

Cambridge Primary Mathematics 0096 · Stage 3

CM3-B4

Multiply By Hand

Ni Integers and powers · A 30-minute lesson with a 15-minute short version.

Learning intention

For learners

We are learning to know the 1, 2, 3, 4, 5, 6, 8, 9 and 10 times tables.

Success criteria

- I can show times tables 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.02 while I work.

Learning objectives

3Ni.07

Know the 1, 2, 3, 4, 5, 6, 8, 9 and 10 times tables.

TWM.02

Generalising: spot a pattern that holds across many examples.

30-minute lesson

Governed source lesson: Nine more each time · Concept · Building the nine-times count as a running total

1

Find the maths in the story

4 min**3Ni.07**

Read-along: Listen with highlighting and pause at the passage used by “Nine more each time”.

Teacher: Read the book's nine-times column aloud with a partner, one line each, from one nine up to ten nines. Point at each product as you say it. Say which product is the largest and which is the smallest.

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

2

Model it with objects

5 min**3Ni.07**

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

Teacher: Snap nine cubes into a bar, then a second bar of nine, and lay the bars end to end down a strip of paper. Write the running total at the end of each bar as you lay it: nine, then eighteen, then twenty-seven, and keep going until the strip holds ten bars. Say each total aloud as you write it.

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

3

Try the concrete task

6 min

3Ni.07

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

Teacher: Look at any two totals next to each other on your strip and say how much the second one is above the first. Do this for three different neighbouring pairs and say the same number each time. Then read the book's sentence about counting by nines aloud and say whether your strip agrees with it.

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

4

Draw the maths

5 min

3Ni.07

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

3Ni.07

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

Teacher: Cover one total in the middle of your strip with a card. Work out what is under the card using only the totals on either side of it, then say aloud which two totals you used and what you did with them. Lift the card and check.

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

6

Reflect and convince

4 min

TWM.02

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

Teacher: Name the Thinking and Working Mathematically focus: Generalising: spot a pattern that holds across many examples.

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

Read-along routes

Shared maths question

How does Multiply By Hand help us explore times tables?

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 3Ni.07 by showing and explaining the objective through the story model. Evidence for TWM.02 is visible when the learner demonstrates this Thinking and Working Mathematically focus: Generalising: spot a pattern that holds across many examples.

15-minute short version

1

Story question

4 min**3Ni.07**

Read-along: Listen to the passage used by “Nine more each time”.

Teacher: Read the book's nine-times column aloud with a partner, one line each, from one nine up to ten nines. Point at each product as you say it. Say which product is the largest and which is the smallest.

Learners: Name the maths question and the story evidence.

2

Build, draw and record

7 min**3Ni.07**

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

Teacher: Snap nine cubes into a bar, then a second bar of nine, and lay the bars end to end down a strip of paper. Write the running total at the end of each bar as you lay it: nine, then eighteen, then twenty-seven, and keep going until the strip holds ten bars. Say each total aloud as you write it.

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

3

Check and explain

4 min

TWM.02

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

Teacher: Ask learners to demonstrate: Generalising: spot a pattern that holds across many examples.

Learners: Explain why the model answers the story question.

Learner activity

Concrete, pictorial, abstract: Times tables

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.02.
