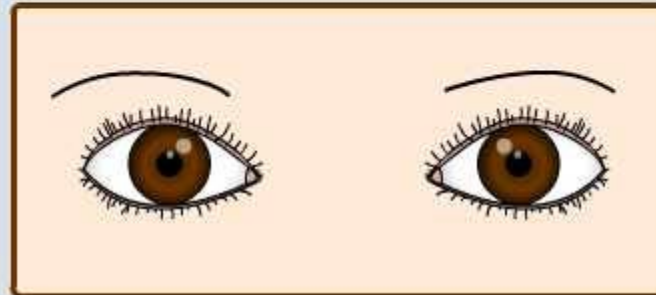
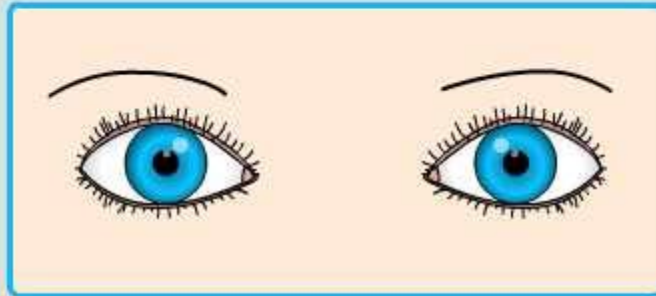


Types of Variation



Variation within a species

Organisms of the same species are similar but not identical.

Even though humans are all from the same species, there are many ways in which they are different from each other.

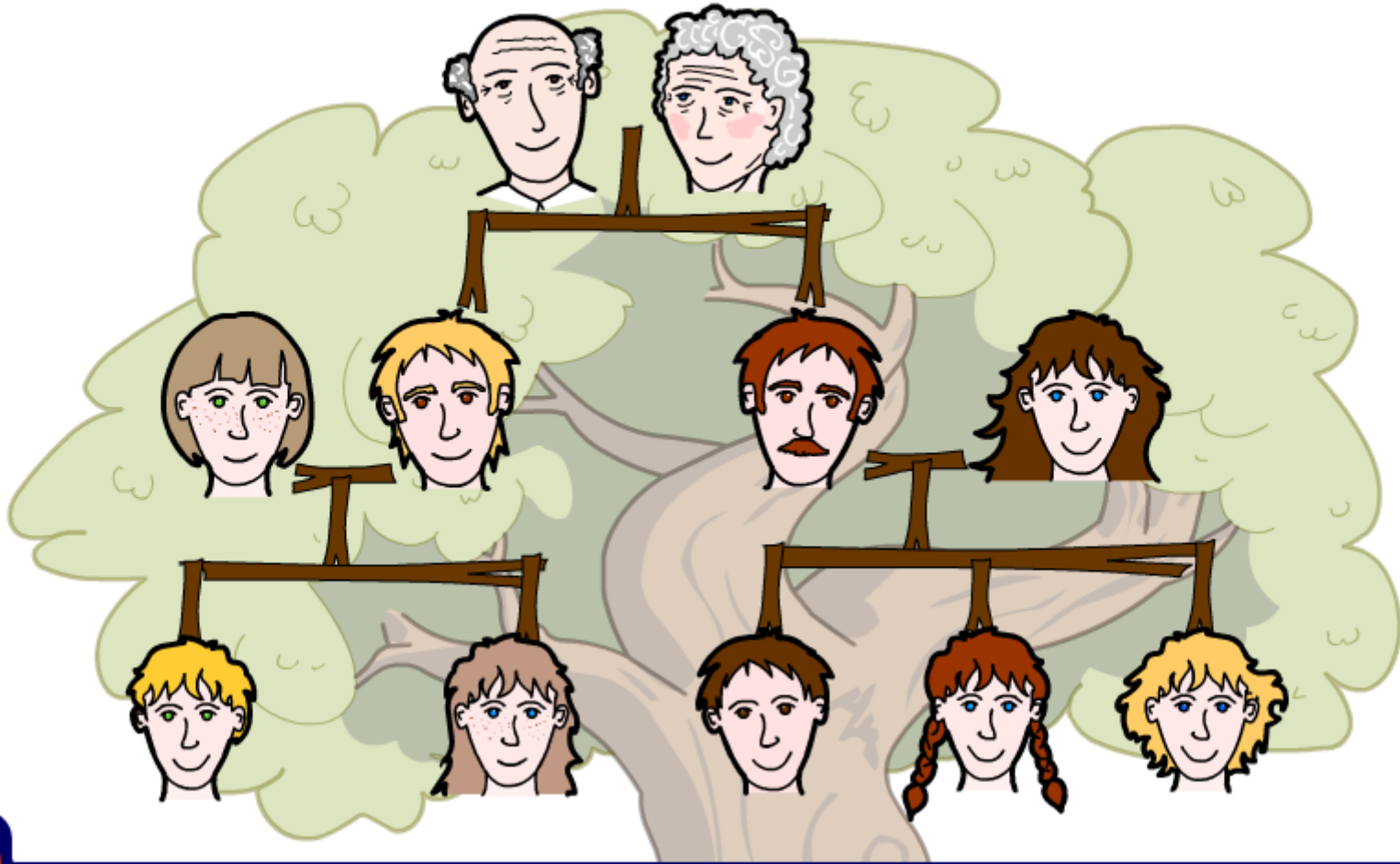
The differences that occur both **between** different species and **within** the same species are called **variation**.



