

# Year 3

## Light and shadow/circuits and switches: activity ideas

- 1** Set the children a challenge to design shapes to make particular shadows. These can then be combined to make shadow puppets. Many cultures have a tradition of shadow puppetry, such as in Indonesia. Research some of the traditional stories and stage a shadow puppet show, based on one of the stories that you have researched.
- 2** As a class, make a simple sundial by fixing a stick to a base and placing it in a sunny spot in the school grounds. Each hour, return to the sundial and mark the position of the shadow on the base and the time. Are the shadows in the same places at the same times on subsequent days? What problems would there be for people if they could only use sundials as a means of telling the time?
- 3** Make a pinhole camera. Using a shoe box, discard the lid and paint the inside of the box black. When the paint is dry, make a small hole in the base of the box and tape tracing paper across the top of the box. Ensure that the tracing paper is taut and smooth. Then, turn the box on its side and point the hole at a bright object. An image of the object will appear on the tracing paper screen. If the children don't already notice, point out that the image is upside down. Can they think why this might be? Try experimenting with the size of the hole or the number of holes.
- 4** Compile a class collection of books and stories about light and darkness. Explore how light and darkness are used in storytelling. Why do the children think darkness is usually seen as dangerous and threatening? Can they find any examples of this?
- 5** Create a non-fiction book or information poster explaining to younger children essential facts about light and shadows or circuits and switches.
- 6** Make a question-and-answer board related to a topic being studied. Along the left-hand side of a sheet of thick card, fix split pins at regular intervals with the round head facing the front. Fix the same number of split pins parallel to these on the right-hand side of the card. Beside each of the split pins on the left-hand side, write a question. Beside each of the pins on the right-hand side, write a possible answer. Link the left pins with the corresponding right pins using wire on the reserve side of the card.  
Next, create a separate circuit by having a battery linked up to a bulb. The two ends of the circuit should be left free – so that these can be connected to the split pins. When one of the free ends of a wire is placed on the split pin next to the question, and the other free wire is placed on the split pin with the correct answer, the circuit will be completed and the bulb will light up.

