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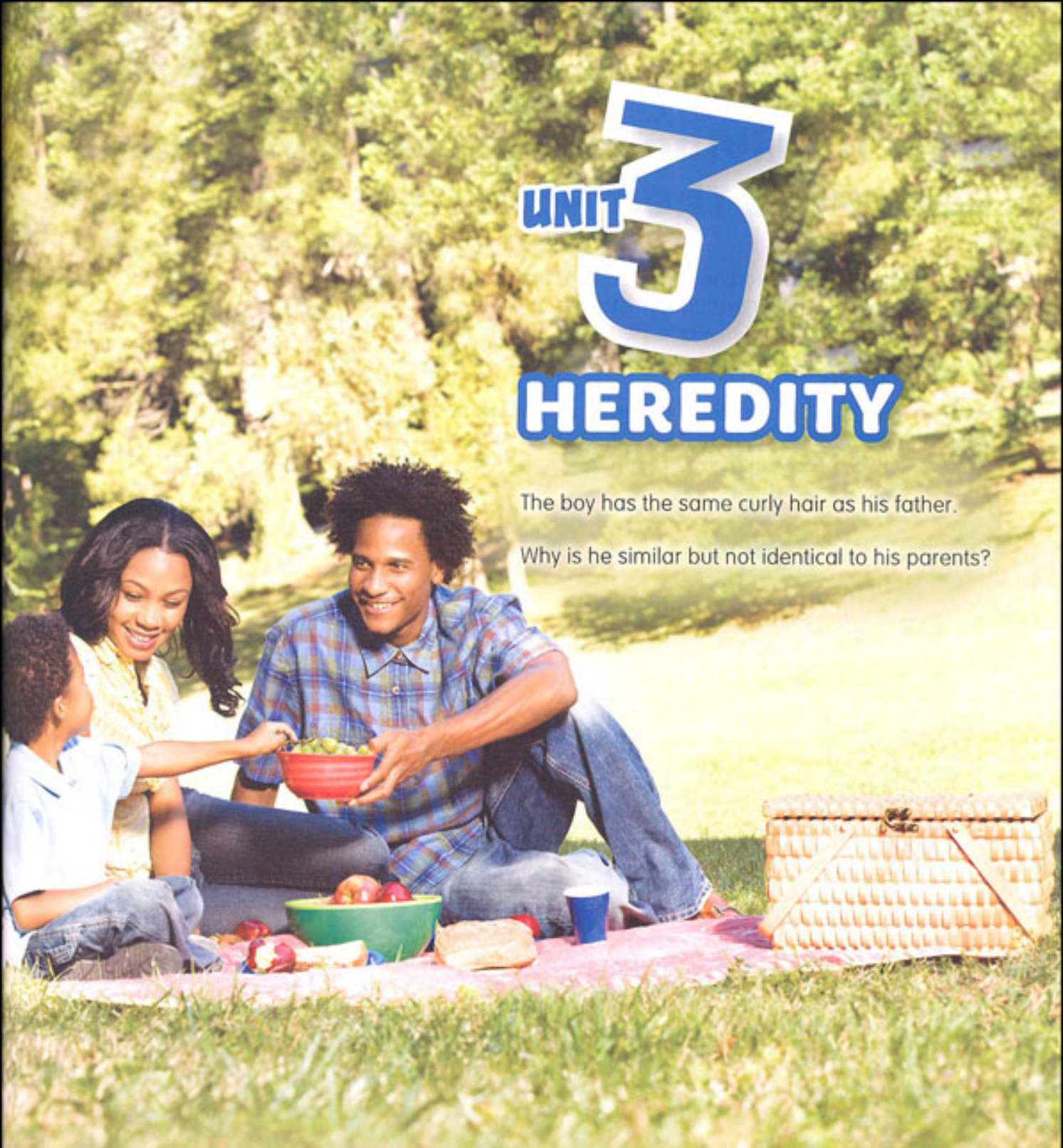


UNIT 3
HEREDITY

The boy has the same curly hair as his father.

Why is he similar but not identical to his parents?

Let's Find Out:

- Why do living things resemble their parents?
- What characteristics are passed on from parents to their young?
- What characteristics are not passed on from parents to their young?
- Why are living things not identical to their parents?

3.1

Why Do Living Things Resemble Their Parents?

