

The Solar System

	Distance from Sun	Temperature
Mercury	46- 70 million km	Between -173 °C and 420 °C
Venus	108.2 million km	462 °C
Earth	149.5 million km	16 °C
Mars	227.9 million km	-28 °C
Jupiter	778.5 million km	-108 °C
Saturn	1.433 billion km	-138 °C
Uranus	2.877 billion km	-195 °C
Neptune	4.503 billion km	-201 °C

The Solar System is the Sun, the Earth and all of the other planets, asteroids and comets that are bound to the Sun by gravity.

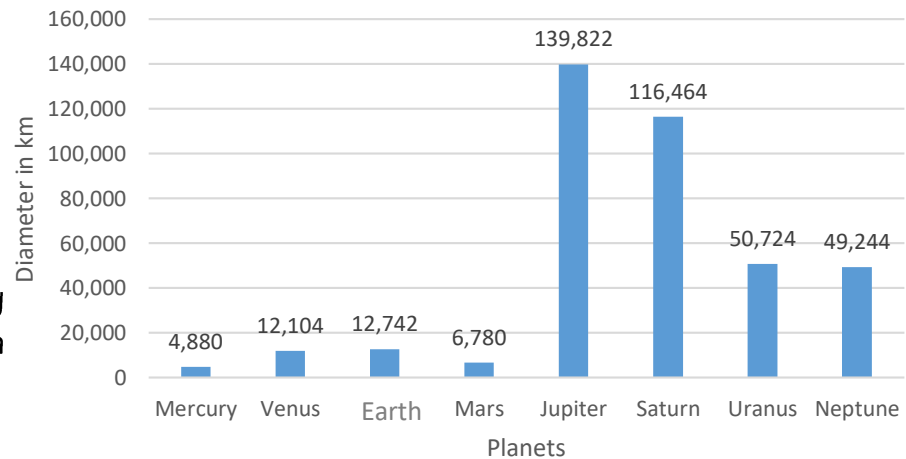
The biggest planet is Jupiter; in fact, it's so big that it is the size of 1,321 Earths! However, the Sun is even bigger. It would take an amazing 1.3 million Earths to fill the same volume as the Sun! The four planets closest to the Sun are made from rock and the next four planets (known as gas giants) are made from gas. The atmosphere on each planet is very different, although there are some similarities: Neptune, Uranus, Saturn and Jupiter all have rings; neither Mercury or Venus have moons; and all the planets except for Venus rotate in the same direction.

The Sun

The Sun is the huge star at the centre of our solar system. Like the other stars in the sky, it is a giant ball of hot gas which is the primary source of all energy on Earth. Without the Sun, we would have not light or heat, meaning that Earth would consist only of ice.

The sun is 93,000,000 miles from the Earth, but amazingly the light from the Sun only takes 8 minutes to reach us! In comparison, the Moon is 239,000 miles away from us.

The diameter of each planet in our solar system



The Solar System

- 1) What is the difference between the temperature on Earth and the temperature on Mars?
- 2) Complete this grid using < and > to compare the sizes of these planets.

Earth Mars

Jupiter Saturn

Neptune Uranus

Mercury Mars

Earth Venus

- 3) How many times would Earth fit into the Sun?

1,030,000 1,300,000 1,000,000.3 1.3 1.300,000

- 4) What is the sum of the diameter of Neptune and the diameter of Mercury?
- 5) What is the diameter of each of the planets rounded to the nearest 1,000?

- 6) Complete this table with the names of the planets

	Has moons	Does not have moons
Has rings		
Does not have rings		

- 7) How much further away is the Sun than the Moon from Earth?
- 8) What is the difference in temperature between Uranus and Saturn?

The Solar System ANSWERS

- 1) What is the difference between the temperature on Earth and the temperature on Mars? **44 °C**
- 2) Complete this grid using < and > to compare the sizes of these planets.

Earth < Mars

Jupiter > Saturn

Neptune < Uranus

Mercury < Mars

Earth > Venus

- 3) How many times would Earth fit into the Sun?

1,030,000 1,300,000 1,000,000.3 1.3 1.300,000

- 4) What is the sum of the diameter of Neptune and the diameter of Mercury? **54,124 km**
- 5) What is the diameter of each of the planets rounded to the nearest 1,000? **Mercury 5,000 km, Venus 12,000 km, Earth 13,000 km, Mars 7,000 km, Jupiter 140,000 km, Saturn 116,000 km, Uranus 51,000 km, Neptune 49,000 km**

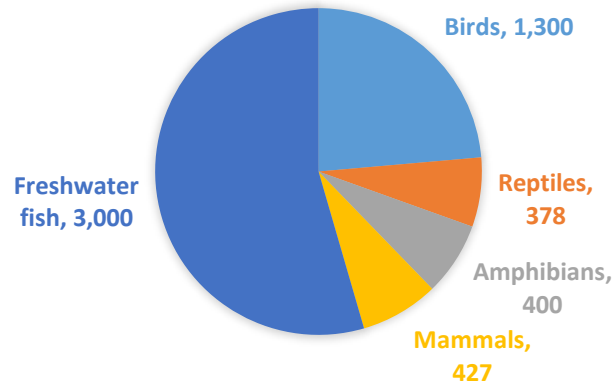
- 6) Complete this table with the names of the planets

	Has moons	Does not have moons
Has rings	Neptune Uranus Saturn Jupiter	
Does not have rings	Earth Mars	Mercury Venus

- 7) How much further away is the Sun than the Moon from Earth? 92,761,000 miles.
- 8) What is the difference in temperature between Uranus and Saturn? **57 °C**

The Amazon Rainforest

Number of vertebrate species in the Amazon rainforest



The Amazon is the world's largest tropical rainforest, covering over 5.5 million square km- that's 17 times the size of the UK and Ireland! It spans a number of countries in South America: Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname and French Guiana. The Amazon river (a network of waterways that stretches 6,400 km) runs through it, and is believed to be the second longest river in the world. It has a very rich ecosystem, with over 40,000 different plant species and an amazing 2.5 million different types of insects! It is estimated that half of the world's plants and animals are found in tropical rainforests. Sadly, experts estimate that we are losing 137 plant, animal and insect species every day due to rainforest deforestation, which is roughly 50,000 species a year.

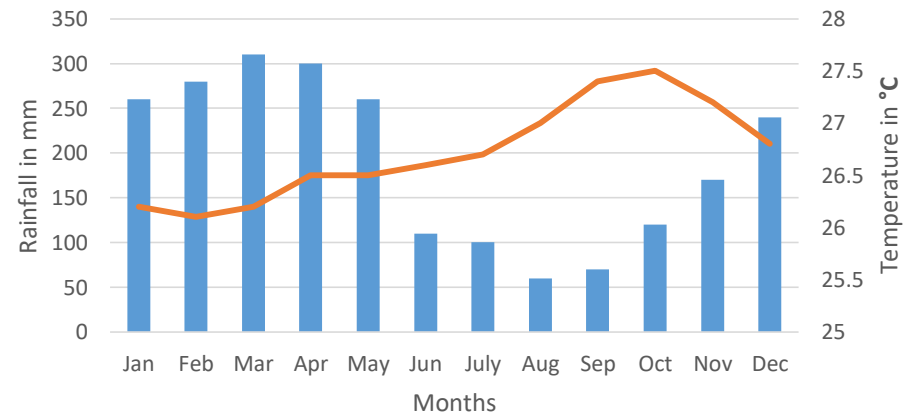
Layers of the rainforest

There are four key layers of the rainforest: the emergent layer with the very tallest trees (reaching about 60 metres); the canopy layer with the branches and leaves of most of the rainforest's trees; the understory layer with small trees and shrubs that can survive in low-light conditions; and the forest floor, which is a dark and damp layer where the largest animals are found. Amazingly, only 2% of the sunlight reaches the forest floor!

