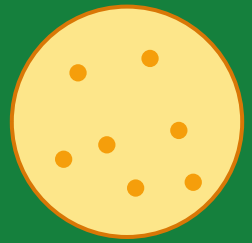




Which ball is the bounciest?

Let's be scientists like John Dunlop!





Science · Year 1/2 · Materials

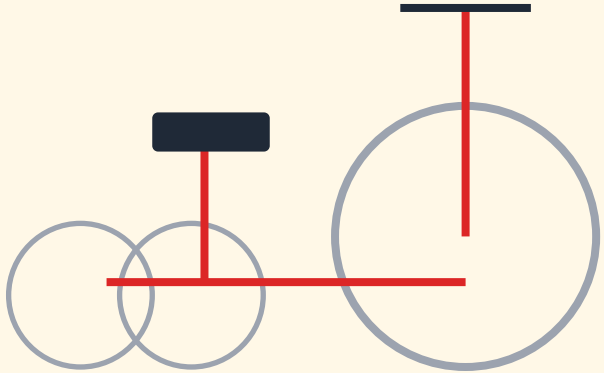
Today's goal

We are finding out which MATERIAL is the bounciest, using a FAIR TEST.

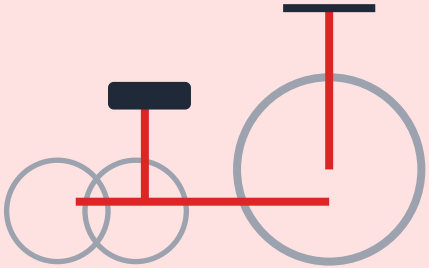
- ✔ I can make a prediction.
- ✔ I can help keep our test fair.
- ✔ I can measure how far each ball bounces back.
- ✔ I can say which material was the bounciest.

Remember John Dunlop?

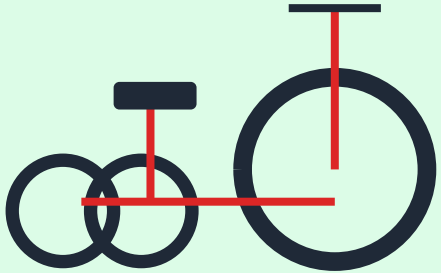
- ★ John Dunlop was a vet who lived in Belfast.
- ★ His son's tricycle had hard, solid tyres.
- ★ It was bumpy and uncomfortable, and needed lots of effort to ride!



John Dunlop's big idea



Before: hard tyres, bumpy ride



After: rubber tyres filled with air!

In 1888, he made tyres from rubber filled with air. They were bouncy and comfy!

What is a material?

A material is what an object is MADE FROM.



wood



metal



plastic



glass



rubber



fabric



foam



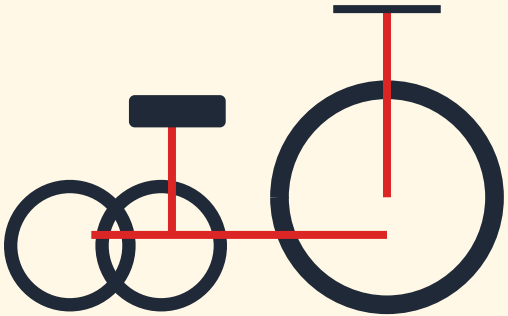
paper

Materials can be...

hard	soft	bendy	stretchy
bouncy	smooth	rough	waterproof

Which materials do you think are BOUNCY?

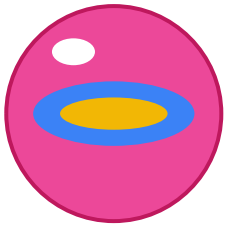
Today, WE are John Dunlop!



Our job: test different materials to find out which would make the BOUNCIEST tyre!

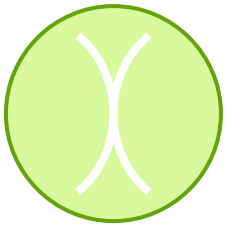
We will test balls made from different materials.

Our balls: what are they made of?



Bouncy ball

solid rubber



Tennis ball

rubber filled with air, covered in felt (fabric)



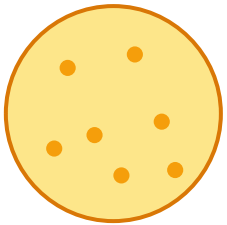
Football

plastic or leather outside, rubber inside, filled with air



Table tennis ball

thin, hard plastic, filled with air



Foam ball

soft foam

Our science words

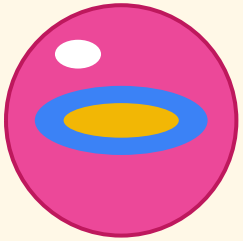
prediction
what I THINK will happen

result
what REALLY happened

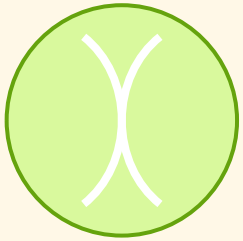
fair test
we only change ONE thing: the ball

material
what something is made from

Make a prediction!