Living things reproduce to ensure the survival of their own kind. When living things reproduce, they pass on their **characteristics** to their young, and their young inherit these characteristics. This process is called **heredity**.

Some of the characteristics that the young can **inherit** from their parents are physical features that are **observable**. This is why we look like or resemble our parents.

The children resemble their father in eye colour.

The child resembles his mother in his hair colour and skin colour.

EXPLORE

Compare yourself to your parents. What are some characteristics that are similar between you and your parents? Share your findings with your classmates.

3.2

What Characteristics Are Passed on From Parents to Their Young?

Characteristics that are passed on from parents to their young during reproduction are called inherited characteristics.

In humans

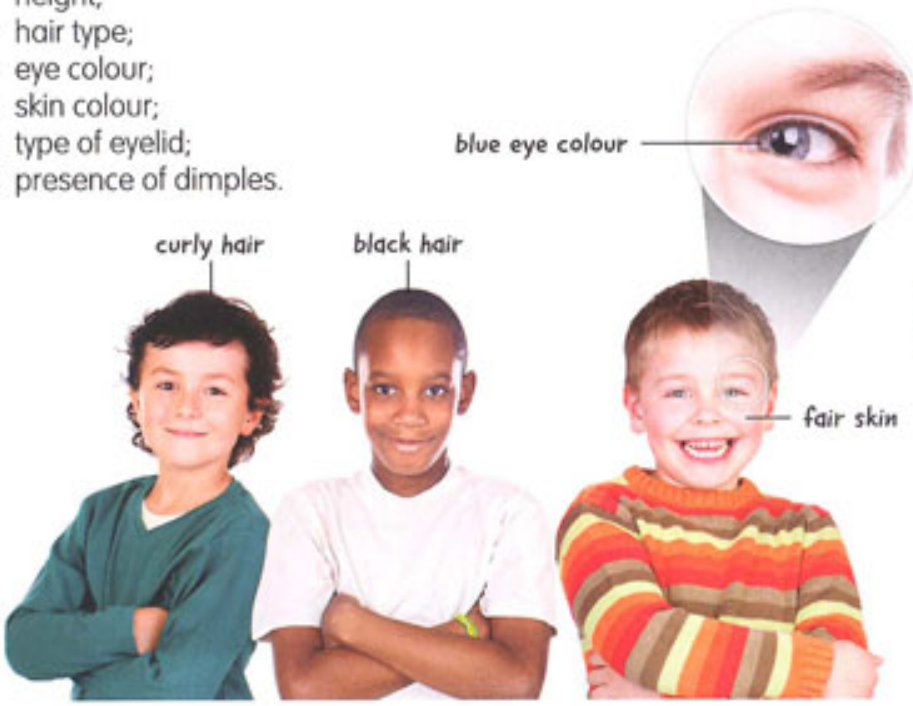
The type of earlobe is an example of a characteristic that we inherit from our parents.

Attached earlobe

Detached earlobe

Some other characteristics that we can inherit from our parents are

- height;
- hair type;
- eye colour;
- skin colour;
- type of eyelid;
- presence of dimples.



RESEARCH

Find out about the different blood types. Do you know what your blood type is? Why is it important to know your blood type?

While some characteristics that are passed on from our parents to us are easily observed, other characteristics are not. Blood type is an example of such a characteristic.

Activity Book:
- ***Activity 1, pages 27-28***
- ***Activity 2, pages 29-30***

3.3

What Characteristics Are Not Passed on From Parents to Their Young?

As living things interact with their environment, they may develop certain characteristics to adapt to the environment.

Characteristics that develop as a result of interactions with the environment are non-inherited characteristics. They are not passed on from parents to their young through reproduction.

Some non-inherited characteristics are

- likes and dislikes;
- learned behaviours;
- changes in some physical features;
- abilities or skills.

We do not inherit our likes and dislikes from our parents. We learn to like or dislike things as we grow up and interact with the things and people around us.

Our activities can influence our physical appearance. For example, regular exercise or exposure to the Sun can result in strong muscles or tanned skin. These changes in physical features are not inherited from our parents.