Fascinating facts:

- 20% of the world's fresh water is in the Amazon Basin
- At least 3,000 fruits are found in rainforests, but only 200 are now used in the Western World.
- Rainforests once covered 14% of the Earth's surface, but it now covers just 6%

Average temperature and rainfall in the Amazon rainforest



The Amazon Rainforest

1) Which of these fractions best shows the proportion of rainforest fruits used in the Western world?

$$\frac{2}{3000} \quad \frac{1}{2} \quad \frac{1}{15} \quad \frac{2}{3}$$

2) What is the difference between the number of plant species and the number of insects found in the Amazon rainforest ?

3) How many countries does the Amazon span?

4) Approximately how many plant, animal and insect species are lost in a week due to rainforest deforestation?

5) True or false?

There is more than 100mm of rain every month	
October is the warmest month	
March is the driest month	
February is the coolest month	

6) What fraction of the world's fresh water is in the Amazon Basin?

7) How long is the Amazon river to the nearest 1000?

8) How many species of birds, reptiles, amphibians and mammals are there altogether in the Amazon rainforest?

9) The Nile is 6,650 km. What is the difference in length between the Nile and the Amazon?

10) What percentage of the world's plants and animals are found in tropical rainforests?

The Amazon Rainforest- ANSWERS

1) Which of these fractions best shows the proportion of rainforest fruits used in the Western world?

$$\frac{2}{3000} \quad \frac{1}{2} \quad \frac{1}{15} \quad \frac{2}{3}$$

2) What is the difference between the number of plant species and the number of insects found in the Amazon rainforest? **2,460,000**

3) How many countries does the Amazon span? **9**

4) Approximately how many plant, animal and insect species are lost in a week due to rainforest deforestation? **959**

5) True or false?

There is more than 100mm of rain every month	False
October is the warmest month	True
March is the driest month	False
February is the coolest month	True

6) What fraction of the world's fresh water is in the Amazon Basin? $\frac{1}{5}$

7) How long is the Amazon river to the nearest 1000? **6,000 km**

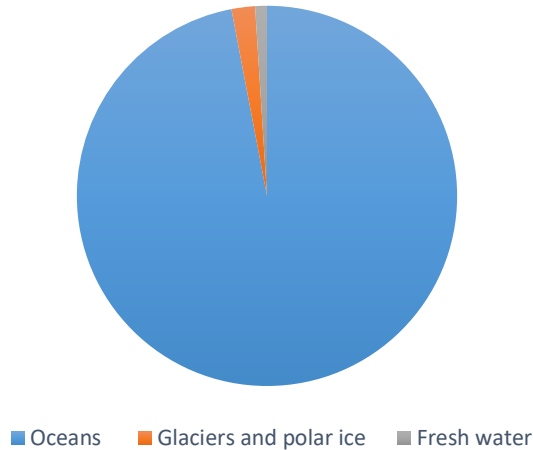
8) How many species of birds, reptiles, amphibians and mammals are there altogether in the Amazon rainforest? **2,505**

9) The Nile is 6,650 km. What is the difference in length between the Nile and the Amazon? **250 km.**

10) What percentage of the world's plants and animals are found in tropical rainforests? **50%**

Rivers

Pie chart showing Earth's water



A river is fresh water flowing across the surface of the land, most often to join the sea. All rivers flow downhill, but they can be all different shapes and sizes. Some rivers join together to make bigger rivers. There are many rivers in different countries across the world, but there are only 76 rivers that measure over 1000 miles long. Amazingly, the USA alone has about 3.5 million miles of rivers! Many people mistakenly think that all rivers run south; however 4 of the ten longest rivers in the world flow north.

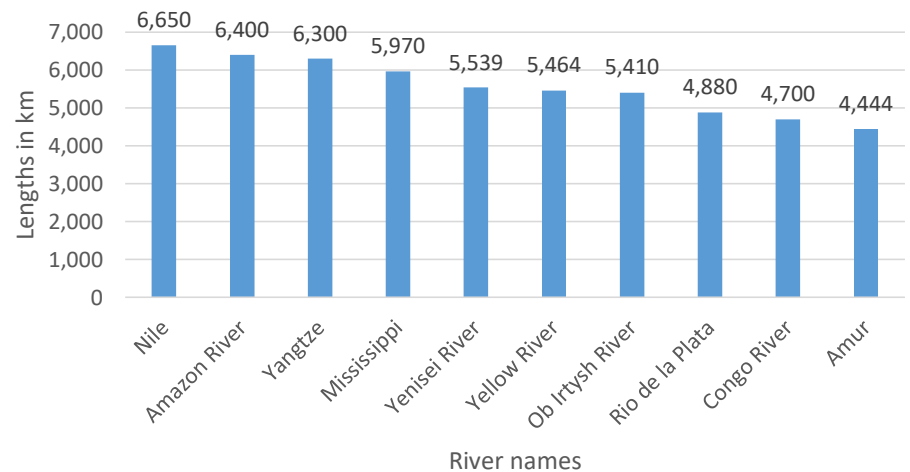
Rivers in the UK

As the UK is not as vast as many areas of land in the world, it does not have very long rivers as the hills and mountains where the rivers begin are not very far from the coast. The longest river in the UK is the River Severn, which is 354 km long. The second longest is the River Thames (346 km) which is famous for running through London, and is also the deepest river in Britain. One of the shortest named rivers in England is the River Bain, measuring in at only 3.95 km!

Settling beside rivers

The earliest civilisations settled beside rivers as they provided a steady source of fresh food and water, water for cleaning and a means to travel and trade.

The lengths of the 10 longest rivers in the world



Rivers

- 1) What percentage of the ten longest rivers in the world flow north?
- 2) Where is most of the water on Earth found?
- 3) In words, how many miles of rivers does the USA have?
- 4) What is the difference between the two longest rivers in the UK?
- 5) What is the sum of the four longest rivers in the world?
- 6) How many of the 10 longest rivers in the world are between 5,000 and 6,000 km long?
- 7) What is the difference between the third and the seventh longest rivers in the world?
- 8) What is the difference in length between the River Thames and the River Bain?
- 9) If 5 miles is approximately 8 km, which of these is the closest estimate for the length of the River Bain in miles?
4 miles 2 miles 2.5 miles 5.5 miles
- 10) What fraction of the 10 longest rivers in the world flow south?
- 11) What is the length of each river rounded to the nearest 100km?

Rivers- ANSWERS

- 1) What percentage of the ten longest rivers in the world flow north? 40%
- 2) Where is most of the water on Earth found? In oceans
- 3) In words, how many miles of rivers does the USA have? Three million, five hundred thousand
- 4) What is the difference between the two longest rivers in the UK? 8 km
- 5) What is the sum of the four longest rivers in the world? 25,320 km
- 6) How many of the 10 longest rivers in the world are between 5,000 and 6,000 km long? 4
- 7) What is the difference between the third and the seventh longest rivers in the world? 890 km
- 8) What is the difference in length between the River Thames and the River Bain? 342.05 km
- 9) If 5 miles is approximately 8 km, which of these is the closest estimate for the length of the River Bain in miles?
4 miles 2 miles 2.5 miles 5.5 miles
- 10) What fraction of the 10 longest rivers in the world flow south? $\frac{3}{5}$
- 11) What is the length of each river rounded to the nearest 100 km? Nile 6,700 km, Amazon 6,400 km, Yangtze 6,300 km, Mississippi 6,000 km, Yenisei 5,500 km, Yellow 5,500 km, Ob Irtysh 5,400 km, Rio de la Plata 4,900 km, Congo 4,700 km, Amur 4,400 km

