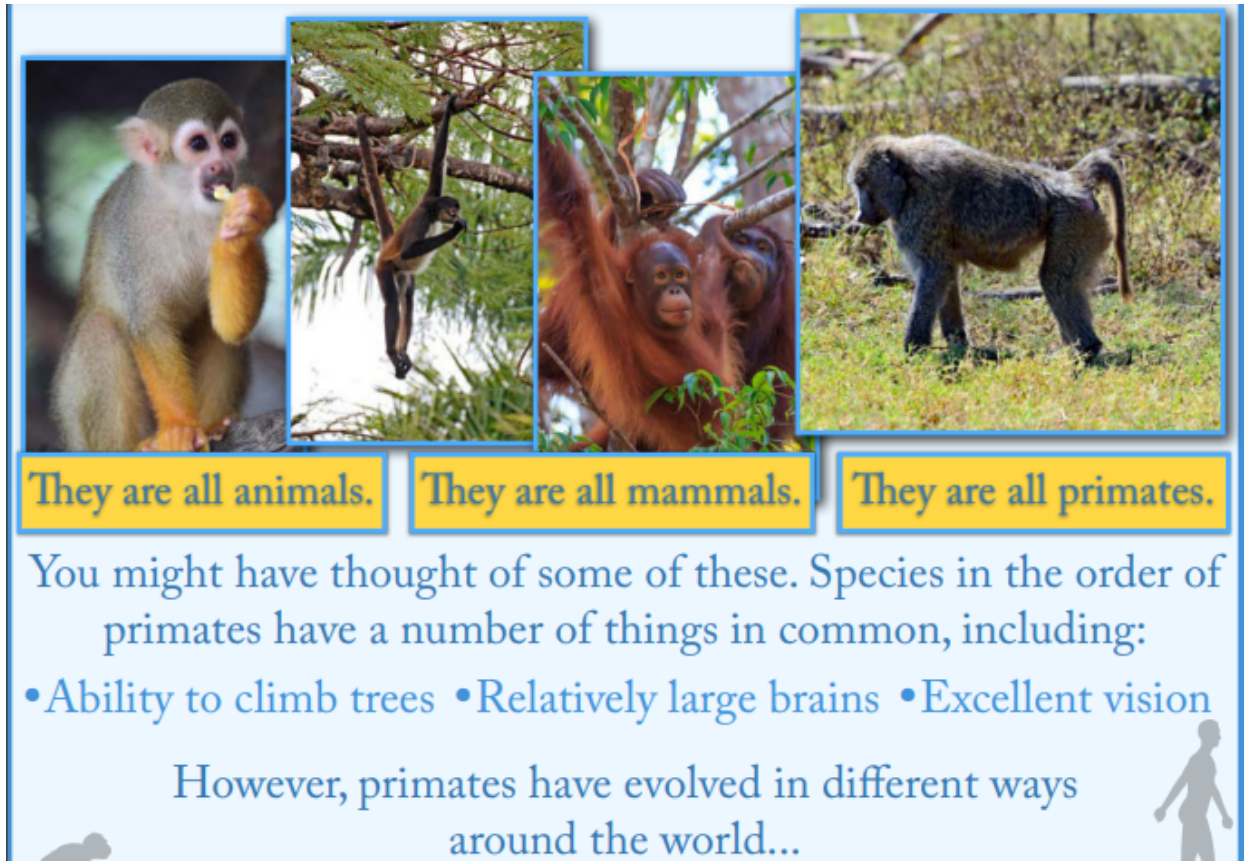
Year 6 Science

LO: To understand how humans have evolved over time, and how human behaviour can affect change in species over time.

What do these species all have in common?

Discuss your ideas.


They are all animals.
They are all mammals.
They are all primates.
You might have thought of some of these. Species in the order of primates have a number of things in common, including:
•Ability to climb trees •Relatively large brains •Excellent vision
However, primates have evolved in different ways around the world...

