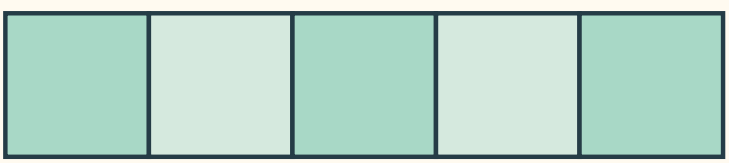
MATHS FIELD GUIDE · GRADE 1

Compare and measure length

OPENING PROBLEM

A strip covers five blocks from edge to edge. How long is it?



02 Measure the gaps between marks
03 Rules and worked cases
04 Measure a pencil
05 Compare the models
06 Use one unit for a fair comparison
07 Check your reasoning

ILLUSTRATED PROBLEM SHEET

Measure the gaps between marks

Count equal length units between the two ends.

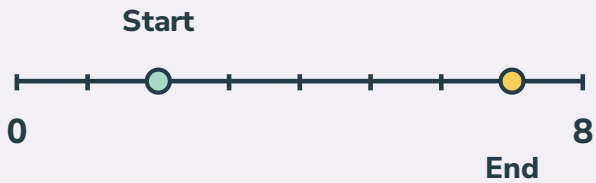
1



A strip covers five blocks from edge to edge. How long is it?

Five block lengths. The blocks meet without gaps.

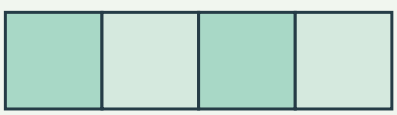
2



A ribbon runs from 2 cm to 7 cm. Length?

Five centimetres. Start at two and count five intervals.

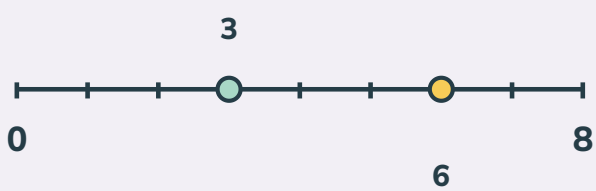
3



Four equal blocks fill the same length as eight shorter blocks. Which unit is longer?

Each long block is two short blocks long.

4



Move both ends one mark to the right. Is the length different?

The ends become 4 and 7. The three-unit gap stays the same.

From 1 to 6
five unit gaps.

From 0 to 5
the same five unit gaps.

CHAPTER PROBLEM

A strip needs seven equal tiles. Another needs five of the same tiles. Which is longer?

The seven-tile strip.

MATHS REFERENCE · GRADE 1

Compare and measure length

Length tells us how far an object stretches from one end to the other.

We can compare lengths or measure them with equal-sized units.

Cases to recognise

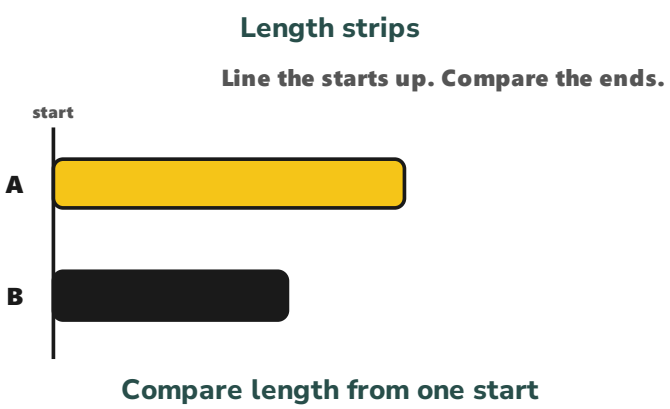
Situation	What to do and why
A pencil begins at the ruler's 1 and ends at 6	Count five spaces, so the length is 5 cm.
Two strips start at different places	Line up their left ends before comparing the right ends.

Read the model

Start at the same place

These strips start at the same line.

Strip A reaches farther, so it is longer. Strip B is shorter.



An unfair comparison

If one strip starts farther along, its end may look farther ahead.

Move both starting ends to the same line before comparing.

length Distance from one end to the other.
unit One repeated measure.
longer Having greater length.



A jug holds five cupfuls. How much room remains?

Two cupfuls. Three plus two fills the jug.

WORKED INVESTIGATION

Measure a pencil

Lay identical tiles edge to edge from the end of a pencil. If five tiles reach the other end exactly, the pencil is five tile-lengths long.

Look at this part	What it tells you
Start	align the first edges
Middle	leave no gaps
End	count five equal units

Work it through

Measure a second pencil with the same tiles. It needs seven. Lay the pencils at the same start to see the two-tile difference.

Catch the mistake

Six tiles with gaps do not show six tile-lengths of pencil. Some of the pencil is covered by empty space.

Compare the cases

Measure with equal units

Place equal tiles along a strip, end to end.

Five tiles cover its length. Its length is five of these tile units.

Tile measure

Equal tiles. No gaps. No overlaps.



