

Grade 4 Mathematics - Chapter 2

Long and Short

Original CBSE/NCERT-aligned learning material for Paryan's Learning Hub

Learning goals

By the end of this chapter, you should be able to compare lengths, choose suitable units, convert metres and centimetres, estimate length, and solve simple measurement problems.

1. Understanding Length

Length tells us how long, short, tall, wide, or far something is. We measure small objects in centimetres (cm) and larger distances or objects in metres (m).

Object	A sensible unit
Pencil	centimetres (cm)
Notebook	centimetres (cm)
Door height	metres (m)
Classroom length	metres (m)

Remember

1 metre = 100 centimetres

So, 2 m = 200 cm and 3 m 25 cm = 325 cm.

2. Comparing Long and Short

To compare two lengths, first make sure they are written in the same unit. For example, to compare 2 m and 180 cm, change 2 m to 200 cm. Since $200\text{ cm} > 180\text{ cm}$, 2 m is longer.

Worked Example 1

Riya has a ribbon 145 cm long. Aman has a ribbon 1 m 30 cm long. Who has the longer ribbon?

1 m 30 cm = 130 cm.

$145\text{ cm} > 130\text{ cm}$.

Answer: Riya's ribbon is longer by 15 cm.

Worked Example 2

A table is 2 m long and a bench is 175 cm long. Find the difference.

2 m = 200 cm.

$200 - 175 = 25\text{ cm}$.

Answer: The table is 25 cm longer.

3. Estimating Length

An estimate is a sensible guess made before measuring. Estimation helps us decide whether an answer looks reasonable. You might estimate a book to be about 25 cm long and then check it with a ruler.

Try It

1. Which is a better estimate for the height of a door: 2 cm or 2 m?
2. Which is a better estimate for the length of an eraser: 4 cm or 4 m?
3. Name one object at home that is shorter than 1 metre.
4. Name one object that is longer than 1 metre.

4. Converting Units

To change metres to centimetres, multiply the number of metres by 100. To write a mixed length in centimetres, convert the metres first and then add the remaining centimetres.

Length	In centimetres
1 m	100 cm
4 m	400 cm
2 m 15 cm	215 cm
5 m 8 cm	508 cm

5. Practice A - Choose the Correct Unit

1. Length of a spoon: cm / m
2. Height of a tree: cm / m
3. Width of a school desk: cm / m
4. Length of a playground: cm / m
5. Length of your shoe: cm / m

6. Practice B - Convert

1. 3 m = _____ cm
2. 7 m = _____ cm
3. 2 m 40 cm = _____ cm
4. 6 m 5 cm = _____ cm
5. 450 cm = _____ m _____ cm
6. 325 cm = _____ m _____ cm

7. Practice C - Compare

Write >, <, or =.

1. 2 m _____ 190 cm
2. 150 cm _____ 1 m 50 cm
3. 3 m 10 cm _____ 305 cm
4. 99 cm _____ 1 m
5. 4 m _____ 400 cm

8. Word Problems

1. A rope is 3 m long. Another rope is 225 cm long. How much longer is the first rope?
2. Meera walks 125 m from her home to a shop and then 75 m more to a park. How far does she walk in all?

3. A ribbon is 5 m long. 180 cm is used for a craft. How much ribbon is left? Give your answer in metres and centimetres.
4. One shelf is 95 cm wide and another is 1 m 20 cm wide. Find the difference in their widths.
5. A carpenter has two wooden strips measuring 2 m 35 cm and 1 m 65 cm. What is their total length?

9. Measurement Activity

Find a ruler or measuring tape. Estimate each object first, then measure it. Write your answers in the table.

Object	My estimate	Actual length
Pencil	_____	_____
Book	_____	_____
Table	_____	_____
Door	_____	_____
Bed	_____	_____

10. Challenge Questions

1. Arrange from shortest to longest: 125 cm, 2 m, 95 cm, 1 m 50 cm.
2. A 4 m rope is cut into two pieces. One piece is 165 cm. Find the length of the other piece.
3. Paryan says $2\text{ m } 9\text{ cm} = 290\text{ cm}$. Is this correct? Explain your answer.
4. Make two different lengths whose total is exactly 3 m.

Answer Key

Try It: 1) 2 m 2) 4 cm 3-4) Answers will vary.

Practice A: 1) cm 2) m 3) cm 4) m 5) cm

Practice B: 1) 300 cm 2) 700 cm 3) 240 cm 4) 605 cm 5) 4 m 50 cm 6) 3 m 25 cm

Practice C: 1) $>$ 2) $=$ 3) $>$ 4) $<$ 5) $=$

Word Problems: 1) 75 cm 2) 200 m 3) 3 m 20 cm 4) 25 cm 5) 4 m

Challenge: 1) 95 cm, 125 cm, 1 m 50 cm, 2 m. 2) 2 m 35 cm. 3) No; $2\text{ m } 9\text{ cm} = 209\text{ cm}$. 4) Example: $1\text{ m} + 2\text{ m}$.

Paryan's Learning Hub

Grade 4 Mathematics practice material. This is original educational material aligned to common CBSE/NCERT Grade 4 measurement skills; it is not a reproduction of an NCERT textbook chapter.