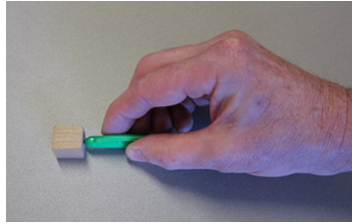


Sliding cubes

This task is about statistical investigations.



Mrs Judd gets a box of ball-point pens. She wonders if all the pens have equally strong flicks. To test this, she flicks a cube in the centre and measures how far it slides.

Part I - Getting started - whole group

- a) List as many different things as you can that will affect how far a cube will slide when it is flicked by the pen.

Watch the teacher flick the cube several times.

- b) Why does the cube sometimes travel different distances, even though it is flicked in the same way?

**Watch the teacher show how to use the recording strip.
Write your name, and details of the pen and cube you used.**

Part II - Collecting and looking at data – in pairs

My name: _____ My partner's name: _____

- c) 1. Get one person to flick the cube exactly in the centre.
2. The partner marks the distance travelled with a dot on the person's recording strip.
3. Return the cube to the person.
4. Repeat this 20 times.
5. Swap roles and repeat steps 1 – 4 so both of you have flicked the cube 20 times each.
- d) Compare the results of your recording strips to decide which person's cube usually goes further or if both cubes travel about the same distance.

i) My cube usually travels: **further** / **about the same distance** / **not as far** (*circle one*)

ii) Explain your answer (make reference to the data plotted on your two recording strips).

Part III - Looking at all the data – whole group

Get into larger groups. Each group puts their recording strips on the wall or a large sheet of paper with blue-tack. Make sure each pairs' strips are one under the other.

- e) Discuss what you notice about your groups' results. Make your own notes.

f) i) Do you think that all the pens flick the cubes about the same distance? **Yes** / **No** (*circle one*)

ii) Explain your answer (make reference to the data plotted on all the recording strips).