Volcanoes

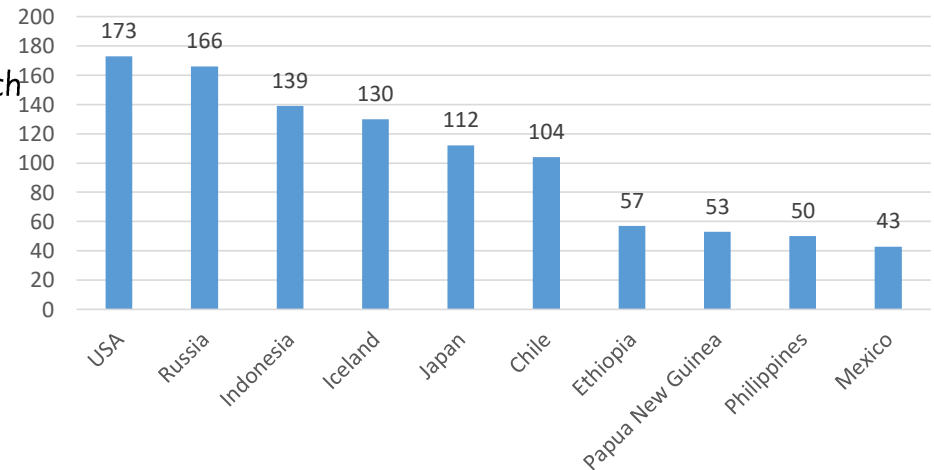
Tallest volcanoes in each continent		
Volcano	Height	Continent
Ojos del Salado	6,893m	South America
Kilimanjaro	5,895 m	Africa
Elbrus	5,642 m	Europe
Pico de Orizaba	5,636 m	North America
Damavand	5,610 m	Asia
Mount Giluwe	4,368 m	Australia
Mount Sidley	4,285 m	Antarctica

A volcano is an opening in the Earth's crust which allows magma (rock that has become so hot that it has turned to liquid known as molten rock), hot ash and gas to escape. When magma reaches the surface of the Earth, it is called lava. Amazingly, the lava from a volcano can reach 1,250°C!

On average, there are 60-80 volcanic eruptions a year, and there are about 1,500 potentially active volcanoes around the world. About 350 million people live within the 'danger zone' of an active volcano, which is about 1 in 20 people in the world!

- One of the most famous volcanic eruptions in the world was when the Italian town of Pompeii was destroyed by Mount Vesuvius in 79AD.
- There are volcanoes in other planets and moons too. The largest volcano in the solar system is Olympus Mons, which is found on Mars and is a whopping 25 km tall!
- The Pacific Ring of Fire is an 40,000 km long arc around the Pacific Ocean where many volcanoes and earthquakes occur. About three quarters of the world's dormant and active volcanoes are found here (approximately 452).
- The loudest sound in recorded history was made when Krakatau erupted in 1883.
- Eruptions can send ash as high as 32 km up in the air!

Number of volcanoes by country



Volcanoes

- 1) How many times hotter than the boiling point of water can the temperature of lava reach?
- 2) What percentage of the population of the world lives in the 'danger zone' of a volcano?
- 3) How long after the eruption of Mount Vesuvius did Krakatau erupt?
- 4) What is the difference in height between Olympus Mons and Ojos del Salado?
- 5) What percentage of the world's active and dormant volcanoes are found in the Ring of Fire?
- 6) What is the difference in height between Kilimanjaro and the tallest volcano in Europe?
- 7) What is the sum of the number of volcanoes in Indonesia, Mexico and Chile?
- 8) How many people live in the 'danger zone' of an active volcano?
35,000,000 3,500,000 350,000,000 305,000,000
- 9) What is the sum of the height of Damavand, Elbrus and Mount Giluwe?
- 10) If 8 km is approximately equal to 5 miles, how many miles high can ash from eruptions be sent?
- 11) What is the height of each volcano to the nearest 10m?

Volcanoes- ANSWERS

- 1) How many times hotter than the boiling point of water can the temperature of lava reach? 12.5
- 2) What percentage of the population of the world lives in the 'danger zone' of a volcano? 5%
- 3) How long after the eruption of Mount Vesuvius did Krakatau erupt? 1804 years
- 4) What is the difference in height between Olympus Mons and Ojos del Salado? 18,107 m
- 5) What percentage of the world's active and dormant volcanoes are found in the Ring of Fire? 75%
- 6) What is the difference in height between Kilimanjaro and the tallest volcano in Europe? 253 m
- 7) What is the sum of the number of active volcanoes in Indonesia, Mexico and Chile? 286
- 8) How many people live in the 'danger zone' of an active volcano?
35,000,000 3,500,000 350,000,000 305,000,000
- 9) What is the sum of the height of Damavand, Elbrus and Mount Giluwe? 15,620 km
- 10) If 8 km is approximately equal to 5 miles, how many miles high can ash from eruptions be sent? 20 miles
- 11) What is the height of each volcano to the nearest 10m? Ojos del Salada 6,890 m, Kilimanjaro 5,890 m, Elbrus 5,640 m, Pico de Orizaba 5,640 m, Damavan 5,610, Mount Giluwe 4,370 m, Mount Sidley 4,290 m

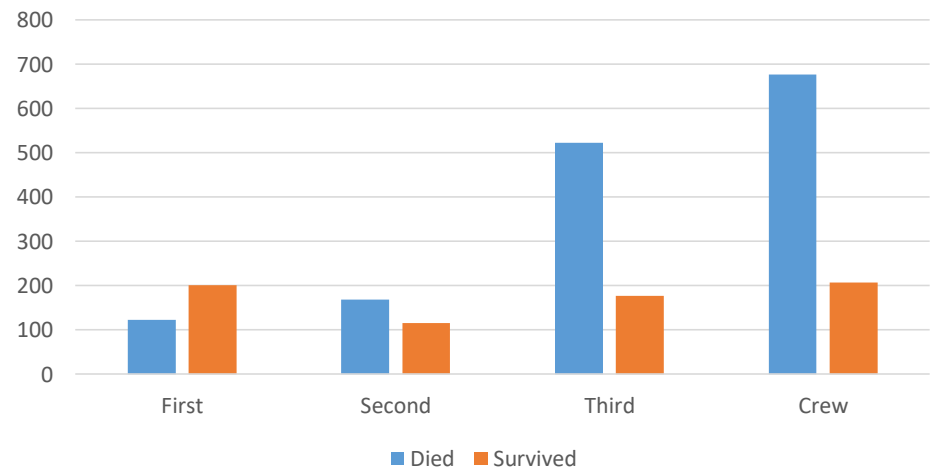
The Titanic

Passengers aboard the Titanic			
	Men	Women	Children
First	175	143	6
Second	168	94	23
Third	456	165	79

The Titanic is one of the most famous ships ever to have been built. When it was launched, it was the biggest ship in the world, and it was said to be the best and safest ship to have set sail; in fact, many said that it was unsinkable! It was so large that it took exactly three years to build. It was an amazing 269 metres long, 28 metres wide and more than 53 metres tall. It had ten decks, three engines and its furnaces burnt through over 600 tonnes of coal. Such a big ship required a huge amount of staff- about 900 people!

The maiden voyage of the famous ship was set to be from Southampton to New York. The Titanic left Southampton on April 10, 1912, stopping in France and Ireland before heading towards America. At 11.40 pm on the 14th of April, the Titanic struck an iceberg, causing damage to the hull that began to let in water. At 12.30 am on the 15th April, the lifeboats began to be lowered. There was enough space for over 1,000 passengers on board the lifeboats; however, some of the boats were sent out half full, as the crew were worried that they would not be strong enough to carry more people. There were 3 types of lifeboat on board: 14 clinker-built lifeboats which could each carry 65 people; 2 wooden cutters which could carry 40 people each; and 4 Engelhardt boats which could carry 47 people each. Over the next few hours, the Titanic continued to sink. It finally reached the bottom of the ocean at 2.24 am, where it still remains today.

