

## Lesson 8 – Capacity and Volume – Measure Capacity

## NC Objective:

Compare, describe and solve practical problems for mass/weight: [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]

## Resources needed:

Differentiated Sheets  
Teaching Slides  
Non-standard units of measure/  
cup/spoons

## Vocabulary:

Capacity, measure, containers, non-standard units of measure, bowls, liquid, full

Children measure the capacity of different containers using non-standard units of measure. They understand that the unit of measure must stay the same, for example the same cup, the same spoon etc. They understand to measure accurately, they must make each container or non-standard measure full.

## Key Questions:

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?

## ★ Working Towards

Solve Problems for Capacity and Volume

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

The volume of liquid in the fish tank is \_\_\_\_\_ units.

The volume of liquid in the bucket is \_\_\_\_\_ units.

The volume of liquid in the jar is \_\_\_\_\_ units.

The volume of liquid in the bottle is \_\_\_\_\_ units.

The volume of liquid in the pot is \_\_\_\_\_ units.

## ★★ Working Within

Solve Problems for Capacity and Volume

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

The volume of liquid in the fish tank is \_\_\_\_\_ units.

The volume of liquid in the bucket is \_\_\_\_\_ units.

The volume of liquid in the jar is \_\_\_\_\_ units.

The volume of liquid in the bottle is \_\_\_\_\_ units.

The volume of liquid in the pot is \_\_\_\_\_ units.

## ★★★ Greater Depth

Solve Problems for Capacity and Volume

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

The volume of liquid in the fish tank is \_\_\_\_\_ units.

The volume of liquid in the bucket is \_\_\_\_\_ units.

The volume of liquid in the jar is 3 units less than the fish tank. How many units is it?  
The volume of liquid in the jar is \_\_\_\_\_ units.

The volume of liquid in the bottle is 7 units less than the bucket. How many units is it?  
The volume of liquid in the bottle is \_\_\_\_\_ units.

The volume of liquid in the pot is 5 units more than the fish tank. How many units is it?  
The volume of liquid in the pot is \_\_\_\_\_ units.

Children on this sheet count cups less than 20.

Children on this sheet count cups over the number 20.

Children on this sheet work out the volume using their problem solving skills.

## Reasoning &amp; Problem Solving

Solve Problems for Capacity and Volume

Reasoning & Problem Solving

Tia poured her cups into the jar and they fill it exactly.

Tia says: The jar has a capacity of three cups.

How many fill one ?

What do you notice?

Is she correct? Why?

Solve Problems for Capacity and Volume

Reasoning & Problem Solving

Tia poured her cups into the jar and they fill it exactly.

Tia says: The jar has a capacity of five cups.

How many fill one ?

What do you notice?

Is she correct? Why?

Solve Problems for Capacity and Volume

Reasoning & Problem Solving

The volume of liquid in the is 5 glasses less than the red bucket.

Tia says: If I would pour water from a jar into 3 full glasses, the jar would be half empty.

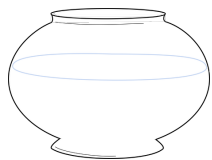
How many fill one ?

What do you notice?

Is she correct? Why?



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



The volume of liquid in the fish tank is \_\_\_\_\_ units.



The volume of liquid in the bucket is \_\_\_\_\_ units.



The volume of liquid in the jar is \_\_\_\_\_ units.



The volume of liquid in the bottle is \_\_\_\_\_ units.



The volume of liquid in the jar is \_\_\_\_\_ units.



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



The volume of liquid in the fish tank is 10 units.



The volume of liquid in the bucket is 13 units.



The volume of liquid in the jar is 9 units.



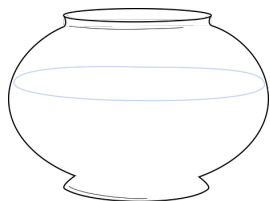
The volume of liquid in the bottle is 7 units.



The volume of liquid in the jar is 8 units.



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



The volume of liquid in the fish tank is \_\_\_\_\_ units.