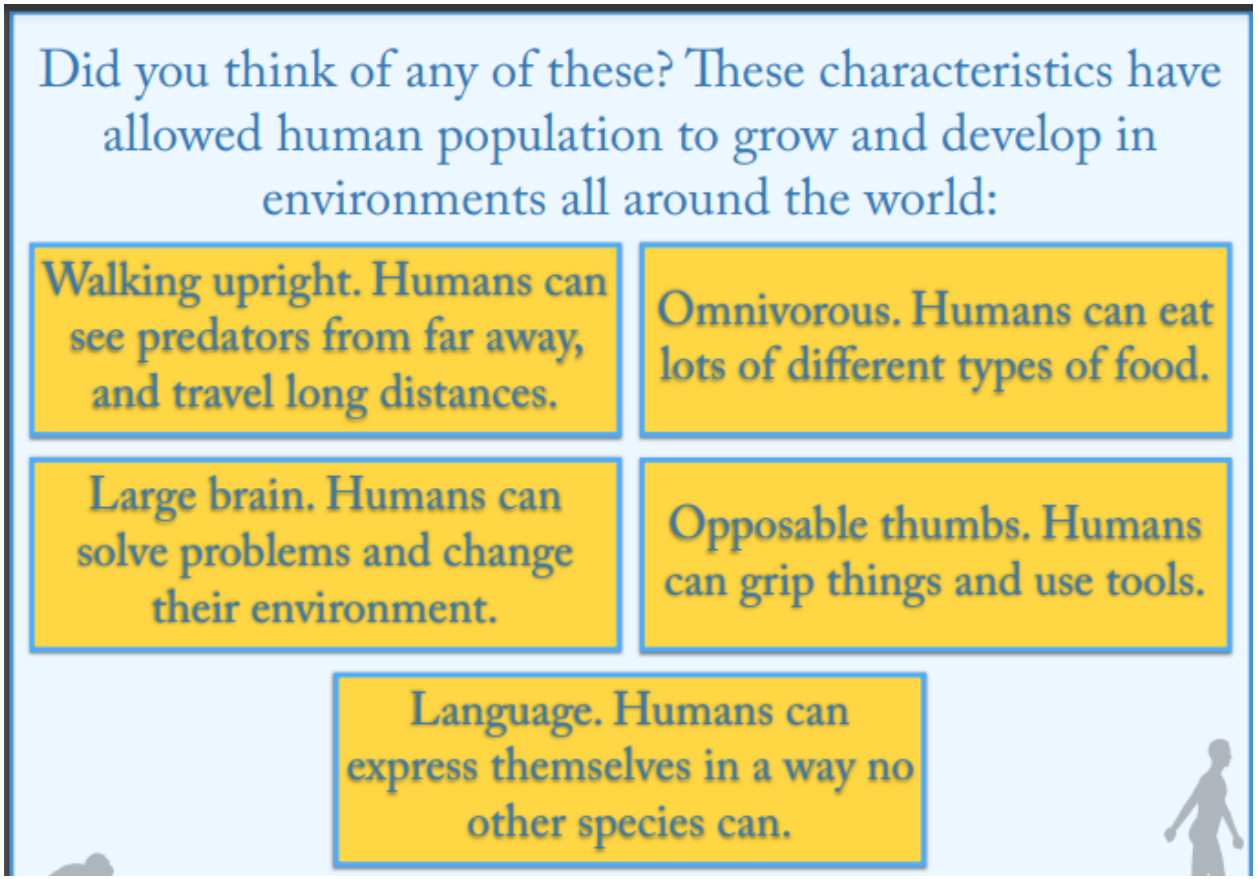
Spider monkeys have long limbs; they can grip vines and branches with their hands, their feet and even their tail!

Baboons have adapted to environments with fewer trees and more grassland. They walk on all fours, using their knuckles.