Deaths and survivors on the Titanic



Titanic

- 1) How many children were on board the Titanic?
- 2) How many third class passengers were there?
- 3) How many more first class passengers were there than second class?
- 4) What was the length of time between the Titanic striking the iceberg and it reaching the ocean floor?
- 5) Approximately how many people survived the sinking of the Titanic?
- 6) What was the width of the Titanic in cm?
- 7) How many lifeboats were there in total?
- 8) How many passengers could have been carried in the lifeboats in total?
- 9) What was the length of the Titanic in km?
- 10) The Titanic was built in exactly 3 years (from 31st March 1909- 31st March 1912). Exactly how many days was this?

Note- 1912 was a leap year so it had an extra day!

Titanic- ANSWERS

- 1) How many children were on board the Titanic? **108**
- 2) How many third class passengers were there? **700**
- 3) How many more first class passengers were there than second class? **324 first class and 285 second class. 39 more first class.**
- 4) What was the length of time between the Titanic striking the iceberg and it reaching the ocean floor? **2 hours and 44 minutes**
- 5) Approximately how many people survived the sinking of the Titanic? **Approximately 800 (roughly 200 + 110 + 190 + 200)**
- 6) What was the width of the Titanic in cm? **2800 cm**
- 7) How many lifeboats were there in total? **20**
- 8) How many passengers could have been carried in the lifeboats in total? **1,178**
- 9) What was the length of the Titanic in km? **0.269 km**
- 10) The Titanic was built in exactly 3 years (from 31st March 1909- 31st March 1912). Exactly how many days was this?

Note- 1912 was a leap year so it had an extra day! **1096**

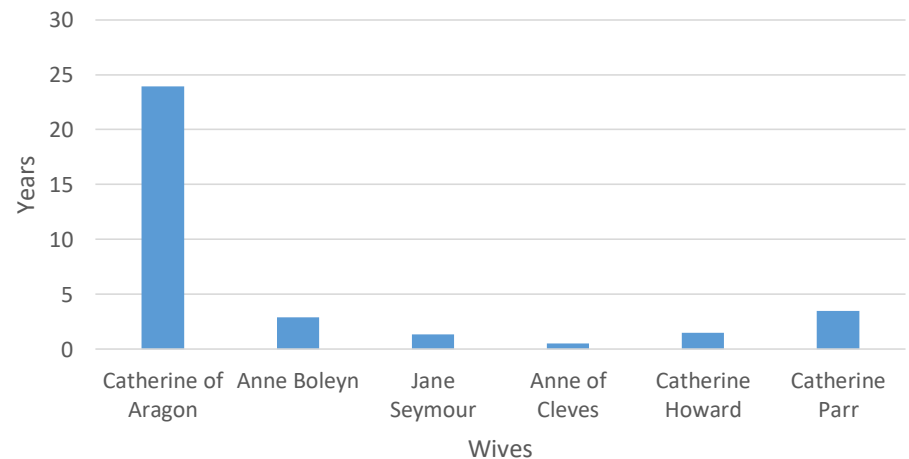
Henry VIII

Wife of Henry VIII	Length of marriage
Catherine of Aragon	23 years, 11 months and 12 days
Anne Boleyn	2 years, 11 months and 19 days
Jane Seymour	1 year, 4 months and 24 days
Anne of Cleves	6 months and 3 days
Catherine Howard	1 year, 6 months and 16 days
Catherine Parr	3 years, 6 months and 16 days

King Henry VIII was a famous Tudor king who was particularly well-known for having six different wives. He was born in London on the 28th June 1491 and became king on the 21st of April 1509. Henry enjoyed the finer things in life: he dressed lavishly and enjoyed wearing plenty of jewellery and fine clothes. After becoming king, Henry brought religious upheaval to England as he broke away from the Catholic Church and proclaimed himself the head of the Church of England in 1534. This was because the Pope wouldn't let him divorce Catherine of Aragon.

Henry wanted a male heir to rule after him. He married his first wife, Catherine of Aragon in 1509. Unfortunately, she could not provide him with a son (although she did have a daughter who became Queen Mary I), so he divorced her. His second wife, Anne Boleyn gave birth to the future Queen Elizabeth, but was then accused of witchcraft and beheaded. Henry married his third wife (Jane Seymour) just eleven days after Anne was beheaded. Jane gave birth to a son (Edward VI), but she sadly died of blood poisoning 12 days later. In 1540, Henry married Anne of Cleves in order to form a tie between England and Germany; however, he divorced her in the same year when that tie was no longer useful. 17 days after his divorce, he married Catherine Howard, who he later had beheaded. Finally, he married Catherine Parr. She was his final wife, as she outlived him. He died on the 28th of January 1547.

The length of each of King Henry VIII's marriages



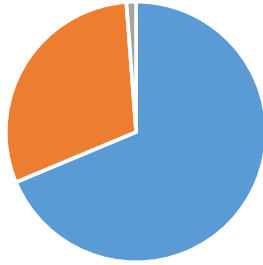
Henry VIII

- 1) How old was Henry when he became king?
- 2) How long was Henry married to each wife, rounded to the nearest year?
- 3) How long was Henry's marriage to Catherine of Aragon in months?
- 4) How old was Henry when he died?
- 5) How long after becoming king did Henry break from the Catholic Church?
- 6) How much longer was Henry's marriage to Catherine Howard than his marriage to Anne of Cleves?
- 7) Order Henry VIII's marriage in order of length, starting with the shortest.
- 8) If Henry married Anne of Cleves on the 6th January 1540, when did they divorce?
- 9) If Henry married Catherine Howard on the 28th July 1540, which month and year did they divorce in?
- 10) How long did Henry rule for?

Henry VIII- ANSWERS

- 1) How old was Henry when he became king? 17
- 2) How long was Henry married to each wife, rounded to the nearest year? Catherine of Aragon – 24 years, Anne Boleyn- 3 years, Jane Seymour- 1 year, Anne of Cleves- 1 year, Catherine Howard- 2 years, Catherine Parr- 4 years.
- 3) How long was Henry's marriage to Catherine of Aragon in months? 287 months (and 12 days)
- 4) How old was Henry when he died? 55 (as he died a few months before turning 56)
- 5) How long after becoming king did Henry break from the Catholic Church? 24 years
- 6) How much longer was Henry's marriage to Catherine Howard than his marriage to Anne of Cleves? 1 year, 13 days.
- 7) Order Henry VIII's marriage in order of length, starting with the shortest. Anne of Cleves, Jane Seymour, Catherine Howard, Anne Boleyn, Catherine Parr, Catherine of Aragon
- 8) If Henry married Anne of Cleves on the 6th January 1540, when did they divorce? 9th July 1540
- 9) If Henry married Catherine Howard on the 28th July 1540, which month and year did they divorce in? February 1542
- 10) How long did Henry rule for? Nearly 38 years (if he had lived another 4 months)

Chart showing Earth's fresh water



■ Glaciers and ice caps ■ Ground water ■ Surface/ other fresh water

The Arctic, in the northern hemisphere, is a sea of ice which extends over parts of Canada, the USA, Denmark, Russia, Norway and Iceland. Antarctica, in the southern hemisphere, is 98% covered by an ice cap. It has mountains reaching approximately 16,000 feet.

