



Amazing Migrations

A variety of species of animal migrate, whether it's to find food, water or a warmer climate. Some of these migrations are truly spectacular.

Wildebeest

On the Serengeti plains in Africa, rain is vital. Not only does it provide drinking water, but it also nourishes the soil and allows important food plants to grow. Along with roughly 350,000 Thomson's gazelles, 200,000 zebra and thousands of other hoofed animals, nearly 1.5 million wildebeest migrate across the Serengeti each year, all chasing the rain. This mass migration (they cover over 3,000 km each year) has been called "the greatest show on Earth".

It isn't known exactly how the wildebeest know where to travel, but it is likely that they follow the fresh grass as it grows. Because each type of animal eats a different type of grass (some eat the tallest grass, whereas others eat the medium-length or shorter grass), the animals travel in groups behind each other.

Due to the changing seasons and the endless need to find fresh pastures, this migration doesn't really have a beginning or an end – it is an endless cycle.

Christmas Island Red Crab

One of the strongest urges for an animal is the desire to breed. This urge is behind many of the largest migrations in the world – and perhaps none are as fascinating as that undertaken by the red crabs of Christmas Island. Every year, millions of these large crustaceans emerge from the forests and swarm towards the ocean to breed.

Most migrations are triggered by the weather, and this one is no different. Once the wet season begins (usually in October or November, but it can be as late as January), the crabs leave their homes amongst the forest undergrowth. Male crabs lead the way, and the females join them along the journey.

It isn't only the rains that trigger the migration – they always spawn (lay their eggs) before dawn, as the high tide is leaving the beach during the last quarter of the lunar cycle. Somehow, the crabs know when this quarter-moon will happen – if the rains arrive close to their spawning time, they will move to their breeding grounds quickly to arrive in time. If the rains arrive early, then the crabs slow down and take a more leisurely pace and stop to eat and drink on the way. If the rains arrive too late to make it in time, then many of the crabs will stay in their burrows for another month and wait for the next quarter-moon. How amazing is that?



Lemmings

Anybody of a certain age will possibly have played the classic computer game “Lemmings”. In it, you have to steer a group of lemmings to safety as they march towards their death. Strangely enough, real-life lemmings are equally accident-prone.

For many years, it was believed that migrating lemmings threw themselves to a watery death by leaping into the ocean whenever their population grew too large. This myth inspired the game and continues to this day. However, it isn’t true.

What is true is that lemmings seem to experience population booms every three years or so, and they soon outgrow their homes. At this point, many of them set off on a mass migration to find a new place to live. Lemmings are quite good swimmers, so they often throw themselves into rivers or lakes, or even the ocean, to find new pastures. Unfortunately, some of them don’t realise how difficult the waterways are to cross and many die. So, while many of them do end up dying on their migration, it isn’t the case that they do so on purpose!

VOCABULARY FOCUS

1. Find and copy a word in the first paragraph that means “different types”.
2. What does the word “vital” tell you about rain on the Serengeti?
3. Which word in the text tells you that the wildebeest migration is very big?
4. What is an “urge”?
5. What impression do you get of the Christmas Island crabs from the word “swarm”?

VIPERS QUESTIONS

R

How many zebra join the wildebeest on their migration?

S

Why do animals in the wildebeest migration stick within their groups?

R

Where do the red crabs spend most of the year?

S

Summarise why the red crabs might stay in their burrows.

S

Why did people think that lemmings committed suicide?



Different Types of Migration

Migration is the movement of a group of people or animals from one place to another. Migrations can happen for lots of reasons and fall into different categories. Both humans and animals take part in all different types of migration. Let's look at some of the terminology.

Temporary migration

Temporary migration means that somebody or something travels to a new place for a while but eventually returns. When birds migrate to warmer climates, this is a temporary migration. When the weather turns, they will return to where they came from. Humans might migrate temporarily if they move for a job or to experience life in a different country.

Permanent migration

As the name suggests, permanent migration is forever. Animals and people that migrate permanently don't return to their origin. Another name for permanent migration is emigration. Animals might emigrate due to habitat loss or climate change, whereas people might emigrate after war, famine or other disasters in their homeland. They might also emigrate because they would like to live permanently in another location.

Internal or external migration

When a person migrates within the same country, it is called internal migration. This might be a move to attend university or to find a job in another city, or it might be because a disaster has struck in the original part of the country.

External migration involves an animal or person migrating to another country. These might be long-term, or short-term for a holiday or to visit friends and relatives.

Forced or voluntary migration

Sometimes, people are forced from their homes by the effects of war or because of an invading army. These migrations are "forced" because it is unreasonable or impossible for people to remain where they are.



Somebody who has been forced to flee their home is considered “displaced”. A person who has fled their home due to a threat of violence or because their freedoms are being threatened is declared a “refugee”. Throughout history, people have been forced to leave their homes against their will. The African slave trade is one example of this, as was the deportation of criminals to Australia and other areas of the British Empire.

Voluntary migrations are undertaken by people who choose to move. They are able to decide for themselves whether they wish to remain in their original location or to move. A summer holiday or moving to another country to seek work is an example of voluntary migration.

