

# Diagnostic TASK

FOCUS

## Direct Measure

- Key Understanding 4
- Did You Know? p. 136

## Broken Ruler

Years 3–7

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### Purpose

To reveal if the student:

- can use the marks on the ruler to measure in centimetres
- understands how the number on the scale relates to the units.

### Materials

For small groups or the whole class, use the attached worksheet.

For individual interviews, use a broken piece of ruler and an object to measure.

### Producing work samples

It is important that the students use the picture of the broken ruler and **do not** use their own ruler to work out the length of the leaf.

Use this task in an individual interview, or with a small group or whole class.

### Individual interview

Provide a broken ruler and ask the student to measure an object that is shorter than the piece of ruler.

### Small group or whole class

Read out the problem while the students follow on the sheet. Ask them to write a full explanation of how they worked it out. It may be necessary to do some follow-up interviews to clarify what individual children are thinking.

### After the students have found an answer

Ask, *How did you work out the answer?*

Record what the students do and say.

Observe whether they count the spaces or the marks, or use the numbers and any other operation to work out the size of the leaf. Do they count the starting number as zero or as one?

# Broken Ruler

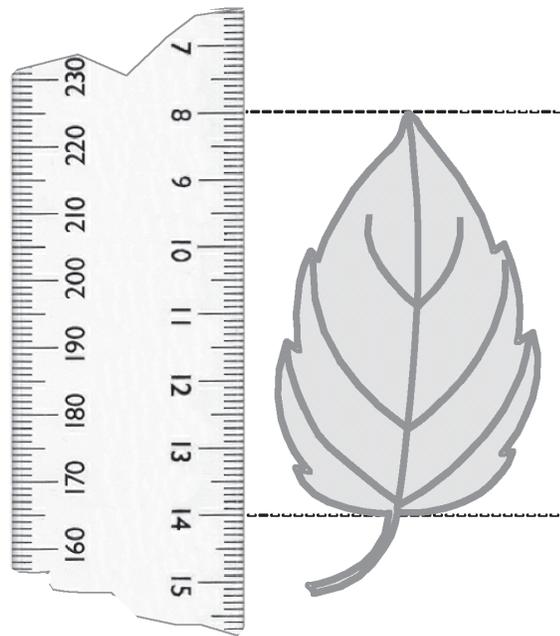
Name \_\_\_\_\_ Year \_\_\_\_\_ Date \_\_\_\_\_

**(Do not use another ruler for this.)**

Andrea wanted to measure the length of the leaf she had collected for Science.

All she could find was a broken ruler.

She lined up the ruler and the leaf like this.



**Can you say how long the leaf is, using the broken ruler?**

The leaf is \_\_\_\_\_ cm long.

Explain how you got this.