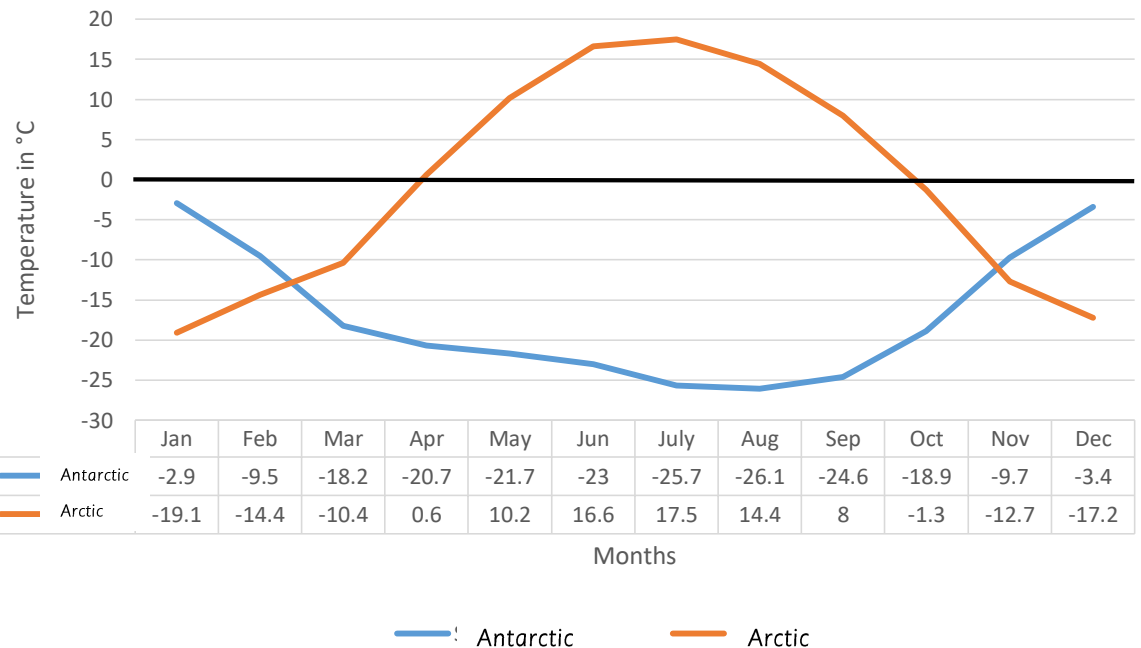
- There are groups of people living at the North Pole, but there are no permanent inhabitants at the South Pole.
- Polar bears, lemmings and narwhals are found in the Arctic, while penguins and elephant seals are found in the Antarctic.
- The coldest recorded temperature (-89.2°C) was recorded in the Antarctic.

	Sea ice size in winter	Sea ice size in summer
Arctic	6 million square miles	2.5 million square miles
Antarctic	7.2 million square miles	1.1 million square miles

Arctic and Antarctic

The Arctic and the Antarctic are very cold areas on our planet that are almost 12,500 miles away from each other.. There are many similarities and differences between the two. The main difference is that the Arctic is an ocean covered by a layer of ice and surrounded by land. Antarctica, however, is a continent covered by a very thick ice cap and surrounded by a rim of sea ice. Approximately 97% of the water on Earth is salt water found in the oceans. The other 3% is fresh water, which is shown in this pie chart.

Average temperatures in the Arctic and the Antarctic across a year



Arctic and Antarctic

- 1) What is the difference in size between the sea ice in the Arctic in the summer and in the winter?
- 2) The coldest ever recorded temperature was recorded in the Antarctic in July. How much colder was it than the average temperature for that month?
- 3) 5 miles is approximately 8 km. Using this fact, how far apart are the Arctic and Antarctic in km?
- 4) How many countries does the Arctic extend over?
- 5) Using the pie chart, approximately what percentage of the Earth's freshwater is found in glaciers and ice caps?
- 6) What is the difference between the average temperature in September in the Arctic and the Antarctic?
- 7) How much of the Antarctic is not covered by an ice cap?
- 8) In how many months is the average temperature in the Arctic above freezing?
- 9) What is the difference between the highest and the lowest average temperatures recorded in the Arctic?
- 10) What is the difference between the highest and the lowest average temperatures recorded in the Antarctic?
- 11) What are the temperatures in the Antarctic rounded to the nearest whole number?

Arctic and Antarctic- ANSWERS

- 1) What is the difference in size between the sea ice in the Arctic in the summer and in the winter? 3.5 million (3,500,000) square miles
- 2) The coldest ever recorded temperature was recorded in the Antarctic in July. How much colder was it than the average temperature for that month? 63.5°C
- 3) 5 miles is approximately 8 km. Using this fact, how far apart at the Arctic and Antarctic in km? 20,000 km
- 4) How many countries does the Arctic extend over? 6
- 5) Using the pie chart, approximately what percentage of the Earth's freshwater is found in glaciers and ice caps? Anything between 60 and 70%
- 6) What is the difference between the average temperature in September in the Arctic and the Antarctic? 32.6 °C
- 7) How much of the Antarctic is not covered by an ice cap? 2%
- 8) In how many months is the average temperature in the Arctic above freezing? 6 (April, May, June, July, August, September)
- 9) What is the difference between the highest and the lowest average temperatures recorded in the Arctic? 36.6 °C
- 10) What is the difference between the highest and the lowest average temperatures recorded in the Antarctic? 23.2 °C
- 11) What are the temperatures in the Antarctic rounded to the nearest whole number? Jan -3, Feb -10, Mar -18, Apr -21, May -22, Jun -23, July -26,

Aug -26, Sep -25, Oct -19, Nov -10, Dec, -1

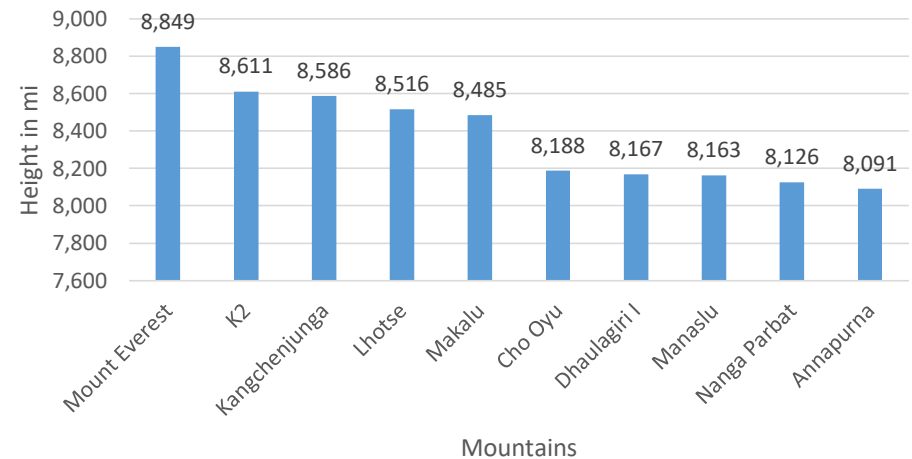
Mountains

Mountain range	Approximate length	Approximate width	Maximum height
Andes, South America	7,000 km	500 km	6,962 m
Southern Great Escarpment, Africa	5,000 km	300 km	3,482 m
Rocky Mountains, North America	4,800 km	300 km	4,401 m
Transantarctic Mountains, Antarctica	3,500 km	400 km	4,528 m
Great Dividing Range, Australia	3,500 km	300 km	2,228 m
Himalayas, Asia	2,600 km	350 km	8,849 m

A mountain is a landform made from rocks and earth that rises high above the land around it. Mountains usually have very steep and sloping sides and sharp ridges and peaks. They can be found on every continent, and they are even found under the ocean; in fact, Hawaii is at the top of a volcanic mountain in the Pacific Ocean! Mountains make up about $\frac{1}{5}$ of the landscape of the world and are home to about $\frac{1}{10}$ of the people in the world. Amazingly, about 80% of our planet's fresh water originates in mountains.

- A mountain range is a long chain or group of mountains that is usually 1000 or more miles long.
- We measure from sea level to summit to find out how high a mountain is, and from base to summit to find out how tall a mountain is.
- The tallest mountain in the world is Mauna Kea in Hawaii. When measured from base to summit, it is over 10,000 metres tall!
- There are different types of mountain: fold, fault-block, dome, volcanic and plateau.
- The tallest mountain in the UK is Ben Nevis in Scotland. It is 1,344 metres tall.

