Volume & Capacity

Master The Curriculum

1

Fluency & Reasoning Teaching Slides

Introduce Capacity & Volume 1

Fluency & Reasoning Teaching Slides

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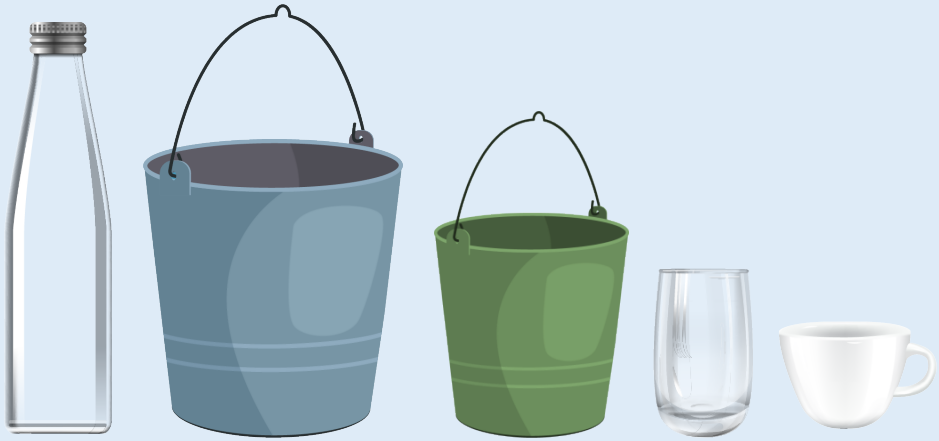
Activity 1 Introduce Capacity & Volume

Provide a range of different containers for children to explore practically using water or sand.



Show me full containers.
Show me empty containers.
Show me almost full.
Show me almost empty.

Look at my bottle, is it full? Is it empty?

Activity 1 Introduce Capacity & Volume

Provide a range of different containers for children to explore practically using water or sand.

full empty almost full almost empty

Activity 1 Introduce Capacity & Volume

Provide a range of different containers for children to explore practically using water or sand.

Show me full containers.
Show me empty containers.
Show me almost full.
Show me almost empty.

Activity 1 Introduce Capacity & Volume

Provide a range of different containers for children to explore practically using water or sand.

full

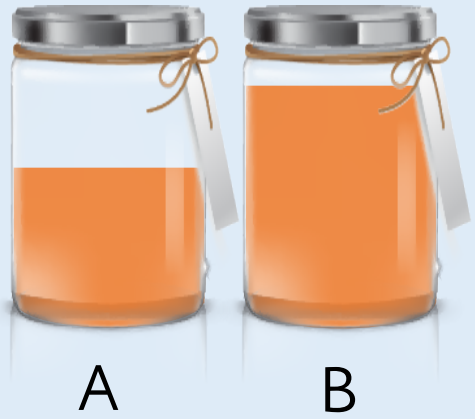
empty

almost full

almost empty

Activity 2 Introduce Capacity & Volume

Use the words 'more' or 'less' to compare the containers.



A B

A has _____ than B.

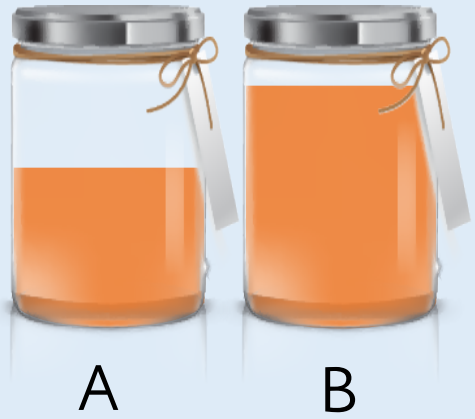
A has _____ than B.

A B

Compare my two bottles, which has more liquid in?

Activity 2 Introduce Capacity & Volume

Use the words 'more' or 'less' to compare the containers.



A B

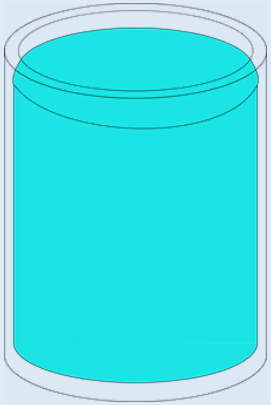
A has less than B.

A has more than B.

A B

Activity 2 Introduce Capacity & Volume

Use the words 'greater than' or 'less than' to compare the containers.



