

STAGE 2 SCIENCE

ACTIVITIES TO LEARN ABOUT THE PHYSICAL WORLD

Learning intention: Activities are designed to engage students with the outdoors, exploring how energy is transferred from one place to another and how forces interact with objects.

Activity 1: The behaviour of light

Write your name in large letters on a piece of paper. Hold your paper up in front of a mirror so that you can see the writing reflected. How do the letters look in the mirror? On another sheet of paper, try writing your name in reverse. Hold your paper up to the mirror and check your writing – how does it look? Continue working on your reverse writing until the letters appear the right way around when viewing them in the mirror.

Extension activity: Did you know that the word AMBULANCE is written in reverse on the front of the vehicle so that drivers can read it in their rear-view mirrors while driving? Try writing signs in reverse for other emergency service vehicles. Hold them up to a mirror to check your reverse writing skills!

Activity 2: Forces and motion

Find a small ball (such as a tennis ball) and take it outside to a flat surface. Complete the following challenges:

- **Spin** your ball on the ground. Time how long it spins for before stopping. Can you change your actions to make it spin for longer?
- **Bounce** your ball and take note of the height it reaches before returning to the ground. Can you change your actions to make it bounce higher?
- **Roll** your ball down a ramp (you may need to make a ramp using materials from home). Let your ball go gently from the top of the ramp – don't push it. Take note of how far it rolls before stopping. Can you change the length or angle of your ramp to make it roll further?

Extension activity: Repeat the above activities using a different sized ball. Does the size of the ball change the way it moves when spinning, bouncing or rolling? Write a short explanation to describe your findings.



Activity 3: Pull of gravity, push of water

Collect a range of balls of different sizes and take them outside. Stand and hold the balls at the same height – can you predict which ball will hit the ground first? Drop the balls to test your prediction.

Fill a bucket with water. Pick a ball and place it in the bucket. Does it float? Push the ball down into the water. What happened? Repeat with the different sized balls.

Extension activity: Tie a heavy object such as a hammer or a full 2L bottle to a length of string. Hold the string and feel how heavy the object feels. What happens when you lower the heavy object into the water? Write down your observations.