The 10 highest mountains in the world



Mountains

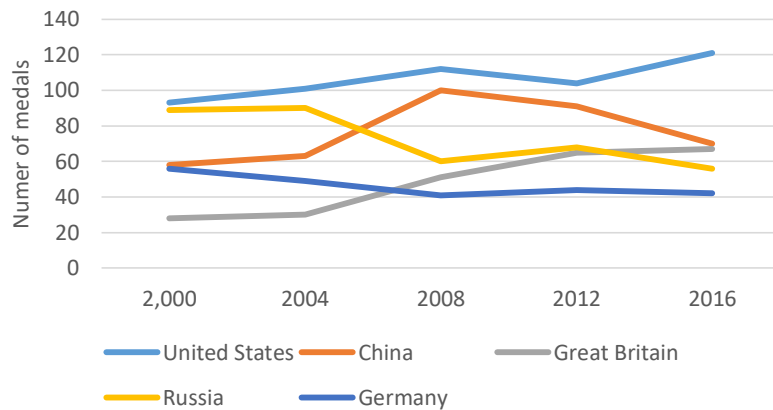
- 1) What is the height of Mauna Kea in km?
- 2) 5 miles is approximately 8 km. If mountain ranges are at least 1000 miles long, what is the minimum length in km?
- 3) How much taller is Mount Everest than Ben Nevis?
- 4) How many types of mountain are there?
- 5) What percentage of the landscape do mountains make up?
- 6) Which is the highest mountain range?
- 7) How much longer is the Andes than the Great Dividing Range?
- 8) What fraction of the planet's fresh water originates in mountains?
- 9) What is the difference in height between K2 and Cho Oyu?
- 10) Which mountain range must Mount Everest be in?
- 11) Order the mountain ranges from highest to shortest.
- 12) Round the heights of the 10 highest mountains to the nearest 100 m.

Mountains- ANSWERS

- 1) What is the height of Mauna Kea in km? 10 km
- 2) 5 miles is approximately 8 km. If mountain ranges are at least 1000 miles long, what is the minimum length in km? 1,600 km
- 3) How much taller is Mount Everest than Ben Nevis? 7,504 m
- 4) How many types of mountain are there? 5
- 5) What percentage of the landscape do mountains make up? 20%
- 6) Which is the highest mountain range? The Himalayas
- 7) How much longer is the Andes than the Great Dividing Range? 3,500 km
- 8) What fraction of the planet's fresh water originates in mountains? $\frac{8}{10}$ or $\frac{4}{5}$
- 9) What is the difference in height between K2 and Cho Oyu? 423 m
- 10) Which mountain range must Mount Everest be in? Himalayas
- 11) Order the mountain ranges from highest to shortest. Himalayas, Andes, Transantarctic Mountains, Rocky Mountains, Southern Great Escarpment, Great Dividing Range
- 12) Round the heights of the 10 highest mountains to the nearest 100 m. Mount Everest 8,800, K2 8,600 m, Kanchenjunga 8,600 m, Lhotse 8,500 m, Makalu 8,500 m, Cho Oyu 8,200 m, Dhaulagiri 8,200 m, Manaslu 8,200 m, Nanga Parbat 8,100 m, Annapurna 8,100 m

The Olympic Games

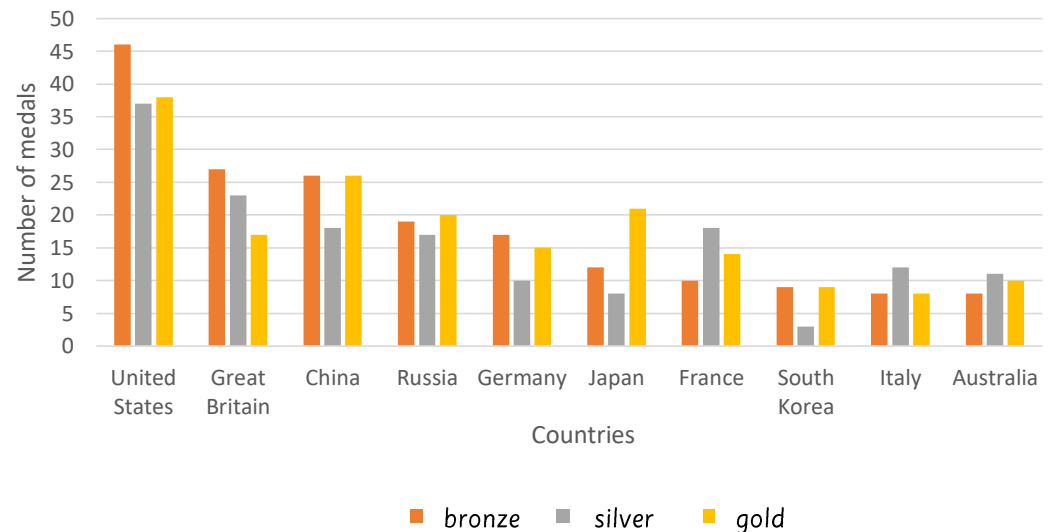
Total medals won by the most successful countries
(2000- 2016)



The modern Olympic games are international sporting events featuring summer and winter sports competitions. They are normally held every four years. Their creation was inspired by the ancient Olympic Games held in Greece from the 8th century BC to the 4th century BC, and the first modern Olympic games event was held in Athens in 1896; however, the modern games are very different. Only five countries (Australia, France, Great Britain, Greece and Switzerland) have participated in every Summer Olympic Games, and the United States leads the all-time medal table.

As of 2016, the Summer Olympic Games have been hosted on five continents by a total of nineteen countries: four times in the United States (1904, 1932, 1984, 1996); three times in Great Britain (1908, 1948, 2012); twice each in Greece (1896, 2004), France (1900, 1924), Germany (1936, 1972) and Australia (1956, 2000); and once each in Sweden (1912), Belgium (1920), Netherlands (1928), Finland (1952), Italy (1960), Japan (1965), Mexico (1968), Canada (1976), Soviet Union (1980), South Korea (1988), Spain (1992), China (2008) and Brazil (2016). The Summer Olympics host countries have already been selected up until 2028: Tokyo in 2020 (pushed back to 2021), Paris in 2024 and Los Angeles in 2028.

Top 10 scoring counties in the 2016 Summer Olympics



The Olympic Games

- 1) Which country has improved their total medal count at each Olympics?
- 2) Which country won more gold medals than bronze and silver at the 2016 Olympics?
- 3) Which three countries won more silver medals than bronze or gold at the 2016 Olympics?
- 4) How many countries have only hosted the Summer Olympics once?
- 5) How many years were there between the two times that Greece have hosted the Summer Olympics?
- 6) How many years after the first modern Olympic games did Mexico host the Summer Olympics?
- 7) True or false? Assuming there are no disruptions, there will be a Summer Olympic Games in the year 2077.
- 8) True or false? Germany was more successful in 2008 than in 2012 in terms of total medals won.
- 9) Which three countries won the same amount of bronze medals as they did gold in the 2016 Summer Olympics?
- 10) How many years after Australia first hosted the Summer Olympics did Germany host them for the second time?