The volume of liquid in the bucket is \_\_\_\_\_ units.



The volume of liquid in the jar is \_\_\_\_\_ units.



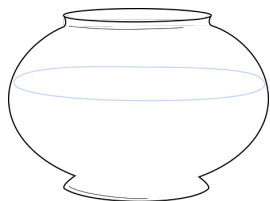
The volume of liquid in the bottle is \_\_\_\_\_ units.



The volume of liquid in the jar is \_\_\_\_\_ units.



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



The volume of liquid in the fish tank is 18 units.



The volume of liquid in the bucket is 26 units.



The volume of liquid in the jar is 7 units.



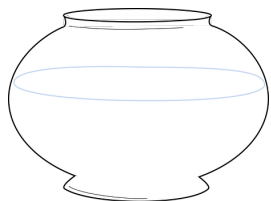
The volume of liquid in the bottle is 14 units.



The volume of liquid in the jar is 10 units.



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



The volume of liquid in the fish tank is \_\_\_\_\_ units.



The volume of liquid in the bucket is \_\_\_\_\_ units.



The volume of liquid in the jar is 5 units less than the fish tank. How many units is it?

The volume of liquid in the jar is \_\_\_\_\_ units.



The volume of liquid in the bottle is 17 units less than the bucket. How many units is it?

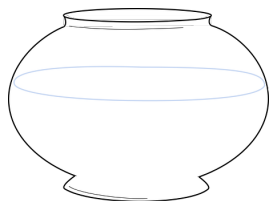
The volume of liquid in the bottle is \_\_\_\_\_ units.



The volume of liquid in the jar is 6 units more than the fish tank. How many units is it?

The volume of liquid in the jar is \_\_\_\_\_ units.

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



The volume of liquid in the fish tank is 22 units.



The volume of liquid in the bucket is 28 units.



The volume of liquid in the jar is 5 units less than the fish tank. How many units is it?

The volume of liquid in the jar is 17 units.



The volume of liquid in the bottle is 17 units less than the bucket. How many units is it?

The volume of liquid in the bottle is 11 units.



The volume of liquid in the jar is 6 units more than the fish tank. How many units is it?

The volume of liquid in the jar is 28 units.



How many  fill one  ?

What do you notice?

Tia poured her cups into the jar and they fill it exactly.



Tia says:

The jar has a capacity of three cups.

Is she correct?  
Why?



How many  fill one  ?

What do you notice?

Tia poured her cups into the jar and they fill it exactly.



Tia says:

The jar has a capacity of three cups.

Is she correct?  
Why?



How many  fill one  ?

What do you notice?

8 glasses fill one red bucket.  
Children can notice that it will take 16 glasses to fill 2 red buckets etc.

Tia poured her cups into the jar and they fill it exactly.



Tia says:

The jar has a capacity of three cups.

Is she correct?  
Why?

Tia is incorrect.  
She has not filled the glasses to the top so her measuring is inaccurate.



How many  fill one  ?

What do you notice?

8 glasses fill one red bucket.  
Children can notice that it will take 16 glasses to fill 2 red buckets etc.

Tia poured her cups into the jar and they fill it exactly.



Tia says:

The jar has a capacity of three cups.

Is she correct?  
Why?

Tia is incorrect.  
She has not filled the glasses to the top so her measuring is inaccurate.



fill



fill



How many  fill one  ?

What do you notice?

Tia poured her cups into the jar and they fill it exactly.



Tia says:



The jar has a capacity of five cups.

Is she correct?  
Why?



fill



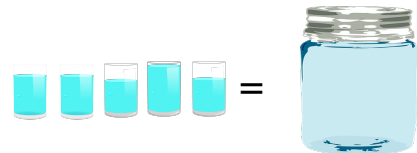
fill



How many  fill one  ?

What do you notice?

Tia poured her cups into the jar and they fill it exactly.



Tia says:



The jar has a capacity of five cups.

Is she correct?  
Why?



fill



fill



How many  fill one  ?

What do you notice?

9 glasses fill one red bucket.

