

The Perfect Ball

Junior Inventors Name: _____

The Perfect Ball

How bouncy is bouncy? It's time to experiment to find the bounciest ball. Gather a range of different balls that have been made to bounce. List them in the chart below and add in details about their circumference, weight and materials.

Work in pairs. Choose one position to drop each ball from. You need to be near a pole or wall so that you can mark the height the dropped ball bounced back up to each time and then measure from the floor to the mark. Take turns to drop each ball. Mark measure and fill in the table below.

Ball	Materials	Circumference	Weight	Bounce height

What can you conclude from this experiment?

What other experimenting do we need to do to really understand the bounce of balls?

Junior Inventors activity sheet © Skoolbo 2015

Lesson Sequence:

Provocation: Using ping pong balls, have your students experiment with the bounce on different surfaces and then also when force is applied. Introduce the term 'variable' and identify how, in this task, the type of ball stayed the same but the surface varied.

Tuning in: Discuss how balls are made for different purposes, are different weights and have different circumferences. Ask your students to collect a range of balls and bring them to school for the next part of the lesson.

Finding Out: Read the article entitled, The Perfect Ball. Guide your students to measure the circumference of different balls and weigh them. Talk about how these different variables influence the way the ball bounces.

Experiment: Using the activity sheet provided, ask your students to find out which ball bounces the highest when dropped. Students complete the experiment, recording their results in the table on their sheet.

TIPS TO SUPERCHARGE YOUR LESSON

There are so many things to do with bouncing balls! **Here are some ideas:**

Observe the path a ball makes when it bounces and then continues to bounce before coming to a stop. Draw the path and compare what happens with different balls.

Take two tennis balls and two golf balls. Put one of each in the freezer. After 2 hours or so, drop the balls from the same height. What happens? The frozen ball should bounce about 20% less showing that temperature of materials is a variable.

<https://bouncyballs.org/> Using this site, demonstrate how sound creates vibrations which can cause balls to bounce.

Psst! Use this as a management technique to monitor noise levels in the classroom.