SUMMARY FOCUS

1. What is the main difference between temporary and permanent migration?
2. How is internal migration different to external migration?
3. Why might somebody migrate?
4. How is a refugee different to a voluntary migrant?
5. What would make somebody be considered “displaced?”

VIPERS QUESTIONS

V

Which word in the text is a synonym for “vocabulary”?

R

What is emigration another name for?

I

How do you think somebody who is forced to migrate might feel?

R

Give an example of voluntary, temporary migration.

V

Find and copy a word that means “forced to leave a country”.



Human Migration

Throughout history, humans have migrated across the planet. We can see this simply by the fact that there are humans everywhere that they can live comfortably, yet the very first humans are believed to have originated in Africa alone.

The factors that drove humans to migrate changed over time, but there were some that remained consistent. Safety, hunger and the search for water were always important factors; before humans learned to farm, they had to move to find fresh sources of food.

Early humans didn't settle for long in a particular place. When somebody moves from place to place, they are called "nomadic". Some nomadic tribes moved between winter and summer locations: one benefit of this was that they knew where to find food and water in each season.

When early humans first left Africa, they first moved into Europe and Asia. This is believed to have happened roughly 200,000 years ago, but it all depends on what you consider "human". Don't forget, the only way for these early relations to travel was on foot, so migrating across countries and continents took many generations. Not only that, it appears that humans dispersed from Africa in waves over thousands of years and often mixed with Neanderthals (another early human ancestor).

Around 60,000 - 20,000 years ago, migrants travelled to North America. It is possible they travelled by sea, or there might have been a land bridge that is now hidden beneath the ocean. At around the same time, other prehistoric migrants set out from Asia and landed on the shores of Australia. From there, they were able to settle on all of the Pacific islands. Interestingly, New Zealand was only settled within the last 1,200 years.

In more modern history, humans have continued to migrate. The Hebrews fled slavery in Egypt somewhere around 1,200 BCE. They settled in Palestine.

There have been other migrant tribes that were very successful. The Huns (especially when led by Attila the Hun) and the Mongols (under Genghis Khan) ruled over large areas of land in Asia and



Europe. In fact, the Huns helped to finally defeat the Roman Empire.

European migration began to reach a new peak in the 15th century, with explorers like Christopher Columbus exploring the world. European settlers, including the British Empire, began to reach out across the globe and take control of far-flung countries. This was particularly common during the 17th and 18th centuries.

Wherever humans have migrated to, they have taken their own cultures and values. Sometimes, this leads to a more enriching place – much of the food and music enjoyed around the world originated in another country – but enforced migration, particularly through invasion or forced slavery, often leads to horrible outcomes for many of the local people.

SUMMARY FOCUS

1. How can we tell that humans have migrated throughout history?
2. Why did early humans migrate?
3. Why might some nomadic people have visited the same places each year?
4. Where did humans migrate to before they branched out to North America and Australia?
5. How did more modern migration impact on the world?

VIPERS QUESTIONS

V

Write a definition for “nomadic”.

R

Which explorer is given as an example in the text?

R

Who was a successful Hun leader?

V

Find and copy a phrase that means “distant or far away”.

R

Where did the Hebrews settle after leaving Egypt?

Long Distance Migrations

Many animal migrations involve travelling long distances, but some animals go further than most. Whether they are driven by a desire to breed, to find fresh water or food, or warmer weather, they are all long-distance heroes of the animal kingdom.

It's almost impossible to work out which animals have the longest migration; many do it in smaller stages, and migrations over land are different to those in water or the air. Regardless, these are all definitely contenders.

Humpback Whales

Many species of whale migrate considerable distances. Part of the problem with tracking whales is that we just don't know where they go. Larger species and those that swim to incredible depths are just too difficult to track. However, it appears that the humpback whale has the longest whale migration that scientists have been able to track.

Each year, these beasts of the ocean travel over 5,100 miles between Costa Rica and Antarctica – the longest known migration of any mammal.



Great White Sharks

Despite being the most travelled mammal, the humpback whale isn't the greatest traveller in the ocean. A great white shark was recorded as swimming 6,900 miles between South Africa and western Australia and back again in nine months. That's roughly 50 miles a day!



Reindeer

Also known as caribou, reindeer currently hold the record for the longest migration on land. Each year, thousands of these animals travel nearly 3,000 miles across North America. Perhaps the only reason they don't travel any further is that there isn't any more land to cover – once they reach the ocean, they stop!



Monarch Butterflies

You may think that butterflies are delicate creatures that only appear during the summer months, but the monarch butterfly would argue otherwise. Each year, thousands of these beautiful insects fly 2,500 miles from Mexico to Canada and back. They aren't even the most intrepid butterfly adventurers. In certain years, painted lady butterflies leave the deserts of northern Africa and travel the 9,300 miles to the Arctic Circle and back again. However, they don't do this every year and make many stops on the way (including in Britain).



And why don't we see these giant swarms of butterflies overhead? They fly as high as 11,000 feet in the air because there are much stronger winds to help them on their way.

