

# Ball Bounce

## You need

- ★ a basketball
- ★ scales
- ★ a metre stick
- ★ a tape measure
- ★ a classmate

## TECHNOLOGY

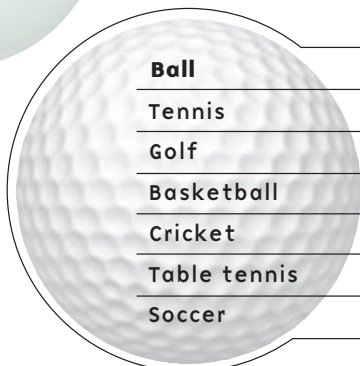
Sports balls used in international competitions have to meet strict specifications. For example, a basketball must be able to bounce 20 000 times without losing any of its bounce.

## Activity

1. Natalie and Luke want to play basketball, but the only ball they have is a soccer ball. They try a few bounces, but the ball just doesn't feel right!

It's smaller than a basketball, and it's not as heavy.

- a. With a classmate, rank the ball used for each sport according to the attributes of mass and size. 1 is the highest, and 6 is the lowest.



Ball	Mass	Size
Tennis		
Golf		
Basketball		
Cricket		
Table tennis		
Soccer		

- b. Devise an experiment to rank the bounce of each ball in the chart.
- c. Discuss why each ball suits the sport it is used in.

2. Even brand new balls differ in how they perform, so the specifications for international competitions have to be very strict.

An international basketball must:

- be between 75 cm and 78 cm in circumference (the distance around a circular shape)
- weigh between 567 grams (g) and 650 g
- bounce at least 130 cm when dropped from a height of 180 cm onto a hard surface.

Test 3 school basketballs using the international criteria. Decide which comes closest to meeting the criteria. Explain your evidence.



It doesn't have the same bounce as a basketball!

## Focus

Making and comparing measurements