Container 1

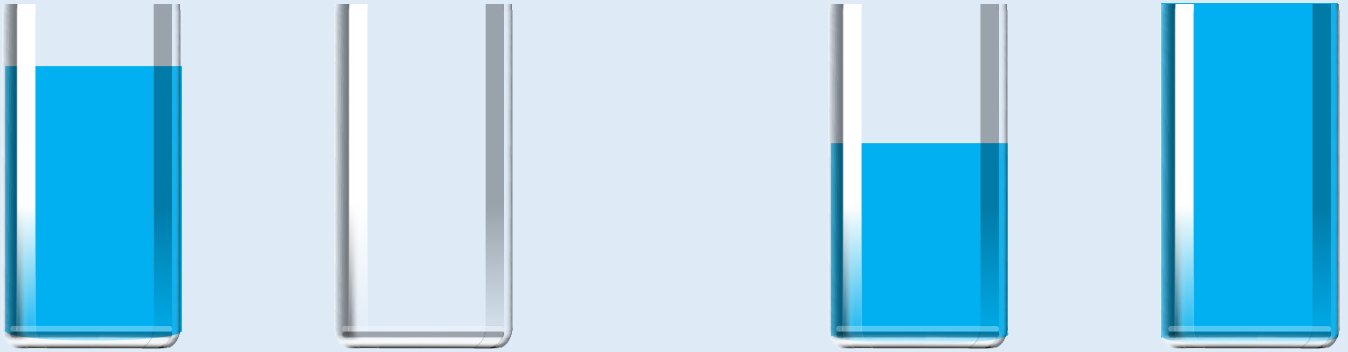
Container 2

The amount of liquid in container 1 is _greater than_ the amount of liquid in container 2.

Activity 3

Introduce Capacity & Volume

Put these in order from empty to full.



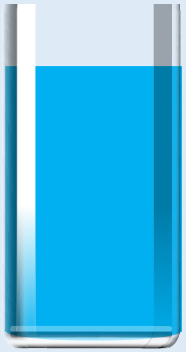
empty

full

How can we show the container is nearly full or nearly empty?

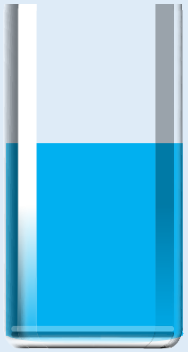
Activity 3 Introduce Capacity & Volume

Put these in order from empty to full.

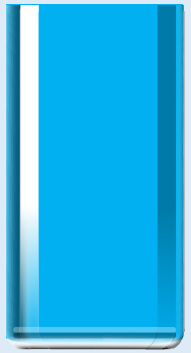


A

B



C



D

B	C	A	D
empty			full

Activity 3 Introduce Capacity & Volume

Put these in order from empty to full.

A

B

C

D

empty			full

Activity 3 Introduce Capacity & Volume

Put these in order from empty to full.