RETRIEVAL FOCUS

1. Why might animals migrate, according to the text?
2. Which mammal migrates the furthest?
3. Where do great white sharks migrate from and to?
4. Which are the only animals in the list to regularly migrate by flying?
5. Which animal is also known as a caribou?

VIPERS QUESTIONS

V

What does the word "driven" mean in the first paragraph?

S

Why can't scientists work out which animals migrate the furthest?

V

What does the word "regardless" mean?

S

Why might you not have seen a butterfly migration?

V

Find and copy a phrase that tells you an animal wouldn't agree with an opinion.

Short Migrations

Not every migration is an epic test of an animal's endurance and stamina. Some are much shorter – but then if the animal is much smaller, is it really any easier?

Blue Grouse

One animal that definitely can't complain about its migration is the blue grouse. The blue grouse lives in mountainous areas of North America, particularly the Rocky Mountains. During the winter, it inhabits the mountainous pine forests, but come spring, when it wants to nest, it makes the less-than-impressive 300-metre journey down the mountains to the woodlands below. Once the breeding season is over, it returns to the ever-so-slightly higher pines for the winter. To be honest, I'm sure most of us have travelled further to buy a loaf of bread.



Zooplankton

Zooplankton is a group of tiny animals living in the ocean – mainly comprising of small animals such as jellyfish and the baby stages of other animals such as crabs and shrimp. Unlike many animals that migrate annually, zooplankton migrates each day, though not over considerable distances.

As the sun rises, these tiny creatures descend to deeper parts of the ocean, sometimes dropping as far as 100 metres below the surface. Once the sun begins to set, they migrate towards the surface once again. Like many migrant animals, their behaviour is driven by food – both obtaining food and to avoid becoming food for other animals.



Zooplankton live on phytoplankton – small plants and algae that live close to the surface of the water. Unfortunately, zooplankton themselves are food for many other larger animals, such as fish and whales. By migrating to deeper waters during the day, the zooplankton avoids becoming food but will return later when it is safer to find food for themselves.

Red-Winged Blackbirds

Much like the blue grouse, red-winged blackbirds live and migrate within North America. As a species, they are spread out across most states of North America, but only those in the northern states migrate. When the colder weather arrives, they migrate up to 800 miles to the southern states. Those that already live further south don't migrate at all.



RETRIEVAL FOCUS

1. Which animal on the list makes the shortest migration?
2. Which animal on the list makes the longest migration?
3. Which animals migrate vertically?
4. How far does the blue grouse migrate?
5. Which of the animals in the list live in water?

VIPERS QUESTIONS

S

Why do zooplankton migrate?

S

Why don't all red-winged blackbirds migrate?

V

Find and copy a word that means "move downwards".

V

Find and copy a word that has a definition closest to "getting or finding".

P

Which of these animals do you think has the hardest migration, and why?

Answers - Stage 5 - Amazing Migrations:

1. Variety
2. It is very important
3. Mass
4. A desire or need to do something
5. There are lots of them all moving together

R: 200,000

S: They eat different types of grass so need to stick where the food is

R: In the forest undergrowth

S: They only spawn during a quarter-moon, so if the rains arrive too late, they will stay in their burrow until the next moon cycle

S: They jump into water when they migrate and many of them drown. They don't do it on purpose, though

Answers - Stage 5 - Different Types of Migration:

1. Temporary migration is for a limited period of time - permanent is forever
2. Internal takes place inside a country, external migration is from one country to another
3. Accept a summary of the reasons given in the text - they do not need to include all different reasons
4. Refugees are forced to migrate due to fear
5. Being forced to flee against their wishes

V: Terminology

R: Permanent migration

I: Accept answers that show an understanding of how somebody might feel to be forced from their home - unhappy, worried, scared, angry etc

R: Accept answers such as holiday or moving for work

V: Deportation

Answers - Stage 5 - Human Migration:

1. Humans originated in Africa but are now living all over the world
2. To search for food and water, and to find safer places to live.
3. They knew where to find food and water
4. Europe and Asia
5. Accept answers that discuss exploration, slavery and the British Empire

V: Somebody who moves from one place to another

R: Christopher Columbus

R: Attila the Hun

V: Far-flung

R: Palestine

Answers - Stage 5 - Long Distance Migrations:

1. A desire to breed, find fresh water and food or to find warmer weather
2. The humpback whale
3. South Africa and western Australia
4. Monarch butterflies (don't accept painted ladies as they don't migrate regularly)
5. Reindeer

V: Pushed or urged to do something

S: Some animals are very hard to track, and others migrate in stages.

V: Despite this

S: They fly too high in the sky to be seen

V: Would argue otherwise

Answers - Stage 5 - Short Migrations:

1. Blue grouse
2. Red-winged blackbirds
3. Zooplankton
4. 300 meters
5. Zooplankton

S: It allows them to escape being eaten and then to find food for themselves

S: Some of them already live in the warmer states that the others migrate to

V: Descend

V: Finding

P: Accept any animal as long as there is sufficient reasoning behind the answer.