

White

**Rose
Maths**

Spring - Block 3

Length & Height

Overview

Small Steps

- ▶ Compare lengths and heights
- ▶ Measure length (1)
- ▶ Measure length (2)

NC Objectives

Measure and begin to record lengths and heights.

Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half)

Compare Lengths & Heights

Notes and Guidance

Children use and understand the language of length such as long, longer, short, shorter, tall, taller. They recognise this language will change depending on what type of length they are describing and comparing.

Children understand that height is a type of length. They should also be exposed to lengths that are equal to one another.

Mathematical Talk

Which person is taller/shorter?
Which pencil is shorter/longer?

Are we measuring the height or length of something?
What is the same? What is different?

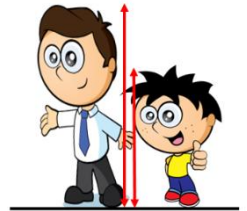
How many different sentences can you make to compare the vehicles? Say them to your partner.

Varied Fluency

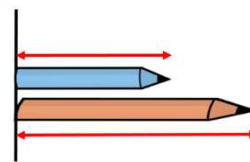
- Use the words **taller** and **shorter** in the sentence stems to compare the height of the man and the boy.

The man is than the boy.

The boy is than the man.



- Use the words **longer** and **shorter** in the sentence stems to compare the length of the blue pencil and the orange pencil.



The blue pencil is than the orange pencil.

The orange pencil is than the blue pencil.

Which pencil is the longest? Which pencil is the shortest?

- Compare the vehicles using the words to help you.



length height
longer same
taller shorter

Compare Lengths & Heights

Reasoning and Problem Solving

Rosie, Alex and Mo are comparing the height of Mrs Rose and Jack.



Rosie



Mrs Rose is tall than Jack.

Alex



Jack is short than Mrs Rose.

Mo

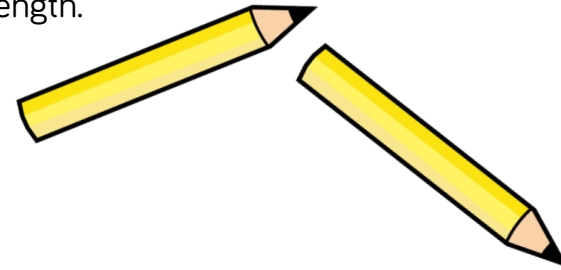


Mrs Rose is longer than Jack.

Can you improve their sentences to make them more accurate?

Possible answer:
Rosie – Mrs Rose is **taller** than Jack.
Alex – Jack is **shorter** than Mrs Rose.
Mo – Mrs Rose is **taller** than Jack.
Taller is a better word than longer because we are comparing height.

Eva thinks the pencils are the same length.



How can Eva check if she is correct?

Using classroom equipment, can you find an object which is longer than your rubber but shorter than your pencil?

Can you find a friend who is shorter than you but taller than your other friend?

Eva needs line up one end of the pencils and see which is longer.

Children could explore other items and situations where they are asked to compare more than two objects.

Measure Length (1)

Notes and Guidance

Children use non-standard units, such as cubes, hands and straws to measure length and height. Ensure children understand the units they use need to be of equal length. Children recognise that longer, non-standard units are more suitable for measuring the length and height of longer/taller objects. Children need to understand that non-standard units should be exactly in line with one end of the object with no gaps between them to get an accurate measurement.

Mathematical Talk

What other things could you use to measure how long a pencil is?

What could you use to measure how tall you are? Is it easier to measure someone lying down or standing up?

What could you use to measure the length of your classroom?

Why is it important to measure in a straight line?

Varied Fluency

- Use cubes to measure the length of objects around your classroom. Write a sentence for each object.

The pencil is cubes long.



The is cubes long.

- Mr White is 5 sticks tall.
Choose a suitable piece of equipment to measure how tall your friend is.



- Which is longer – your maths book or a lunch box?

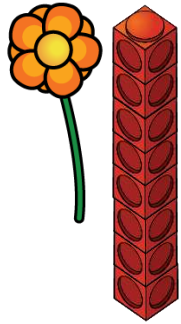
The is longer than the .