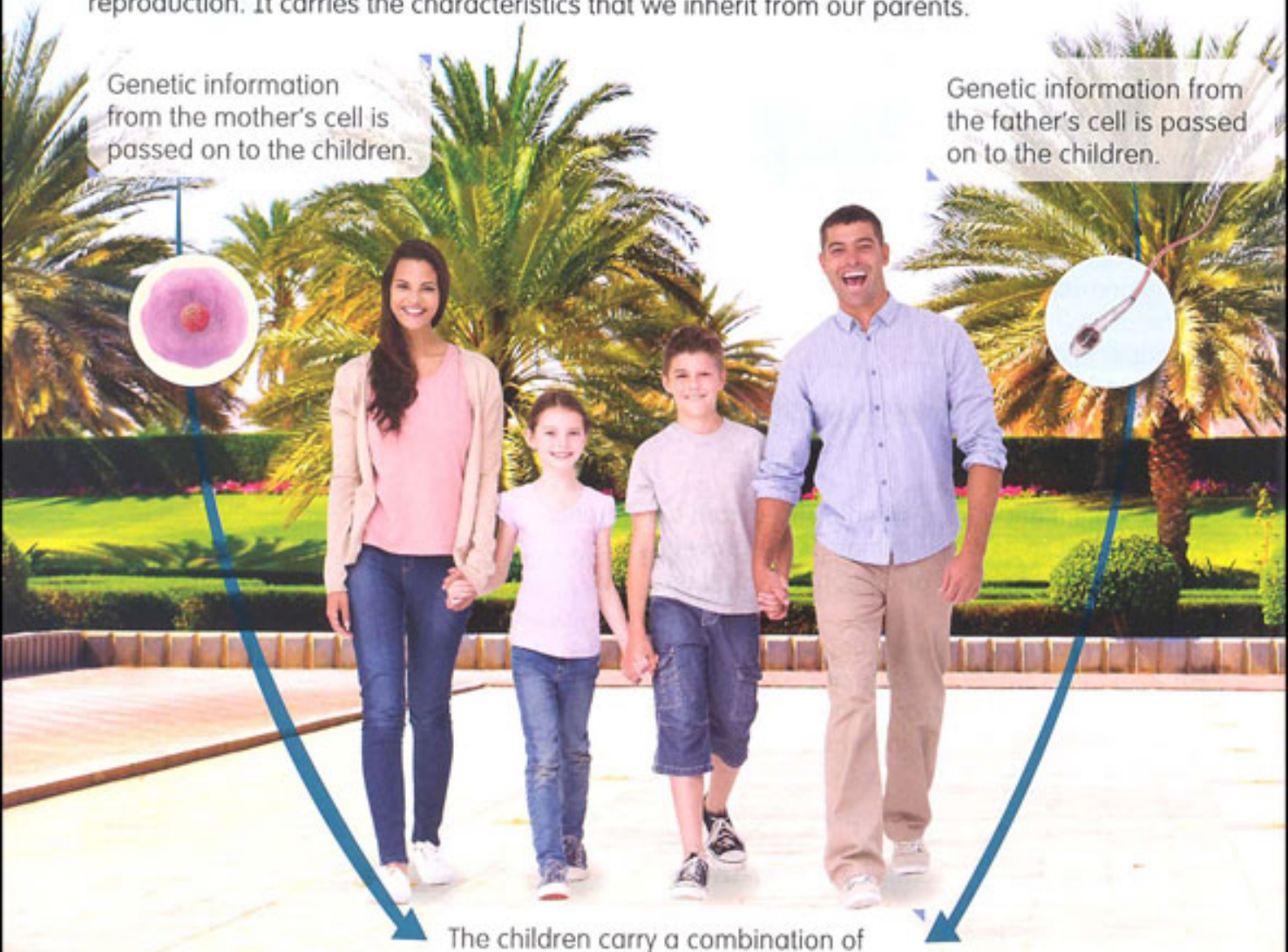
QUICK CHECK

1. How can we tell the difference between inherited and non-inherited characteristics?
2. Is dyed hair an example of an inherited characteristic?

3.4

Why Are Living Things Not Identical to Their Parents?

Genetic information is information passed on from parents to young during reproduction. It carries the characteristics that we inherit from our parents.



The children carry a combination of genetic information from both parents.

This is why the young resemble their parents, but are never identical to them.

QUICK CHECK

Why are the young not identical to their parents?

Activity Book
Activity 3, pages 31-32