Bouncy ball



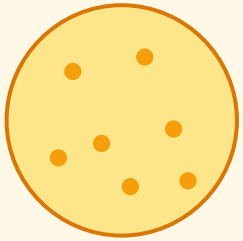
Tennis ball



Football



Table tennis ball



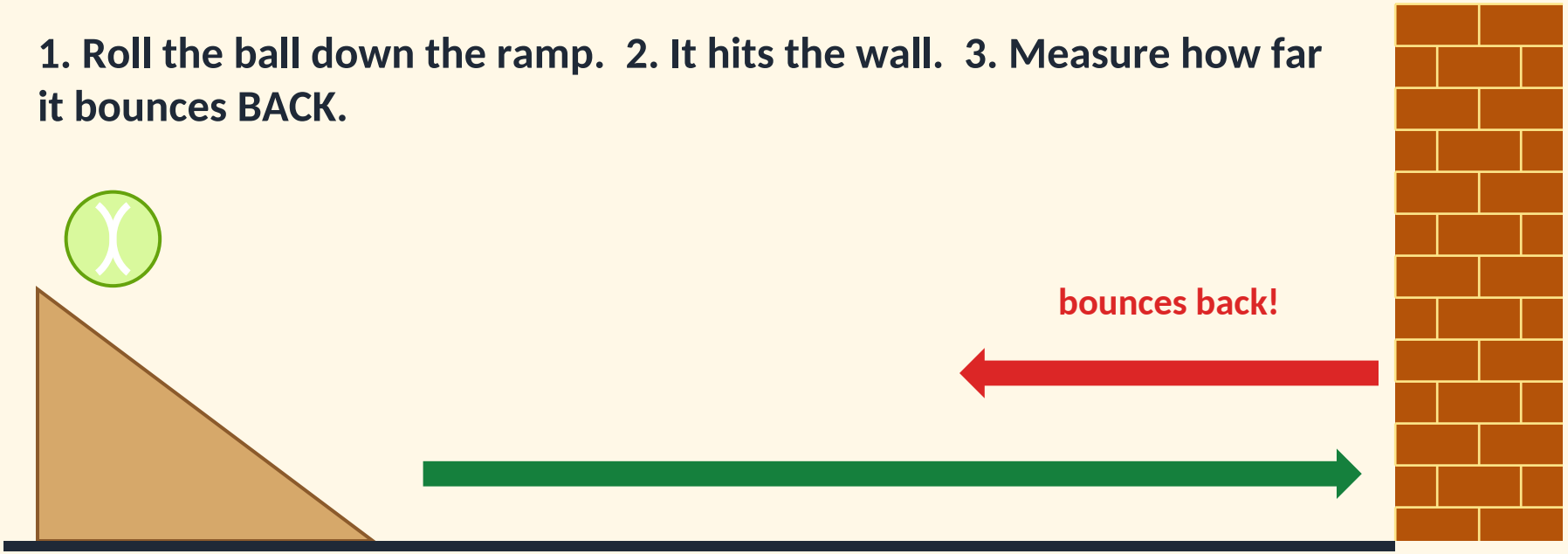
Foam ball

I think the _____ will bounce the furthest because _____.

Fill in the PREDICTION column on your sheet.

How will we test the bounce?

1. Roll the ball down the ramp. 2. It hits the wall. 3. Measure how far it bounces BACK.



The ball that bounces back the furthest is the bounciest!

Is it fair?

NOT fair

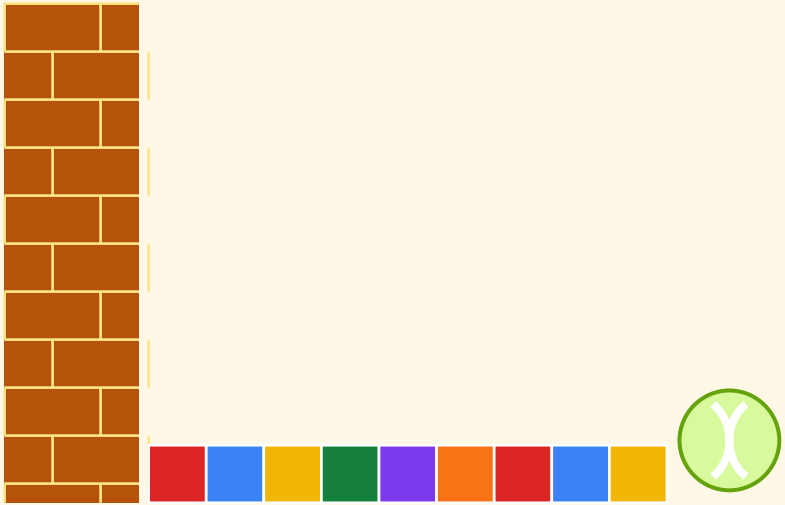
Throwing one ball gently and one ball hard. They bounce different amounts because of how we threw them!

