

Cambridge Primary Mathematics 0096 · Stage 2

CM2-B7

If the Shoe Fits

Gg Geometrical reasoning, shapes and measurements · A 30-minute lesson with a 15-minute short version.

Learning intention

For learners

We are learning to estimate and measure length with non-standard or standard units.

Success criteria

- I can show measuring with non-standard units with objects.
- I can draw or diagram the same maths.
- I can record my answer and explain how the story supports it.
- I can use TWM.07 while I work.

Learning objectives

2Gg.03

Estimate and measure length with non-standard or standard units.

TWM.07

Critiquing: compare ideas, pictures or methods and weigh up their strengths.

30-minute lesson

Governed source lesson: Five Paper Clips Long · Concept · Measuring a length by laying same-size units end to end and counting them

1

Find the maths in the story

4 min**2Gg.03**

Read-along: Listen with highlighting and pause at the passage used by “Five Paper Clips Long”.

Teacher: Take clips out of the pot one at a time and lay them along your paper shoe, starting with the end of the first clip touching the heel end. Put each new clip so its end touches the end of the one before it, with no space between them and no clip sitting on top of another. Stop when you reach the toe. Count the clips out loud, touching each one as you say its number, and say the last number again on its own.

Learners: Notice the story evidence and say the maths question in their own words.

2

Model it with objects

5 min**2Gg.03**

Read-along: Replay the source passage while building the quantities, shapes or measures it supplies.

Teacher: Say the whole thing out loud to your partner the way the book says it, the thing first and then the number and then the words paper clips long. Then write just the number on the first line of your measuring card, next to the word shoe. If you say only the number and not the words paper clips, your partner says wait, and you say it again.

Learners: Build a concrete model and check that each part matches the read-along.

3

Try the concrete task

6 min

2Gg.03

Read-along: Keep the relevant story page visible as the class tests the model.

Teacher: Take the feather, the ball and the bun out of the envelope. These are the things Groucho got to first. Measure each one with the same clips, laying them end to end with no gaps the way you did on the shoe, and count out loud. Say each one as a whole sentence and write its number on your card. Then say which of the three took the most clips.

Learners: Change or compare the objects, then explain what stayed the same and what changed.

4

Draw the maths

5 min

2Gg.03

Read-along: Return to the same story evidence before learners make a pictorial record.

Teacher: Model a clear drawing, diagram or mark for the concrete work without adding a quantity the story does not supply.

Learners: Draw the model and label the important parts with maths language.

5

Record and solve

6 min

2Gg.03

Read-along: Use the read-along once more as the evidence check for the abstract record.

Teacher: Look at the printed card. Somebody has already laid clips along the same shoe and counted four. Count the drawn clips yourself, then lay your own clips on your own shoe again with no gaps and count those. Say both numbers out loud, then say which number belongs to the shoe and point at what went wrong on the card.

Learners: Record the result with suitable numbers, words or symbols and link it back to the picture.

6

Reflect and convince

4 min

TWM.07

Read-along: Show the source passage and invite a final evidence-based check.

Teacher: Name the Thinking and Working Mathematically focus: Critiquing: compare ideas, pictures or methods and weigh up their strengths.

Learners: Use the concrete model, drawing and record together to justify the answer.

Read-along routes

Shared maths question

How does If the Shoe Fits help us explore measuring with non-standard units?

Evidence required

Show the story evidence, a concrete model, a pictorial record and a matching abstract record.

Solo

Read independently, pause at the named source passage and complete the shared maths model.

Supported

Read with the audio and use the teacher's pause points, objects and response frame.

Listening

Listen with the text highlighted, build the same model and give the explanation orally.

Assessment check

The learner meets 2Gg.03 by showing and explaining the objective through the story model. Evidence for TWM.07 is visible when the learner demonstrates this Thinking and Working Mathematically focus: Critiquing: compare ideas, pictures or methods and weigh up their strengths.

15-minute short version

1

Story question

4 min

2Gg.03

Read-along: Listen to the passage used by “Five Paper Clips Long”.

Teacher: Take clips out of the pot one at a time and lay them along your paper shoe, starting with the end of the first clip touching the heel end. Put each new clip so its end touches the end of the one before it, with no space between them and no clip sitting on top of another. Stop when you reach the toe. Count the clips out loud, touching each one as you say its number, and say the last number again on its own.

Learners: Name the maths question and the story evidence.

2

Build, draw and record

7 min

2Gg.03

Read-along: Replay the evidence while learners move from objects to a drawing and a record.

Teacher: Say the whole thing out loud to your partner the way the book says it, the thing first and then the number and then the words paper clips long. Then write just the number on the first line of your measuring card, next to the word shoe. If you say only the number and not the words paper clips, your partner says wait, and you say it again.

Learners: Make one concrete model, draw it and add numbers, words or symbols.

3

Check and explain

4 min

TWM.07

Read-along: Return to the source page for the final check.

Teacher: Ask learners to demonstrate: Critiquing: compare ideas, pictures or methods and weigh up their strengths.

Learners: Explain why the model answers the story question.

Learner activity

Concrete, pictorial, abstract: Measuring with non-standard units

Use the read-along evidence for every part. Do not add a number or measure that the story does not give.

1. Build the story maths with objects.

2. Draw the same model and label its important parts.

3. Record the result with suitable numbers, words or symbols.

4. Explain how your evidence uses TWM.07.