Length in equal tiles

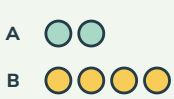
No gaps or overlaps

Gaps leave some length unmeasured. Overlaps count part of the length twice.

Start at one end and cover the length with no gaps or overlaps.

Change one condition

If each new tile is half as long, two new tiles fit along one old tile. The same five-tile pencil now needs ten.



Jar A fills two cups and jar B fills four of the same cups. Which holds more?

Jar B holds two more cupfuls.

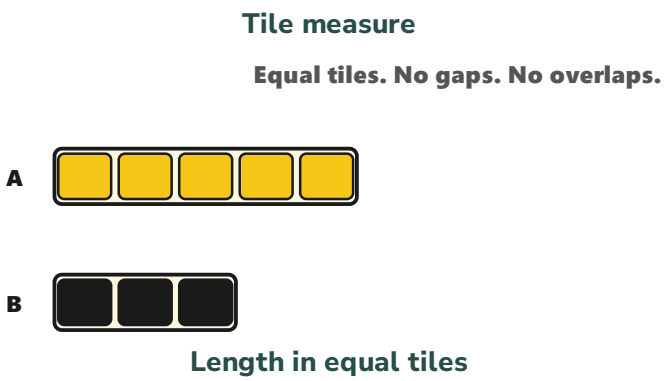
COMPARE AND MEASURE LENGTH

Compare the models

Use the same unit to compare

A second strip needs three of the same tiles.

Five tile units is longer than three tile units. The tiles must be the same size.



The unit matters

A longer tile may cover the same strip with fewer tiles.

The strip did not shrink. The size of the measuring unit changed.

Try with blocks

Measure a book's edge using equal blocks.

Tell your teacher both the number and the unit: for example, six block-lengths.

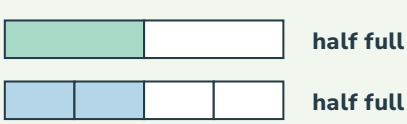
Explain your reasoning

How should two strips start when you compare their lengths?

At the same starting line.

Two more worked cases

Situation	Reasoning
A gap between measuring blocks	Slide the blocks together. The gap was counted as if covered.
Big blocks give a smaller count than tiny blocks	Each big block covers more length. Use the same unit to compare results.



Can a jug be half full when its marks are quarters?

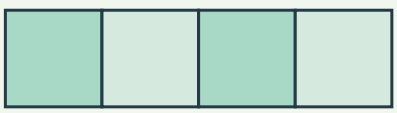
Yes. Two of four equal parts make half.

ILLUSTRATED PROBLEM SHEET

Use one unit for a fair comparison

Equal blocks measure length, equal weights measure mass, and equal cupfuls measure capacity.

1



A pencil is four identical blocks long. A crayon is three. How much longer?

One block length.

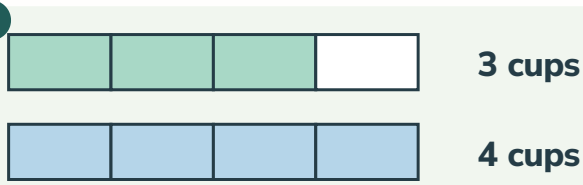
2



A bag balances three equal weights and a box balances five. Which is heavier?

The box, by two of those weights.

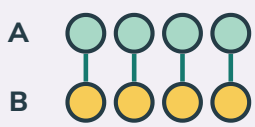
3



Two identical jugs are divided into cups. How much emptier is the first?

It holds one cup less.

4



Two bags balance four unit weights each. What if one bag looks bigger?

Their masses are equal. Their sizes can differ.

Different-sized blocks
counts alone cannot compare length.

Equal-sized blocks edge to edge
counts compare length.

CHAPTER PROBLEM

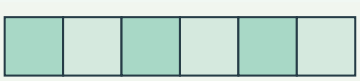
May you leave gaps between measuring tiles? Why?

No. Gaps leave some of the length unmeasured.

QUESTION BANK · FOLD OR COVER THE RIGHT COLUMN

Check your reasoning

Try the problem	Solution and reasoning
01 A ruler shows eight at the far end. Is every object ending there eight units long?	Only one starting at zero. Subtract the starting reading.
02 Can five tiny cups be compared with four big cups just by counting?	No. Use the same cup to measure both amounts.
03 A red strip covers four tiles. A blue strip covers six tiles of the same size. How much longer is blue?	Two tile-lengths. Match the first four tiles. Two blue tiles remain.
04 One strip covers four equal blocks and a second covers six. How much longer is the second?	Two block lengths, using the same blocks as the measuring unit.
05 Why measure along the pencil instead of round it?	Length from end to end follows one straight direction. Going round measures a different distance.
06 The yellow strip covers how many equal blocks? 	Four block lengths. The blocks meet without gaps and both endpoints line up.



A strip is six hand-widths long. A second covers half as many widths. How long?

Three of the same hand-widths.

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