The Olympic Games- ANSWERS

- 1) Which country has improved their total medal count at each Olympics? Great Britain
- 2) Which country won more gold medals than bronze and silver at the 2016 Olympics? Japan
- 3) Which three countries won more silver medals than bronze or gold at the 2016 Olympics? France, Italy and Australia.
- 4) How many countries have only hosted the Summer Olympics once? 13
- 5) How many years were there between the two times that Greece have hosted the Summer Olympics? 108
- 6) How many years after the first modern Olympic games did Mexico host the Summer Olympics? 72
- 7) True or false? Assuming there are no disruptions, there will be a Summer Olympic Games in the year 2077. False, there will be one in 2076. They are all in even years.
- 8) True or false? Germany was more successful in 2008 than in 2012 in terms of total medals won. False- Germany had a slightly more successful year in 2012 than in 2008
- 9) Which three countries won the same amount of bronze medals as they did gold in the 2016 Summer Olympics? China, South Korea, Italy
- 10) How many years after Australia first hosted the Summer Olympics did Germany host them for the second time? 16 years

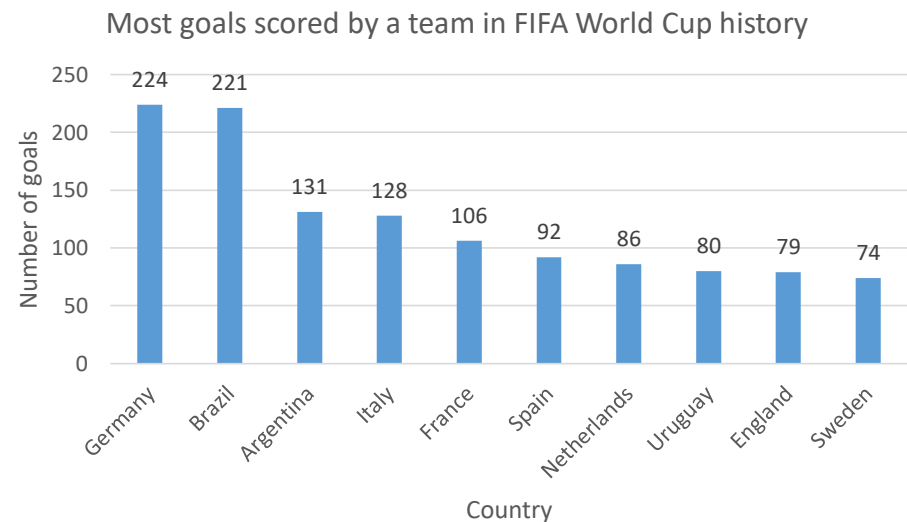
The FIFA World Cup

World Cup top scorers of all time		
Footballer	Country	Goals scored
Miroslav Klose	Germany	16
Ronaldo	Brazil	15
Gerd Müller	Germany	14
Just Fontaine	France	13
Jürgen Klinsmann	Germany	11
Sandor Kocsis	Hungary	11

The FIFA World Cup is an international football competition which has been held every four years since 1930 (although two competitions were missed due to the Second World War). The 21 tournaments have been won by eight national teams: five times by Brazil (the only team to have played in each tournament); four times each by Germany and Italy; two times each by Argentina, France and Uruguay; and once each by England and Spain. 17 countries have hosted the World Cup, with Brazil, France, Italy, Germany and Mexico each hosting twice and the United States, Japan and South Korea, South Africa and Russia each hosting once.

The format for the final tournament has been used since 1998 and features 32 national teams competing over a month in the host nation or nations in two stages: the group stage and then the knockout stage. In the group stage, teams compete in eight groups of four teams. Each team plays three matches against the other teams in their group. The top two teams then advance to the knockout stage and points are used to rank the teams within the group (three points for a win, one for a draw and none for a loss).

In 2017, FIFA approved a new format with 16 groups of 3 teams in the group stages with two teams qualifying from each group to form the knockout stage. This will be implemented from 2026.



The FIFA World Cup

- 1) The Second World War ran from 1939-1945. Which two World Cup tournaments were cancelled?
- 2) How many countries have hosted the World Cup twice?
- 3) What is the total of the goals scored by German top scorers?
- 4) What is the difference between the total number of goals scored by Italy and the total number of goals scored by Spain?
- 5) How many teams will take part in the group stages in the new World Cup format from 2026?
- 6) How many teams will take part in the knockout stage in the new World Cup format from 2026?
- 7) In the current group stages, if a team draws one game and wins two games, how many points will they score?
- 8) The current format has been used since 1998 and the new format will be used from 2026. What is the difference between these two dates?
- 9) What is the total number of goals scored by the top four scorers in World Cups?
- 10) How many more times has Brazil won the World Cup than Uruguay?

The FIFA World Cup- ANSWERS

- 1) The Second World War ran from 1939-1945. Which two World Cup tournaments were cancelled? 1942 and 1946
- 2) How many countries have hosted the World Cup twice? 5
- 3) What is the total of the goals scored by German top scorers? 41
- 4) What is the difference between the total number of goals scored by Italy and the total number of goals scored by Spain? 36
- 5) How many teams will take part in the group stages in the new World Cup format from 2026? 48 (16 x 3)
- 6) How many teams will take part in the knockout stage in the new World Cup format from 2026? 32 (16 x 2)
- 7) In the current group stages, if a team draws one game and wins two games, how many points will they score? 7
- 8) The current format has been used since 1998 and the new format will be used from 2026. What is the difference between these two dates? 28 years
- 9) What is the total number of goals scored by the top four scorers in World Cups? 58
- 10) How many more times has Brazil won the World Cup than Uruguay? 3 times

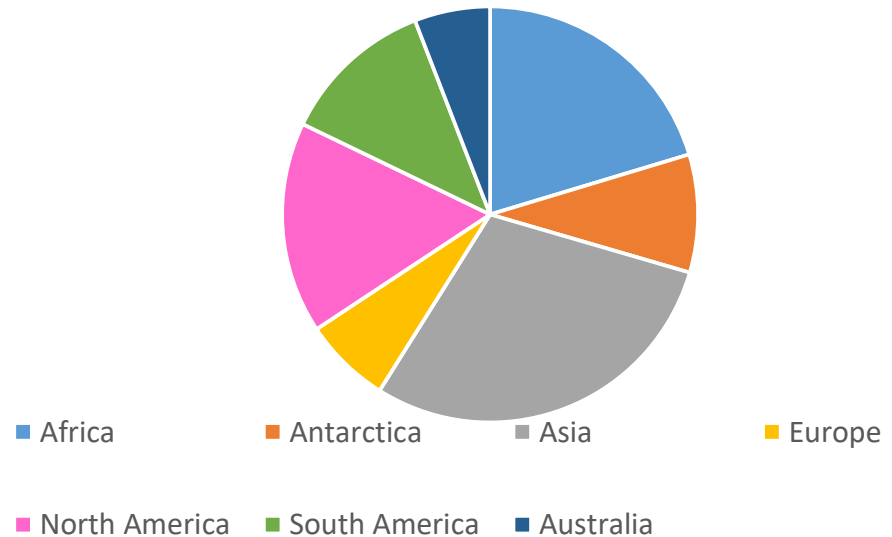
Continents

Continents of the world		
Continent	Area (km ²)	Population
Africa	30,370,000	1,287,920,000
Antarctica	14,000,000	4,490
Asia	44,579,000	4,545,133,000
Europe	10,180,000	742,648,000
North America	24,709,000	587,615,000
South America	17,840,000	428,240,000
Australia	8,600,000	41,261,000

- Asia is the largest continent both by land area and population. This means that most people on Earth live on the Asian continent.
- The most languages are spoken in Asia- over 2,300! However, most of these languages are spoken only by small groups of people. Chinese is the language with the most native speakers, as there are almost 1.4 billion people speaking it.
- Africa is formed of 54 countries, making it the continent with the most countries.
- The world's largest island (Greenland) is located in the North American continent.
- North America has the largest number of people who speak English as their first language (231 million people). However, English is spoken by more than 100 countries worldwide.

A continent is one of several large landmasses. There are several different models of dividing the world up into continents, as some systems merge North and South America, and others merge Europe and Asia. The oceanic islands are frequently grouped with a neighbouring continent to divide all the world's land into regions. The continents we know today were formed because of tectonic plates, which are pieces that fit together to form the Earth's surface. When these pieces move, they affect the land above them. All of the continents are different sizes and contain different amounts of countries. Interestingly, Europe houses the two smallest countries in the world: Vatican City (population of 825) and Monaco (population of 38,964)

Percent of total landmass by continent



Continents

- 1) List the continents in ascending order by area.
- 2) List the continents in descending order by population.
- 3) What is the difference between the population of the smallest country in the world and the smallest continent?
- 4) Round the area of each continent to the nearest million.
- 5) Greenland has a population of 56,225. What is the difference between its population and the population of Monaco?
- 6) Greenland has an area of 2,166,000 km². What is the difference between its area and the area of Australia?
- 7) Roughly how many times bigger is the population of Asia than the population of Antarctica?

