

MATHS




Lesson 19

Prep

Topic: Using units of measurement

Comparing objects using measurement attributes

Lesson concepts

-  Length — Language (describing, comparing, ordering)
-  Mass — Language (describing, comparing, ordering)
-  Capacity — Language (describing, comparing, ordering)

Today students will:

- ▶ select objects based on how long, heavy or much will they will hold.

Resources

Find and prepare

Materials that students can collect to build a model of a playground item (for example: blocks, construction materials and some existing playground materials)

Toy/object to use on the playground item built by students

Key terms

height, length, mass

For definitions and explanations of terms, please see the [Glossary](#).

Lesson

Note

It is important to highlight and develop the following vocabulary throughout this lesson: space, holds more, holds less, length, height, longer, taller, shorter long, short, mass, light, heavy, lighter, heavier, same, sort, describe, justify, identify, compare, different.

Introduce the lesson: Identify the language of measurement

- With students, discuss:
 - ways the size of objects can be compared
 - describing words that are used to compare the size of objects.

Focus questions

Q: Which words can we use to describe length/mass/capacity?

Q: How could you compare the length/mass/capacity of an object?

- Explain to students that they are going to build a playground for a toy.

Say to students

6 You will have to think about:

- which play items you will make (for example: slippery slide, seesaw, cubby house, fort)
- the size they will need to be (for example: long enough, able to hold the weight of the toy, big enough to fit the toy inside)
- the materials you might use (for example: blocks, construction materials and some existing playground materials such as planks).

- Have students plan a playground structure for a toy.

Note

Encourage students to think about playgrounds they know or have used. Visit a playground if possible and examine its different parts or activities and how they work.

Sort objects based on size features

- Ask students to collect materials that they think they may use.
- Have students:
 - compare the materials
 - sort them into groups based on how long, how heavy or how much will they hold
 - explain why they sorted them that way.

Focus questions

Q: How would you describe how you sorted the materials?

Q: Why did you sort the objects that way?

Focus questions

- Q: How did you decide what to put in each group?*
- Q: How is this group of materials the same/different to that group?*
- Q: How else could you sort your objects?*
- Q: What was the easiest way to sort your objects? Why?*
- Q: Did you need any equipment to help you?*
- Q: When would you need to sort things according to whether they are long/short, light/heavy, holds more/less?*

Identify objects based on two measurement features

- Encourage students to consider two measurement features at once by posing challenge questions.

Say to students

- ‘ Can you find two objects that hold the same amount of water, but one is taller than the other?
Can you find two objects that weigh the same, but one is taller than the other? ’

Focus questions

- Q: How are these objects the same/different?*
- Q: What makes you think that?*
- Q: Are these the same height? How can you tell?*
- Q: How could you compare how heavy these two objects are?*

- Have students refer to the size of the toy/object that they are building the playground equipment for.
- Ask students to think about:
 - how heavy the toy is
 - how long it is
 - how wide it is
 - what space it fills.
- Explain to students that they:
 - won't need all the materials they have available
 - have to select the materials for their playground item based on the measuring that they have been doing
 - may need to collect different materials

- can then build their playground item
- check back to the size of their toy
- will have to explain why they chose the materials based on the measuring they did.

Focus questions

Q: Why did you choose this material to make the roof?

Q: What measuring did you have to do when you chose this?

Q: What pieces didn't work?

Q: Why was that? How could measuring have helped you solve that problem?

I had to make the ropes the same length for the swing to work properly. The rope also had to be strong enough to hold the toy. The seat had to be wide enough for the toy to fit.



The slide had to be long enough to reach the ground. The rungs had to be the same length to make the ladder. The hole in the tree had to be large enough to fit the toy when we played Hide and Seek.