Only ONE thing changes: the BALL.

To make it FAIR, keep these the same:

- ✔ the same ramp
- ✔ the same starting place on the ramp
- ✔ let go, don't push
- ✔ the same wall
- ✔ measure from the wall every time

How far did it bounce back?



9 cubes!

Use multilink cubes

Lay cubes from the wall to where the ball stopped. Count them!



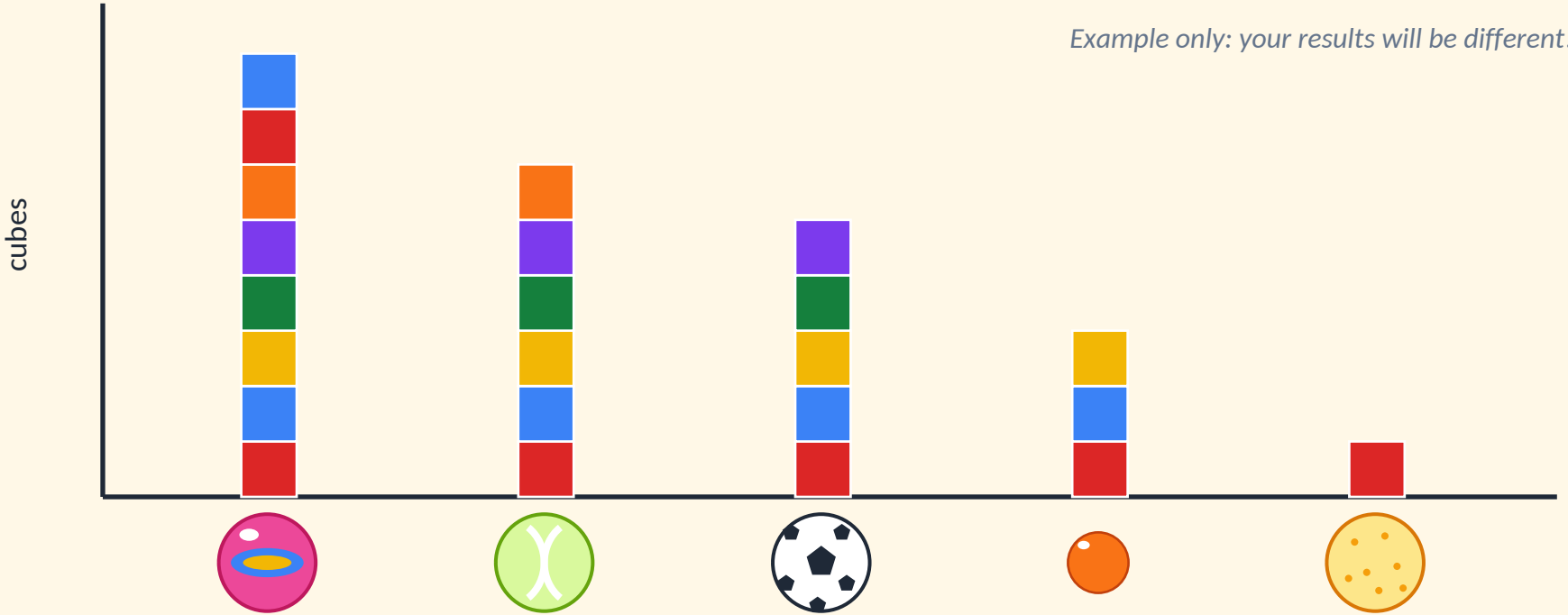
OR a ruler or tape measure

Measure from the wall.

Record your results

Write the number of cubes in the RESULT column on your sheet.

Example only: your results will be different!



What did we find out?

The bounciest ball was the _____.

It is made of _____.

My prediction was RIGHT / WRONG.

Would this material make a good tyre? Why?

Was John Dunlop right to choose rubber filled with air?

Teacher page

Time	Section	Slides
0–8	Goal; recap John Dunlop and his air-filled rubber tyres	1–4
8–14	Recap materials and properties	5–6
14–22	Be John Dunlop; our balls and what they are made of	7–8
22–28	Science words; make predictions	9–10
28–34	How we'll test; is it fair? (model throwing at two speeds)	11–12
34–48	Test, measure and record; class cube graph	13–14
48–55	What did we find out?	15

School LO: I can compare and group together a variety of everyday materials on the basis of their simple properties.
Child-friendly goal used in the slides: we are finding out which MATERIAL is the bounciest, using a FAIR TEST (also covers working scientifically: simple tests, measuring, recording, using results to answer a question).
Resources: the balls (edit slide 8 and the worksheet to match), a ramp (a sloping board or book stack), a clear wall, multilink cubes or tape measures, sticky notes to mark where balls stop, worksheets, A3 paper for the class graph.
Safety: clear the floor space, and only roll the balls down the ramp, no throwing (apart from your teacher demonstration).