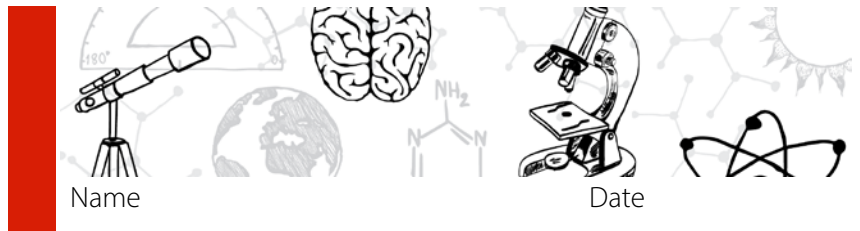


Barbara McClintock

Heredity & Inheritance



Living things often look and act like their parents. Many of our **traits** are passed down from our parents in **genes**. Genes are tiny parts in our body. They are like little instruction books telling our bodies what each of us will be like.

Animals, including humans, get or **inherit** genes from both of their parents. This is why siblings often share many traits. However, each sibling may get slightly different genes from each parent. They probably are not exactly alike. The differences between siblings are called **variations**. Variations happen within families and within a species.

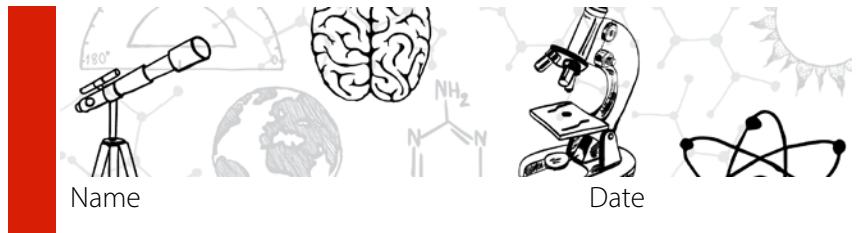
Plants also inherit genes from their parents. A species of plants can have variation. Not all plants of the same species look exactly the same.

Which sentence best represents the main idea of the text?

- "Many of our traits are passed down from our parents in genes"
- "This is why siblings often share many traits"
- "Variations happen within families and within a species"
- "Not all plants of the same species look exactly the same."

Barbara McClintock

Genetic Variation



Animals or plants within a **species** have many things in common. Still, they are not all exactly the same. They have differences called **variations**. Some variations happen because **traits** come from both parents. Siblings get **genes** from their mother and father. This causes small variations, even within a family.

Other variations happen more suddenly. Sometimes this is because of **transposons** or “jumping genes.” People used to think that genes stayed in a special order. However, in the 1940s, Barbara McClintock discovered that some genes can jump! When they move, they can change make big changes to a plant or animal. These big changes are called **mutations**.

Scientists think that genes jump when there is stress in the environment. Sometimes, this causes a change that helps the plant or animal survive. For example, when trees were covered with dark soot from factories, peppered moths turned black. This helped them blend in with the trees.



When one kind of plant or animal has many of these mutations over time, it can become something completely new. This is called **evolution**. Long ago, jumping genes caused many changes in primates. Some of them evolved into chimpanzees. Others evolved into humans. Our species exists today because of jumping genes. They make up almost half of our **DNA!**

