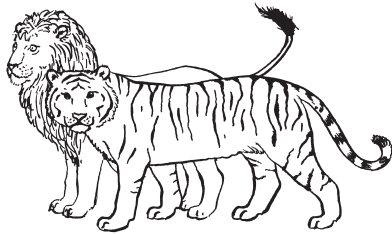
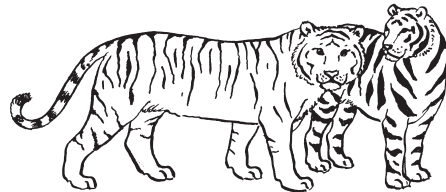


Variation

A **species** is a group of organisms that can reproduce with one another to produce offspring that will also be able to reproduce. The differences between organisms are known as **variation**. There is variation between different species and between members of the same species.

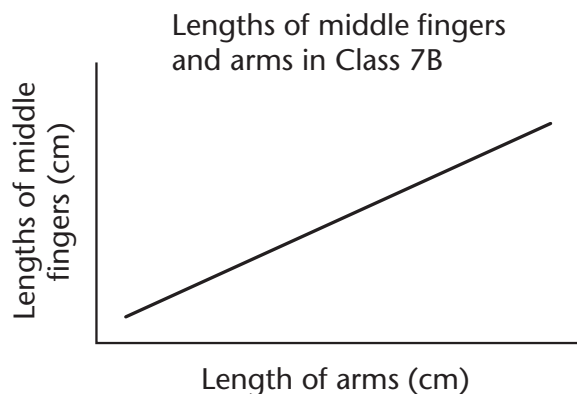


There is variation between different species. Lions and tigers are different species. Tigers have stripes, lions do not.



There is variation between members of the same species. All tigers have different patterns of stripes.

Sometimes there is a **relationship** or **correlation** between two features. A relationship is normally best shown on a line graph. The line will go steadily up or steadily down.



Relationship: people with longer arms have longer middle fingers.

Variation can have **environmental** or **inherited** causes.

Environmental variation

An organism's surroundings are known as its **environment**. The conditions in an environment are called **environmental factors**. Plants are affected by environmental factors such as the amount of light, water, warmth or mineral salts in the soil.

Animals are also affected by environmental factors. Humans who get sunburnt or have scars are examples.



The cress seedlings on the left have not had enough light.



The plant on the left has not had enough water. It has wilted.

Inherited variation

This is caused by features being passed from **parents** to their **offspring**. In humans, natural eye colour and natural hair colour are both examples of inherited variation.

Classification

There are so many species that we need to put them into groups. This is called **classification**.

The first set of groups that organisms are put into are called **kingdoms**. The two largest are the **plant kingdom** and the **animal kingdom**. One big difference between these two kingdoms is that plants can make their own food and animals cannot.

The animal and plant kingdoms are divided into other groups. In the animal kingdom, the **vertebrates** are animals that have a **backbone**. There are five sorts of vertebrate. There are another eight groups which are all **invertebrates**. The most important groups to know about are in bold type in the diagram.

