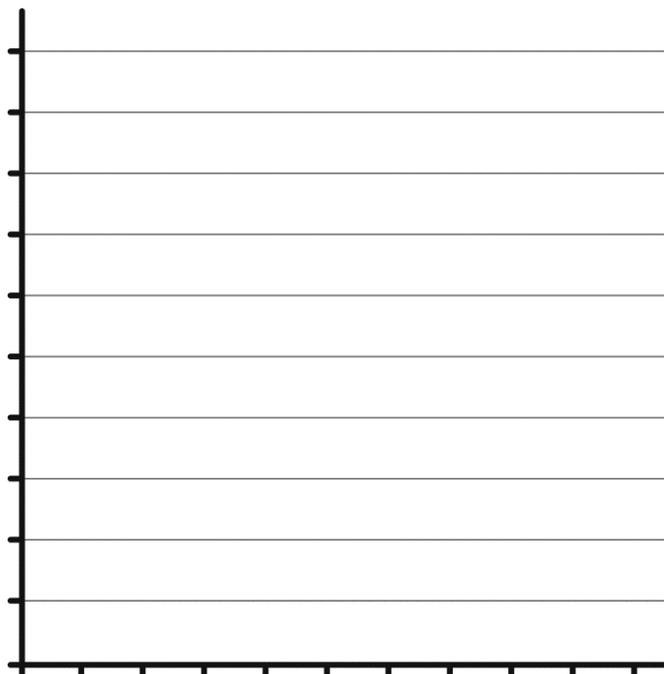
Name: _____ Date: _____

Bo and Fang measured the pulse rate of some of their friends before and after exercising for three minutes. These are their results.

Name	Pulse rate before exercise	Pulse rate directly after exercise
Bo	91	120
Fang	88	122
Ming	90	128
Kumei	89	125

1 What equipment did they need to measure the pulse rates?

2 Draw and label a bar chart of the pulse rates measured.



3 a Use the results to draw a conclusion.

b Predict what would happen to the pulse rates if the friends exercised for longer.

Worksheet 1.3c

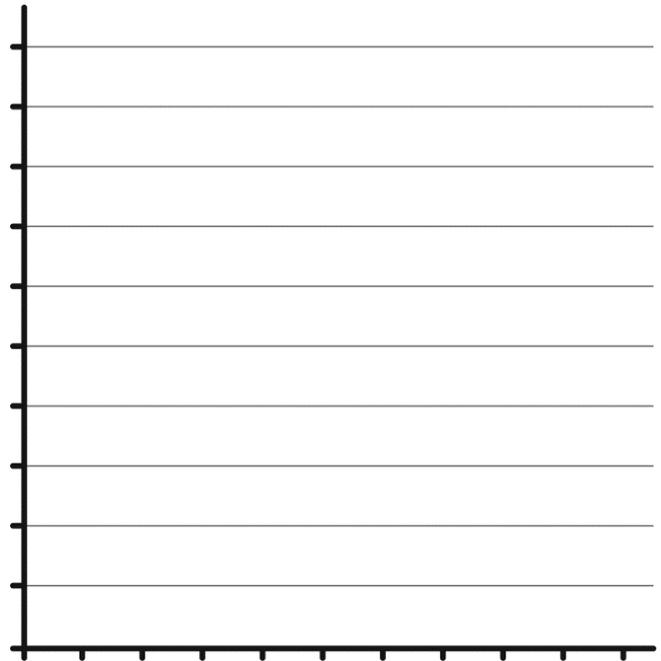
Draw a line graph of pulse rate

Name: _____

Date: _____

Mr Mitchell measured the effect of exercise on his pulse rate.

Time since exercise started in minutes	Pulse rate in heartbeats per minute
0	70
5	80
10	90
15	100
20	120
25	140



1 Draw a line graph to present these results.

2 Predict the pulse rate five minutes after exercise ends. Extend your graph to show your prediction.

3 By how much did Mr Mitchell's pulse rate increase after 25 minutes?

4 Explain why pulse rate increases as you exercise more.

Roll a Picture

- Divide your page (ideally A4) into 6 sections.
- Create 6 small sketches using the dice game below.
- Colour in your illustrations



ROLL-A-LANDSCAPE

1st Turn Air/Sky						
2nd Turn Background						
3rd Turn Foreground						
4th Turn Trees						
5th Turn Flowers						
6th Turn Extras						



ROLL-A-FACE

1st Turn Face Shape						
2nd Turn Eyes						
3rd Turn Nose						
4th Turn Mouth						
5th Turn Ears						
6th Turn Hair						