This map shows the parts of the world inhabited by all non-human primates. Most species are only found in one region, for example, squirrel monkeys are only found in Central and South America. The conditions of their environment is one factor that has affected how different species have evolved.

Over time, humans have spread out and now inhabit environments all around the world. Can you think of some characteristics that humans have that mean they can live in different environments?

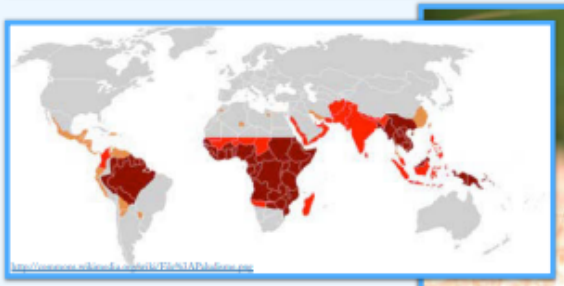
Discuss your ideas.


Did you think of any of these? These characteristics have allowed human population to grow and develop in environments all around the world:
Walking upright. Humans can see predators from far away, and travel long distances.
Omnivorous. Humans can eat lots of different types of food.
Large brain. Humans can solve problems and change their environment.
Opposable thumbs. Humans can grip things and use tools.
Language. Humans can express themselves in a way no other species can.

Did you know that external factors have led to some variation in humans in different parts of the world?

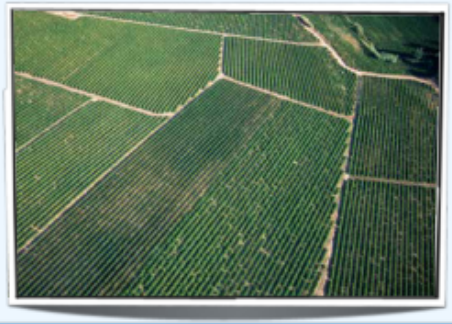
Humans whose ancestors have lived in Europe for generations are less likely to be *lactose intolerant*. This may be because dairy farming of cattle has been widespread in Europe for centuries. Milk has been an important and readily available food source in Europe, much more so than in other parts of the world.

The red areas of the map show where malaria is widespread. What do you notice?



Humans whose ancestors have lived in Africa for a long time are more likely to have a variation that makes them resistant to malaria - a disease transmitted by mosquitoes. Malaria is widespread in hot environments and tropical environments.

Human behaviour has had a significant effect on the evolution of other species.



Humans have cut down lots of forests to make room for farm land. Many species of animals have had their habitats destroyed.

Humans have hunted elephants for their tusks. So many have been hunted and killed that now, elephants are an endangered species.

What might have happened to these species as a consequence of human behaviour? Discuss your ideas.

Species of birds, mammals, insects, amphibians and reptiles are all threatened by *deforestation*. For example, the stone curlew is under threat in Northern Ireland due to meadows being turned into farmland.

The average tusk size of African elephants is smaller now than in previous generations. This is due to elephants with large tusks being hunted for their ivory. More elephants with small tusks survived and reproduced, spreading this variation throughout the population.

Humans are also changing the characteristics of species of plants and animals through selective breeding and cross-pollination...

Farmers have developed chickens that grow bigger and quicker by a process called *selective breeding*. Larger chickens are selected for breeding for generation after generation.

Gradually, these characteristics have spread throughout the chicken population.

Different species of flowers are cross-pollinated to create new species. Humans have created several new varieties of tulip in this way.


BIOLOGY
HUMAN IMPACT
fuse
school
0:00 / 4:08
CC

Discussion Statements. Choose one of the statements and write a persuasive argument either for or against it.

Remember to give reasons for your ideas,PEE (Point, Evidence, Explain) and use persuasive language!

Humans are more important than other species.

Humans have a responsibility to protect endangered species.

There is lots of evidence all around us that helps explain the process of evolution.

Studying how species evolve is important.

Human activity on Earth is damaging environments and affecting the way species evolve