Choose a unit to measure the objects to check you are correct.

Measure Length (1)

Reasoning and Problem Solving

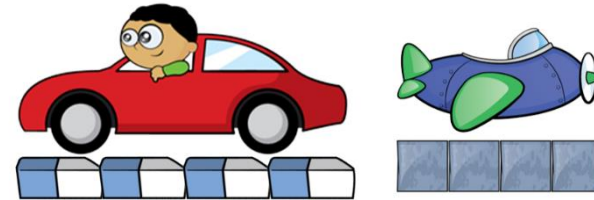
True or false?



The flower is 8 cubes tall.
Explain your answer.

False because the cubes should be level with the bottom of the flower.
The flower is about 6 cubes tall.

Whitney measures the length of two toys.



She says,



The toys are the same length.

Do you agree with Whitney?
Explain your answer.

Whitney is wrong. Both toys are 4 units long, but the rubber and the cubes are different lengths so the toys are not the same length.

Measure Length (2)

Notes and Guidance

Children build on prior knowledge of measuring length and height using non-standard units and apply this to measuring using a ruler.

They should be able to understand that objects can vary in length and size, so a standard unit of measurement is required.

It is important that children know to measure from 0 cm.

Mathematical Talk

What do the numbers on the ruler mean? (1 cm etc.)

Where should we place the object to start measuring it?

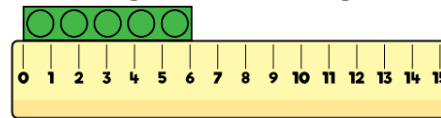
Does the ruler look like anything else we have used? (number line)

Can you count how many cm the _____ measures?

How does using a ruler help us to compare objects?

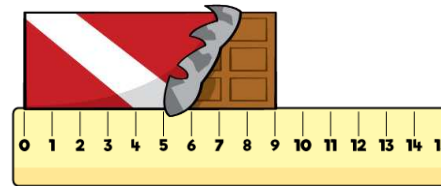
Varied Fluency

How long is the building block?



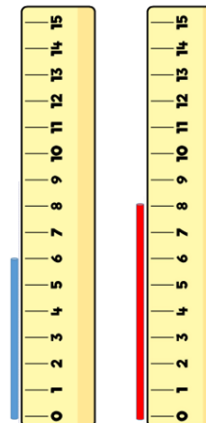
The building block is cm.

What is the length of the chocolate bar?



The chocolate bar is cm.

Which straw is the tallest?



The blue straw is cm tall.

The red straw is cm tall.

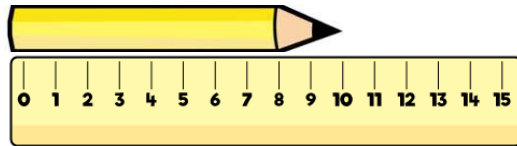
The straw is the tallest.

The straw is the shortest.

Measure Length (2)

Reasoning and Problem Solving

Teddy measures the length of the pencil.



He says,



The length of the pencil is 10 cm.

Do you agree with Teddy?
Explain why.

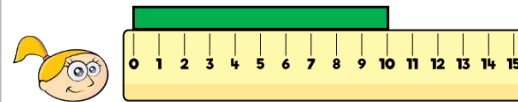
Teddy is wrong because he has started measuring from the end of the ruler not from 0

Eva, Dexter and Rosie are comparing ribbons that they have. Unfortunately, Dexter has lost his ribbon.

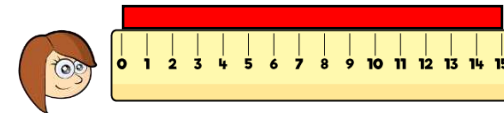
He says,



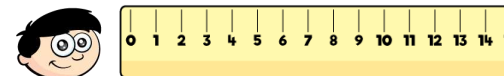
My ribbon is shorter than Rosie's, but longer than Eva's.



Eva



Rosie



Dexter

How long could Dexter's ribbon be?

Possible answers:

- 11 cm
- 12 cm
- 13 cm
- 14 cm