Year 3 Science Assessment: Forces and Magnets

Learning objective: To identify and describe how objects move on different surfaces and to understand the behaviour of magnets.

Read each question carefully. Max the monkey needs your help to solve these puzzles! Write your answers clearly in the spaces provided.

Max the monkey is playing in the park. He notices that when he rolls his wooden toy car on the smooth pavement, it travels further than when he rolls it on the bumpy grass. He also finds two magnets in his pocket and notices that sometimes they stick together, and sometimes they push each other away.

Word bank: friction · magnetic · surface · attract · repel · pole · force · push · pull

1. Max pushes his toy car across the grass. Name the force that acts between the wheels and the grass to slow the car down. (1 mark)

2. Explain why the toy car travels a shorter distance on grass than on a smooth wooden floor. Use the word 'friction' in your answer. (2 marks)

3. Max has two bar magnets. If he puts the North pole of one magnet near the North pole of another magnet, what will happen? Use the word 'repel' in your answer. (2 marks)

4. List three objects found in a classroom that would be attracted to a magnet. (3 marks)

5. Nova the owl is investigating forces. If Nova pushes a ball up a hill, what happens to the speed of the ball? Explain why this happens using the word 'force'. (4 marks)

6. Max wants to buy new equipment for his science experiments. A magnet costs £1.20 and a set of metal paperclips costs £0.80. If Max has £3.00, how much change will he receive after buying both items? (5 marks)

7. Describe a fair test you could carry out to see which surface is the smoothest for a toy car to travel on. Mention what you would keep the same to ensure it is a fair test. (8 marks)

Draw: Draw a diagram showing two magnets. Use arrows to show the direction they move if they are repelling each other.

Extension challenge: Total: /25