A

B

C

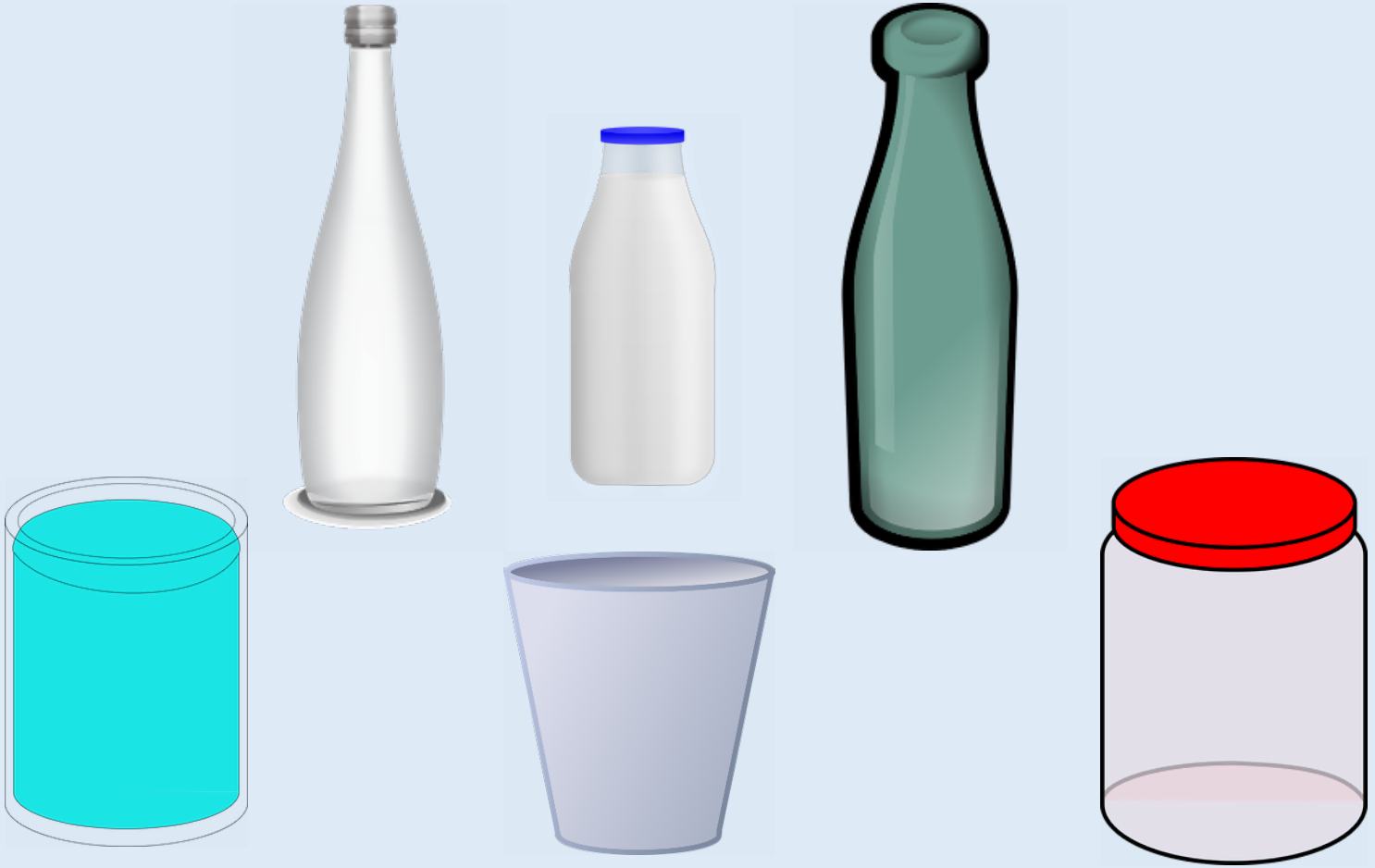
D

A	D	C	B
empty			full

Activity 4

Introduce Capacity & Volume

Describe the volume and capacity of the containers.



Activity 4 Introduce Capacity & Volume

Describe the volume and capacity of the containers.

The volume and capacity of each containers depends on its size whether large or small.
It can also be measured using non standard units of measure.

Activity 5 Introduce Capacity & Volume

Draw a line to match the sentences to the correct cup.

The cup is empty.

The cup is half full.

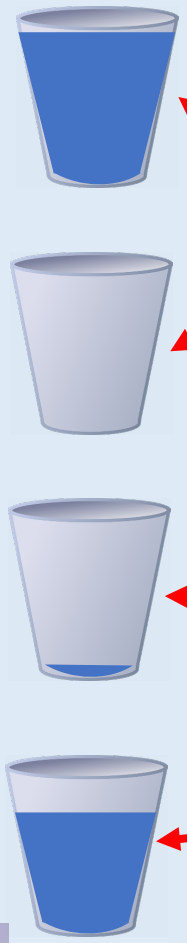
The cup is nearly full.

The cup is nearly empty.

The cup is more than half full.

Activity 5 Introduce Capacity & Volume

Draw a line to match the sentences to the correct cup.



The cup is empty.

The cup is half full.

The cup is nearly full.

The cup is nearly empty.

The cup is more than half full.

Introduce Capacity & Volume

Always, Sometimes, Never?

Identical containers can have a different capacity.

The tallest container holds the most liquid.

Show me.

Introduce Capacity & Volume

Always, Sometimes, Never?

Identical containers can have a different capacity.

Never – If the containers are identical they will have the same capacity but they can have different volumes of liquid in.

The tallest container holds the most liquid.

Sometimes.

Reasoning - 2 Introduce Capacity & Volume

Esin, Zach and Malachi are describing their glasses of water.

Esin

My glass has less water than Malachi's.

My glass is nearly full.

Zach

Malachi

My glass has more water than Zach's.

Reasoning - 2

Introduce Capacity & Volume

Esin, Zach and Malachi are describing their glasses of water.

Esin Zach Malachi

Can you fill how much water could be in each of the children's glasses?

Reasoning - 2 Introduce Capacity & Volume

Esin, Zach and Malachi are describing their glasses of water.

Various representations for Malachi's and Esin's as long as they show that Esin's is less than Malachi's and Malachi's is more than nearly full.

Discussion

Introduce Capacity & Volume

Look at my bottle, is it full? Is it empty?

Compare my two bottles, which has more liquid in?
Which has less?

How can we show the container is nearly full or nearly empty?

How can we measure the capacity of this container?

Measure Capacity 1

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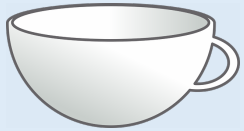
Activity 1 Measure Capacity

Work practically using a variety of containers. Investigate how many small containers it takes to fill the larger containers.



The capacity of the _____ is _____ jugs.

How can we measure how much liquid will fill my container?

Activity 1 Measure Capacity

Work practically using a variety of containers. Investigate how many small containers it takes to fill the larger containers.