10 100 1000 10,000 100,000
- 8) Roughly how many people speak English as their first language?

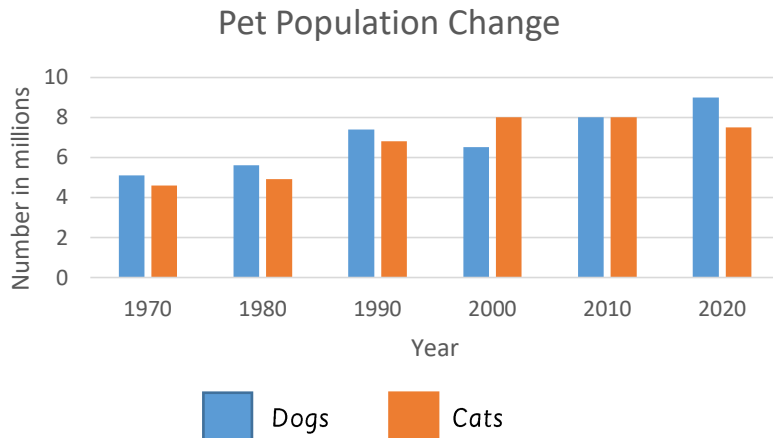
231,000 2,310,000 231,000,000 231,000,000,000
- 9) There are 195 countries in the world. Roughly what fraction of them are in Africa? $\frac{1}{2}$ $\frac{1}{4}$ $\frac{3}{4}$

Continents- ANSWERS

- 1) List the continents in ascending order by area. Australia, Europe, Antarctica, South America, North America, Africa, Asia.
- 2) List the continents in descending order by population. Asia, Africa, Europe, North America, South America, Australia, Antarctica
- 3) What is the difference between the population of the smallest country in the world and the smallest continent? 3,665
- 4) Round the area of each continent to the nearest million. Africa 30,000,000, Antarctica 14,000,000, Asia 45,000,000, Europe 10,000,000, North America 25,000,000, South America 18,000,000 and Australia 9,000,000
- 5) Greenland has a population of 56,225. What is the difference between its population and the population of Monaco? 17,261
- 6) Greenland has an area of 2,166,000 km². What is the difference between its area and the area of Australia? 6,434,000 km²
- 7) Roughly how many times bigger is the population of Asia than the population of Antarctica?
10 100 1000 10,000 100,000
- 8) Roughly how many people speak English as their first language?
231,000 2,310,000 231,000,000 231,000,000,000
- 9) There are 195 countries in the world. Roughly what fraction of them are in Africa? $\frac{1}{2}$ $\frac{1}{4}$ $\frac{3}{4}$

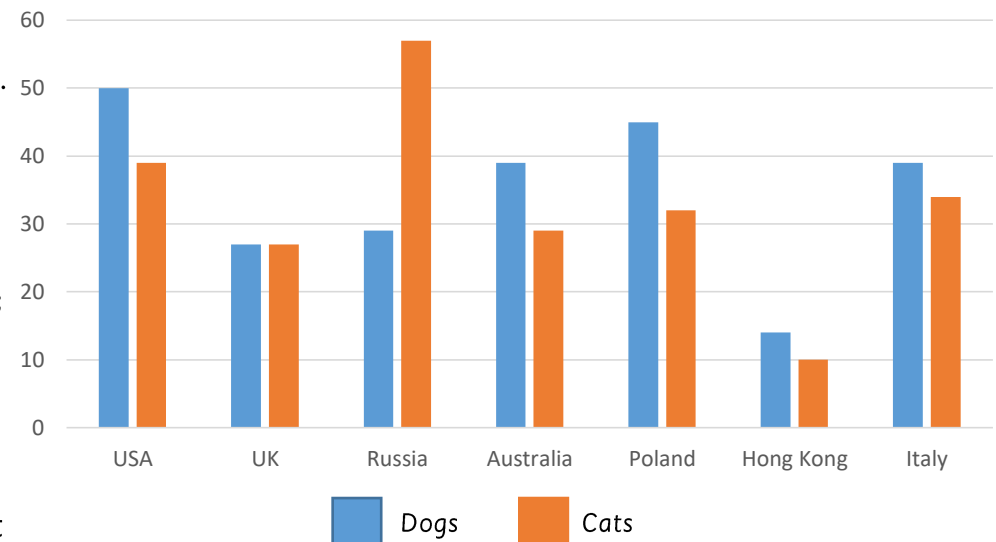
Pets

A pet is an animal kept mainly for a person's company or entertainment rather than as a working animal or livestock (such as cows on a farm). Two of the most popular pets are dogs and cats, but other popular pets include rabbits, ferrets, gerbils, hamsters, fish and rats (among others). It's very important to be aware of the responsibilities involved with pets before buying them as they need a lot of care and can be very expensive. It is estimated that the annual cost of owning a cat is around £888, a small dog around £600, a medium-sized dog around £780 a year and a large dog around £960.



- The top 5 pets in the UK in 2020 were as follows (rounded to the nearest 100,000 and not in order): 500,000 indoor birds, 9 million dogs, 400,000 guinea pigs, 7.5 million cats and 600,000 rabbits.
- The average live span for a cat is between 12-14 years. The average life span for a dog is 10-13 years.
- A female cat can produce 18 kittens a year. A female dog can have three litters of puppies a year with up to seven puppies per litter.
- Every 30 seconds, someone in England and Wales dials the RSPCA for help. In 2019, they received 1,218,364 phone calls.
- In 2019, the RSPCA took in 10,564 dogs and 29,432 cats, and found homes for 39,178 animals.
- The Cats Protection league helped to reunite 2,500 lost cats with their owners in 2019.

Percentages of populations that own dogs or cats



Pets

- 1) In which year was cat ownership roughly the same as dog ownership?
- 2) Order the top 5 pets in order of popularity (from least to most popular).
- 3) In which year were more cats owned than dogs?
- 4) How many puppies can a female dog have a year?
- 5) Round the number of calls that the RSPCA received in 2019 to the nearest...

1,000,000	100,000	10,000	1,000	100	10

- 6) How many more cats than dogs did the RSPCA receive in 2019?
- 7) Roughly how much would the annual cost be for someone who owned a cat and a medium-sized dog?
- 8) How much more is the approximate annual cost of owning a large dog than owning a small dog?
- 9) In which country are cats more popular than dogs?
- 10) Roughly what percentage of people in the USA own cats?

Pets- ANSWERS

- 1) In which year was cat ownership roughly the same as dog ownership? 2010
- 2) Order the top 5 pets in order of popularity (from least to most popular). Guinea pigs (400,000), indoor birds (500,000), rabbits (600,000), cats (7,500,000) and dogs (9,000,000)
- 3) In which year were more cats owned than dogs? 2000
- 4) How many puppies can a female dog have a year? 21
- 5) Round the number of calls that the RSPCA received in 2019 to the nearest...

1,000,000	100,000	10,000	1,000	100	10
1,000,000	1,200,000	1,220,000	1,218,000	1,218,400	1,218,360

- 6) How many more cats than dogs did the RSPCA receive in 2019? 18,868
- 7) Roughly how much would the annual cost be for someone who owned a cat and a medium-sized dog? £1,668
- 8) How much more is the approximate annual cost of owning a large dog than owning a small dog? £360
- 9) In which country are cats more popular than dogs? Russia
- 10) Roughly what percentage of people in the USA own cats? Between 38-39%