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What characteristics have been passed on in this family?

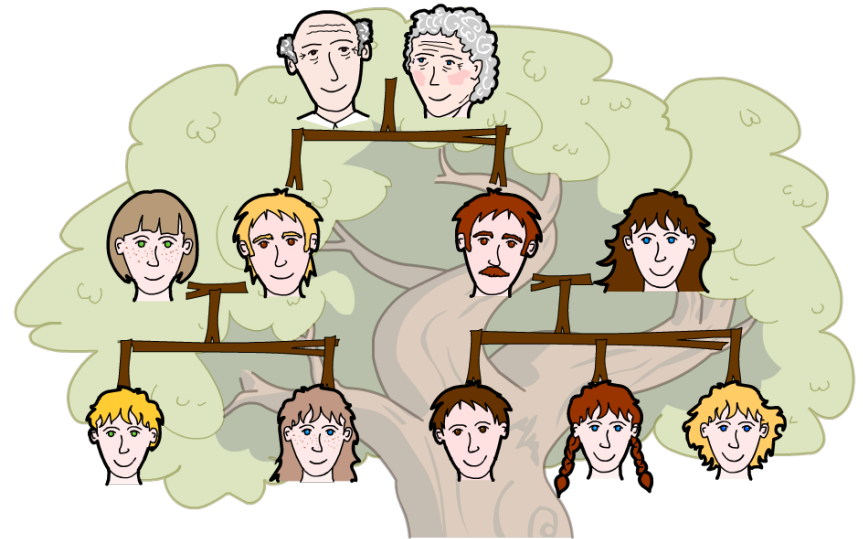


Inherited characteristics

The members of this family tree are related and so they share certain similar characteristics, such as hair color and eye color.

Shared family characteristics are inherited from parents.

So why don't all family members look exactly alike?



Why are identical twins more similar than brothers and sisters?



What is variation?

Variation can come about for two reasons. What are they?

Children inherit characteristics from their parents. Each child inherits a different combination of characteristics. This is called **inherited variation**.

Other characteristics are affected by a person's surroundings. This is called **environmental variation**.



Which type of variation?

Are the following characteristics environmental or inherited?

environmental

inherited

hair length



solve



Inherited or environmental?

Deciding if a characteristic is inherited or caused by environmental factors can cause a lot of discussion.



Scientists have now decided that only four features are **truly inherited** and not affected by the environment at all.

What are the four truly inherited characteristics?

- natural eye color
- natural hair color
- blood group
- certain inherited diseases.



Inherited or environmental?

Most features are caused by a mixture of **inheritance** and **environmental** factors.

Nose shape is inherited, but over time it may be affected by the environment.

For instance, someone might have a nose that looks just like their mother's. But if they were in an accident, they might break their nose and put a kink in it.



Characteristics can be classified in different ways. How would you categorize variation in eye color? Could height be categorized in the same way?

- A feature that can be measured and given a value from a range of values shows **continuous variation**.
- A feature that cannot be measured but is one of a few distinct options shows **discontinuous variation**.



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Which type of variation are eye color and height?



Are the characteristics continuous or discontinuous?

Characteristics can be categorized as either continuous or discontinuous.

Click "**start**" to see if you can classify some human characteristics.

start