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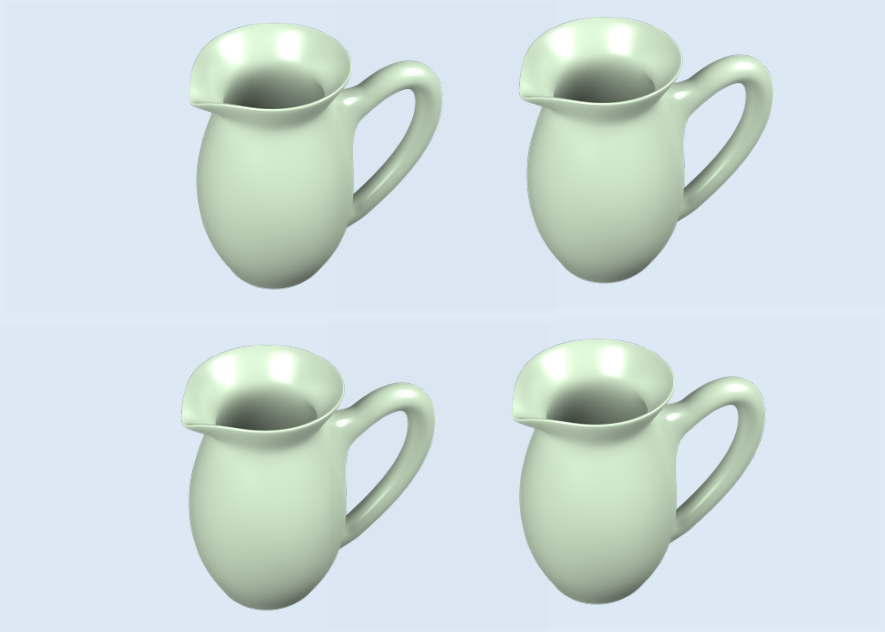
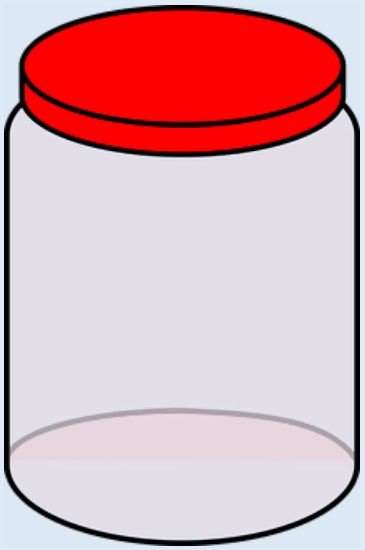
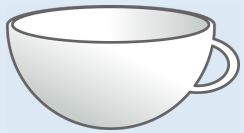


The capacity of the cup is four jugs.

Activity 1 Measure Capacity

Work practically using a variety of containers. Investigate how many small containers it takes to fill the larger containers.

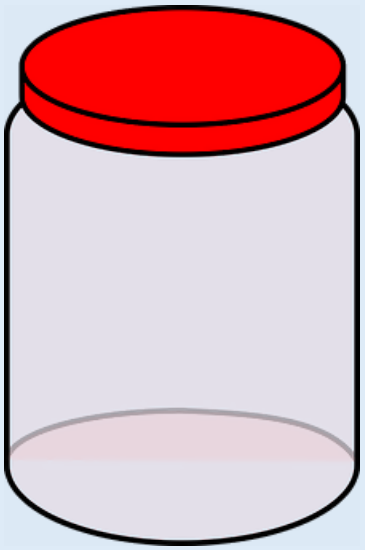




The capacity of the jar is _____.

Activity 1 Measure Capacity

Work practically using a variety of containers. Investigate how many small containers it takes to fill the larger containers.



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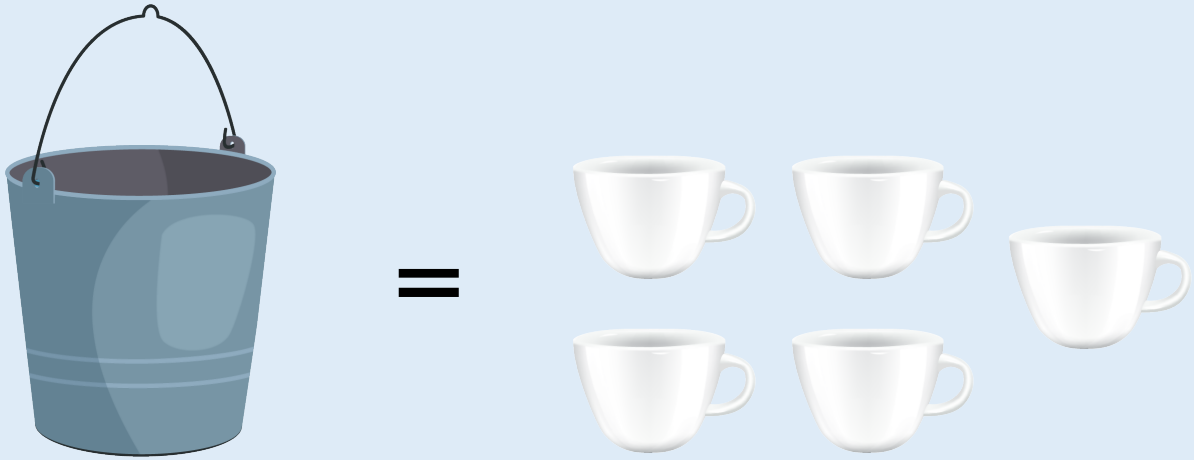
The capacity of the jar is 6 cups.