Children can notice that it will take 18 glasses to fill 2 red buckets etc.

Tia poured her cups into the jar and they fill it exactly.



Tia says:

The jar has a capacity of five cups.

Is she correct?

Why?

Tia is incorrect.

She has not filled the glasses to the top so her measuring is inaccurate.



fill



fill



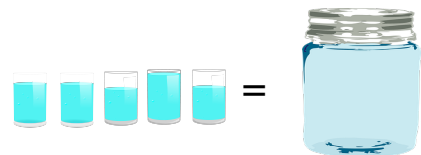
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Tia says:

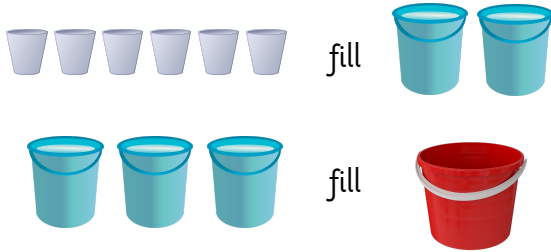
The jar has a capacity of five cups.


Is she correct?



Why?

Tia is incorrect.

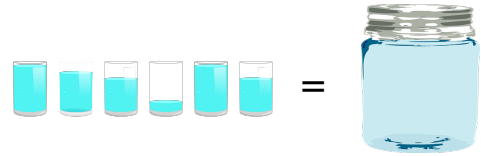
She has not filled the glasses to the top so her measuring is inaccurate.



The volume of liquid in the  is 5 glasses less than the red bucket.

How many  fill one ?  
What do you notice?

Tia poured her cups into the jar and they fill it exactly.

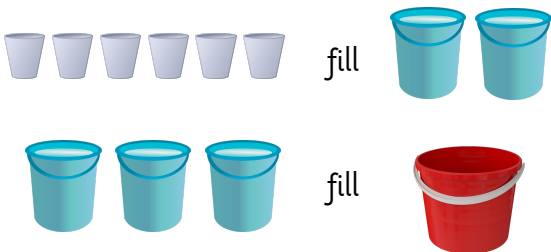


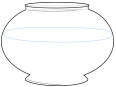
Tia says:





If I poured water from the jar into 3 full glasses, the jar would be half empty.

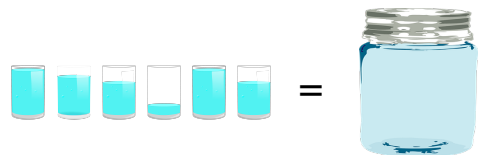
Is she correct?  
Why?



The volume of liquid in the  is 5 glasses less than the red bucket.

How many  fill one ?  
What do you notice?

Tia poured her cups into the jar and they fill it exactly.



Tia says:



If I poured water from the jar into 3 full glasses, the jar would be half empty.

Is she correct?  
Why?





fill



fill



The volume of liquid in the  is 5 glasses less than the red bucket.

How many 

fill one

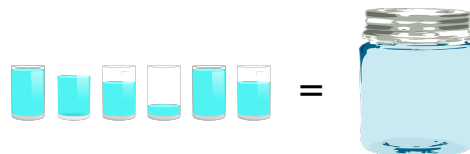


What do you notice?

4 glasses fill one fish tank.

Children can notice that it will take 8 glasses to fill 2 fish tanks etc.

Tia poured her cups into the jar and they fill it exactly.



Tia says:

If I poured water from the jar into 3 full glasses, the jar would be half empty.

Is she correct?

Why?

Tia is incorrect.

She has not filled the glasses to the top so her measuring is inaccurate.





fill



fill



The volume of liquid in the  is 5 glasses less than the red bucket.

How many 

fill one

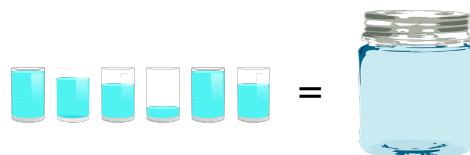


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If I poured water from the jar into 3 full glasses, the jar would be half empty.

Is she correct?

Why?

Tia is incorrect.

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