Year 6 Science: Traits, inheritance and variation in living things

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. Which of these is a trait: the colour of a dog's coat, the dog's name, or the dog's favourite toy?

2. Does the length of a cat's tail fall into clear groups or a range?

3. Two kōwhai seedlings come from the same tree. One grows tall in the sun and one stays small in deep shade. What caused the difference?

4. White and brown mice live in a dark, brown forest. Owls hunt them by sight. Which colour will probably become more common, and why?

5. In Room 6's histogram, how many leaves were 8.0 cm or longer?

Fix the mistake

6. Correct this statement: "Brothers and sisters from the same parents are exactly the same."

7. Correct this statement: "Every trait comes only from the parents."

8. Correct this statement: "A histogram has gaps between the bars, like a bar graph."

9. Correct this statement: "Measuring the five biggest leaves on a tree shows how leaf size varies."

Answer key (for parents and tutors)

1. Which of these is a trait: the colour of a dog's coat, the dog's name, or the dog's favourite toy?
   The colour of its coat, a feature of its body you can see; a name and a favourite toy are not part of the dog.
2. Does the length of a cat's tail fall into clear groups or a range?
   A range, because tail length can be any value.
3. Two kōwhai seedlings come from the same tree. One grows tall in the sun and one stays small in deep shade. What caused the difference?
   The environment: the amount of light changed how the trait turned out.
4. White and brown mice live in a dark, brown forest. Owls hunt them by sight. Which colour will probably become more common, and why?
   Brown, because owls see white mice more easily, so more brown mice survive and pass on their colour.
5. In Room 6's histogram, how many leaves were 8.0 cm or longer?
   5 + 2 = 7 leaves.
6. Correct this statement: "Brothers and sisters from the same parents are exactly the same."
   Offspring are similar to each other but never identical; there is always some variation.
7. Correct this statement: "Every trait comes only from the parents."
   The environment matters too: a tree bent by wind or a plant grown in shade shows how surroundings change a trait.
8. Correct this statement: "A histogram has gaps between the bars, like a bar graph."
   In a histogram the bars touch, because the groups are a smooth range of values with no gaps between them.
9. Correct this statement: "Measuring the five biggest leaves on a tree shows how leaf size varies."
   Pick leaves from all around the plant, or the results will be too big and will hide the variation.