Activity 2 Measure Capacity

It takes 5 cups to fill one bucket.

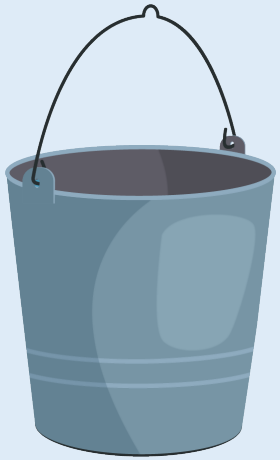


How many cups will it take to fill 2 buckets?
What about three buckets? Four buckets?
What do you notice? Can you continue the pattern?

How many cups of liquid fill the bottle?

Activity 2 Measure Capacity

It takes 5 cups to fill one bucket.



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How many cups will it take to fill 2 buckets?

It will take 10 cups to fill 2 buckets.

What about three buckets? Four buckets?

15 cups for 3 buckets. 20 cups for 4 buckets.

Activity 2 Measure Capacity

It takes 6 glasses to fill one large jar.

How many glasses will it take to fill 2 jars?
What about three jars? Four jars?
What do you notice? Can you continue the pattern?

Activity 2 Measure Capacity

It takes 6 glasses to fill one large jar.

How many glasses will it take to fill 2 jars?

It will take 12 glasses to fill 2 jars.

What about three jars? Four jars?

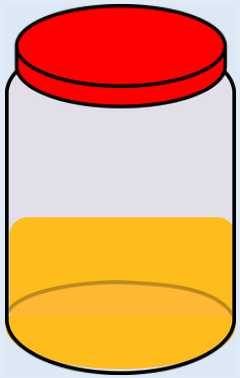
18 glasses to fill 3 jars. 24 glasses for 4 jars.

Activity 3 Measure Capacity

Tia used small glasses as a unit of measure. Complete the sentences.

The volume of liquid in the cup is _____ units.

The volume of liquid in the cup is _____ units.



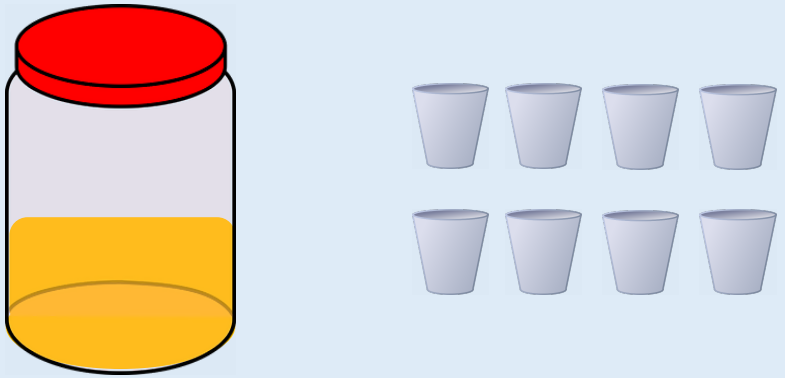
The volume of liquid in the jar is _____ units.

Activity 3 Measure Capacity

Tia used small glasses as a unit of measure. Complete the sentences.

The volume of liquid in the cup is 4 units.

The volume of liquid in the cup is 6 units.



The volume of liquid in the jar is 8 units.

Reasoning - 1 Measure Capacity

Leanna pours her cups into the bottle and they fill it exactly.

She says the bottle has a capacity of three cups.
Do you agree?

Reasoning - 1

Measure Capacity

Leanna pours her cups into the bottle and they fill it exactly.

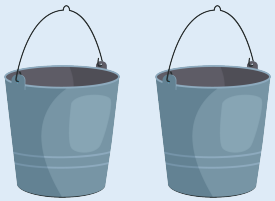
Leanna is wrong. She has not filled the cups to the top so her measuring is inaccurate.

Reasoning - 2 Measure Capacity

It takes 5  to fill 1 

 = 

It takes 2  to fill  .

 = 

How many  will fill one  ?

What else can you find out?

Reasoning - 2 Measure Capacity

It takes 10 cups to fill 1 green bucket.

=

It would take 20 cups to fill 2 green buckets.

Discussion

Measure Capacity

How can we measure how much liquid will fill my container?

What could I use?

How many bowls of liquid fill the bottle?

How many cups of liquid fill the bottle?

How is this different? How is this the same?

