



Bamboo cricket bats

Cricket bats are made from willow (wood) but this is a valuable resource and takes years to grow. Scientists have tested other materials, including bamboo which grows very quickly and has similar properties, to find out if it could be used instead. This could be more sustainable and help the environment.

ACTIVITY

Can you compare the bounciness of different materials?



ACTIVITY OVERVIEW

Activity leader to provide a cricket ball (or a hard ball of a similar size) and a range of different materials that cricket bats could be made of.

1. Encourage the children to feel the surfaces. Discuss what they are made of and their properties - how bendy/stretchy are they? Ask the children to predict which surface will allow the ball to bounce furthest after the ball hits it and to suggest why.
2. In small groups, children roll the ball down a ramp towards a wall (or similar hard surface) so that it bounces off. Mark and measure the distance that the ball bounces back from this hard surface.
3. Fix different surfaces against the wall and repeat.
4. From their tests, children can order the surfaces according to how bouncy they are.

RESOURCES

Per group (3 or 4 children)

a cricket ball or a similar size hard ball
access to a vertical surface (wall)
a ramp
chalk
measuring tape

To share between groups

surfaces to test - sheets of wood, cardboard or plastic

KEY FACTS/SCIENCE

Some materials are more **elastic** than others - more elastic materials stretch or squash (**compress**) more and return to their original shape easily, less elastic materials do not return to their original shape so easily.

A cricket ball is very hard and not easily compressed.

When a hard ball hits a surface (e.g., a cricket bat), the surface will be squashed (compressed). As the surface springs back into shape, it pushes against the ball (a force is created) and this pushes the ball away from the surface.

Scientists measure how **bouncy** or **elastic** materials are by measuring the speed at which two objects move apart after they have collided.

QUESTIONS FOR LEARNING

- Which surfaces are the most bouncy? What are these surfaces made of?
- Could you compare how bouncy different balls are?
- Would it be better for a cricket ball to be bouncy or not? Why do you think this?