Compare Capacity 1

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Activity 1 Compare Capacity

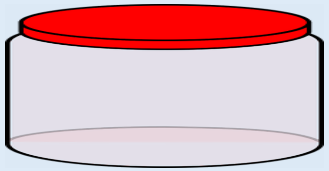
Take three different containers.
Fill each container with liquid or rice using the same unit of measure e.g. A small cup.

Order the containers from largest to smallest capacity.

Which container has the largest/smallest capacity?

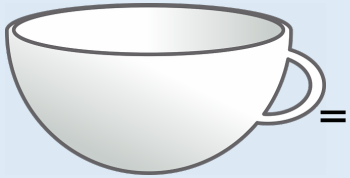
Activity 1 Compare Capacity

Take three different containers.
Fill each container with liquid or rice using the same unit of measure e.g. A small cup.



= 5 cups

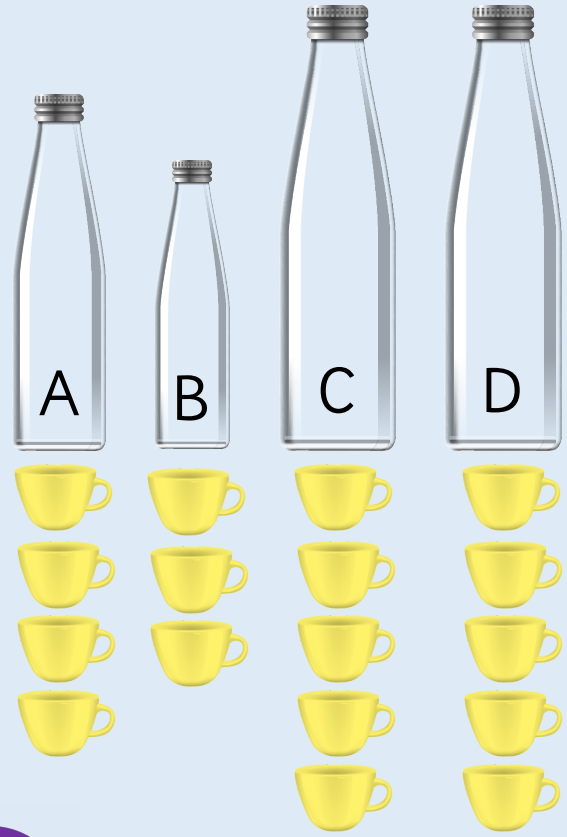
= 2 cups



= 1 cup

Activity 2 Compare Capacity

Complete the boxes to compare the capacity of the bottles.



$\square$ > $\square$

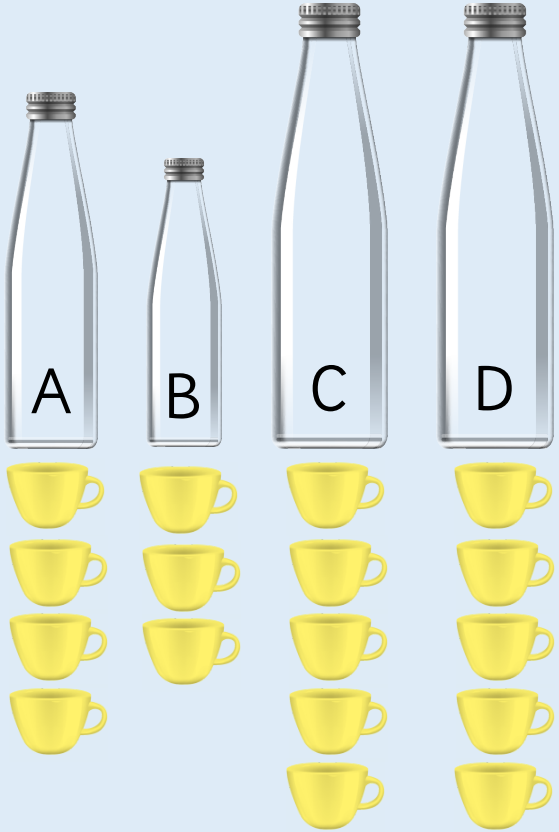
$\square$ < $\square$

$\square$ = $\square$

Which container do you think will hold more?

Activity 2 Compare Capacity

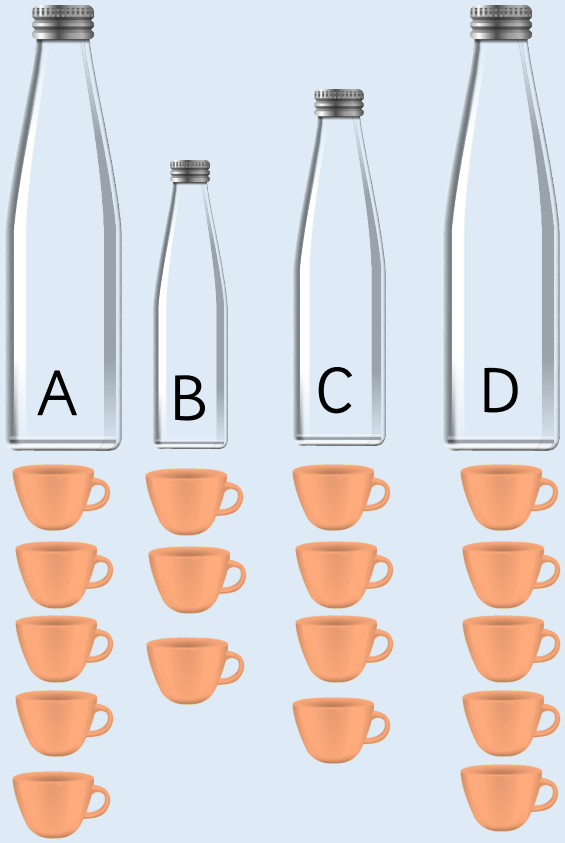
Complete the boxes to compare the capacity of the bottles.

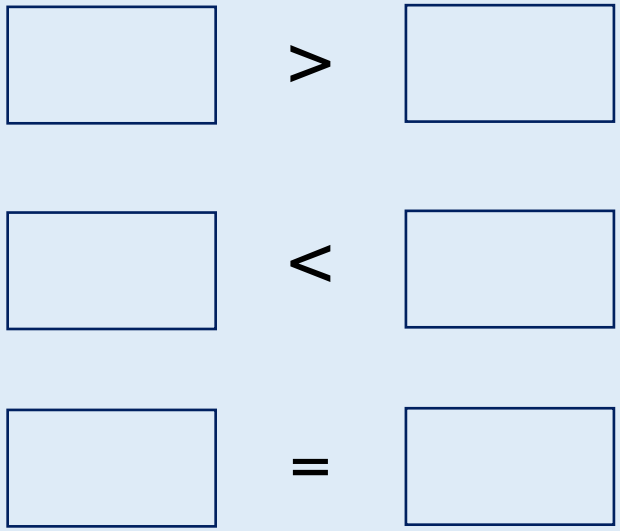


A	>	B
B	<	A
C	=	D

Activity 2 Compare Capacity

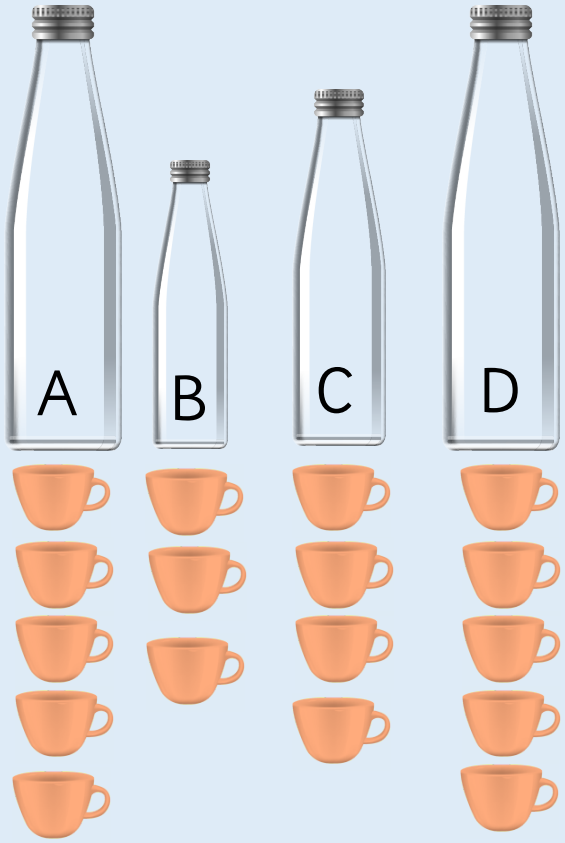
Complete the boxes to compare the capacity of the bottles.





Activity 2 Compare Capacity

Complete the boxes to compare the capacity of the bottles.



C	>	B
B	<	C
A	=	D

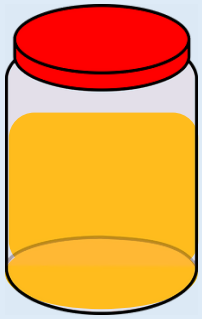
Activity 3 Compare Capacity

Compare the containers using more or less.

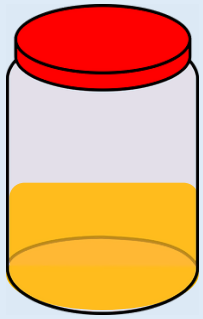
A

B

A has _____ than B.



A

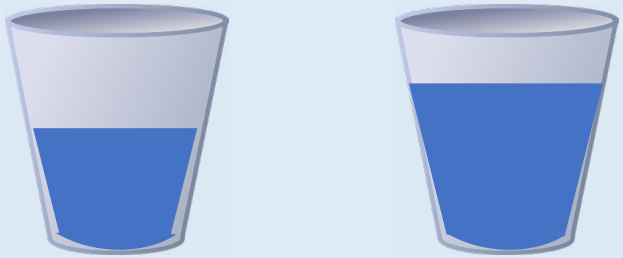


B

A has _____ than B.

Activity 3 Compare Capacity

Compare the containers using more or less.



A B

A has less than B.

A B

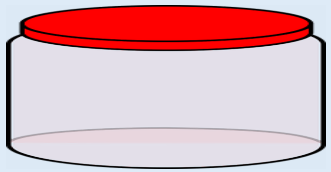
A has more than B.

Activity 4 Compare Capacity

These containers have been filled using a cup as a unit of measurement.
Order the containers from largest to smallest capacity.

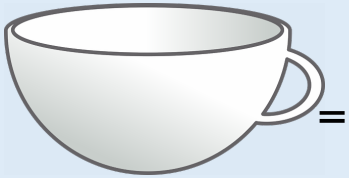
= 2 cups

Container 1



= 5 cups

Container 2



= 1 cup

Container 3

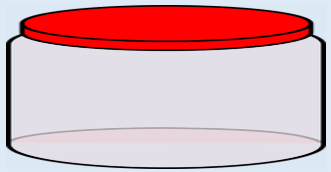
Activity 4 Compare Capacity

These containers have been filled using a cup as a unit of measurement.
Order the containers from largest to smallest capacity.

= 2 cups

Container 1

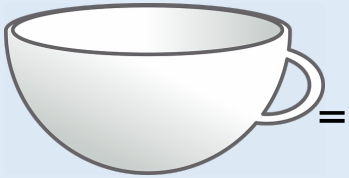
2nd



= 5 cups

Container 2

1st



= 1 cup

Container 3

3rd

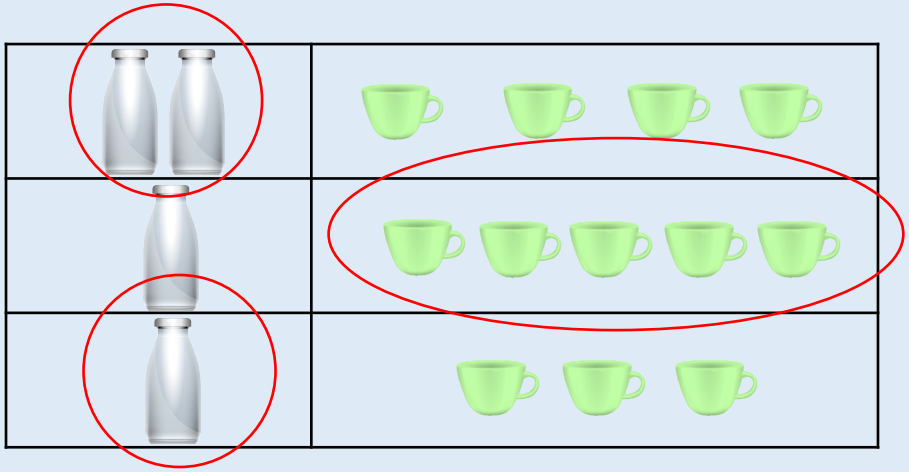
Reasoning - 1 Compare Capacity

Circle whether the cups or bottles hold more in each row.

Reasoning - 1 Compare Capacity

Circle whether the cups or bottles hold more in each row.



Reasoning - 2 Compare Capacity

Zach has a bottle of juice. He pours two glasses of juice.

Zach

The bottle holds exactly two glasses of juice.

Do you agree? Explain why.

Reasoning - 2 Compare Capacity

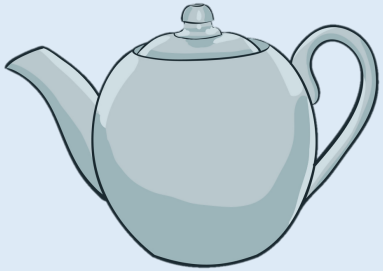
Zach has a bottle of juice. He pours two glasses of juice.

The bottle holds exactly two glasses of juice.

I disagree. Zach has filled two glasses exactly but there is still juice left so he could have filled more than 2.

Reasoning - 3 Compare Capacity

Choose two containers.
Investigate how you could compare the capacity of each one.



Reasoning - 3 Compare Capacity

Choose two containers.
Investigate how you could compare the capacity of each one.

Children choose two containers and choose a unit of measure to compare the container's capacities.

Discussion

Compare Capacity

Which container has the largest/smallest capacity?
Can we order them from largest to smallest?

Which container do you think will hold more?
How can we check?

What can we use to measure the capacity of these containers?

Can we show A has more than B but less than C?