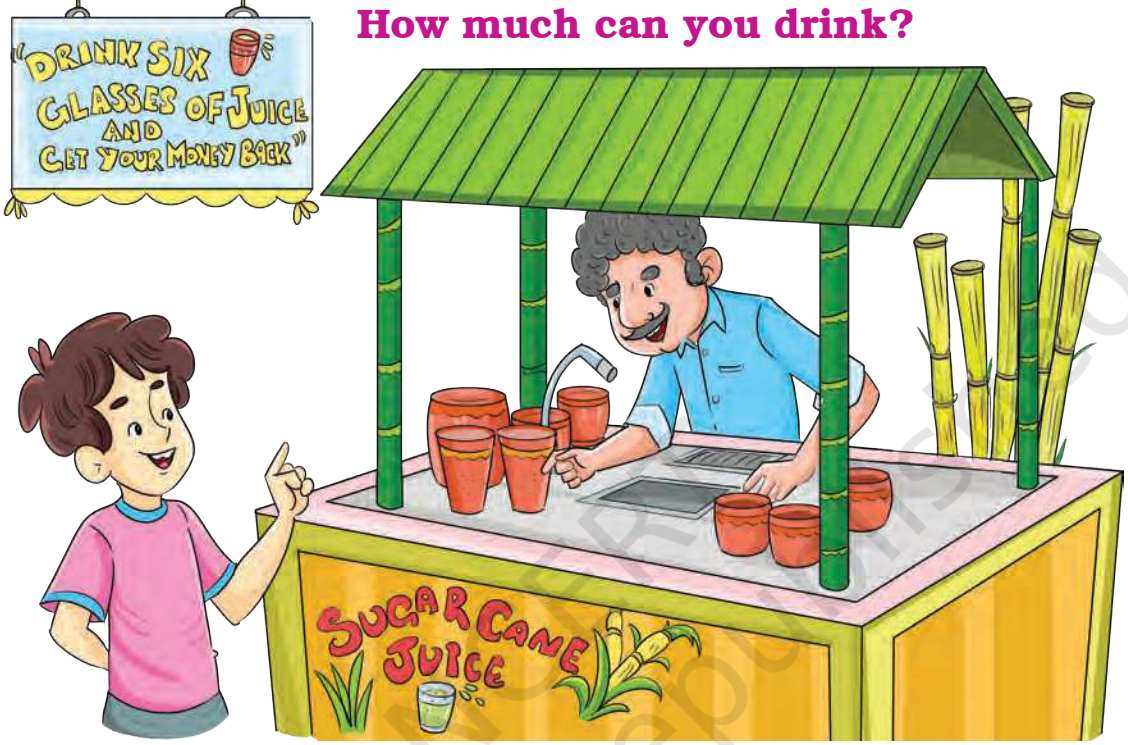
11 Filling and Lifting

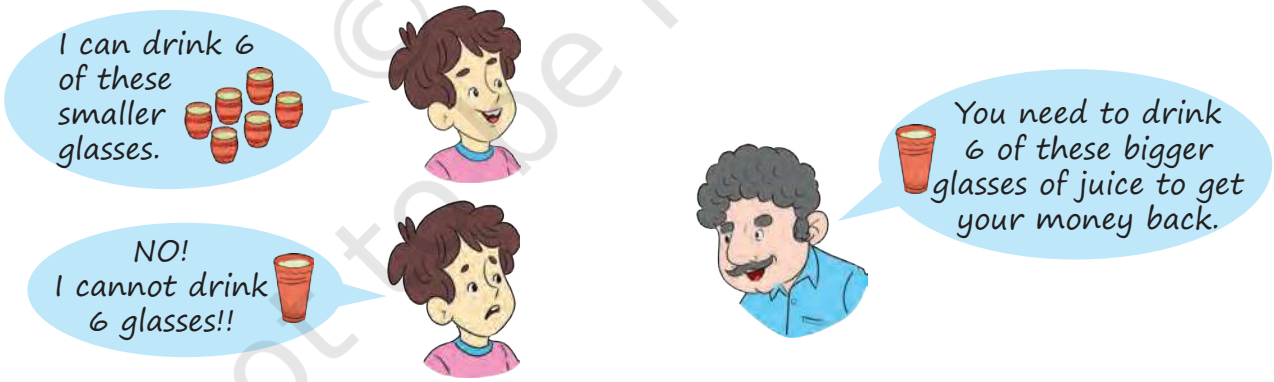


0333CH11

How much can you drink?



Chintu reads the poster and tells Shambhu:



Why do you think Chintu does not take the challenge?
Do you think you can take the challenge?



Teacher's Note: Children should understand that if one takes a bigger glass then we may drink a fewer number of glasses. So one may not take the challenge.

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Whose glass holds more?

Nita and Monu visit Ritu's house. Ritu's mother gives them milk in different glasses. Who do you think gets the most milk?





Ritu's elder sister finds out who drinks the most milk like this.

She pours the content of the glasses in three same-sized glasses.


Ritu's glass


Monu's glass


Nita's glass



Ritu's glass 

Monu's glass 

Nita's glass 

Let us Discuss

1. Who drank the most milk?
2. Who drank the least milk?

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3. Fill in the blanks with 'more' or 'less'.

(a) Nita's glass holds ..... milk than Monu's glass.

(b) Monu's glass holds ..... milk than Nita's glass.

(c) Ritu's glass holds ..... milk than Nita's glass.

4. Tick ✓ the right name.

(a) Nita/Monu/Ritu's glass holds the most milk.

(b) Nita/Monu/Ritu's glass holds the least milk.



Let us Do

Get three vessels (like a small bowl , glass , and bottle ) of different sizes from your home. Guess: how many small bowls will fill the glass? How many glasses will fill the bottle? First guess and then pour water from one vessel into another to check if your guess is correct.

Vessel	My guess for the number of small bowls	How many bowls
Glass		
Bottle		



1. Fill in the blanks with 'the most' or 'the least'.

(a) The glass holds ..... water.

(b) The bottle holds ..... water.

2. Name the vessels that are used in your home that can store more water than your bottle.



Teacher's Note: Children may get different vessels but they should be able to draw conclusions about their capacity.

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Let us Do



1. How many ladles fill the bowl? .....
2. How many glasses can be filled by the jug? .....
3. What will you use to fill half of the glass?
4. Which of these would you use for distributing the lemonade in glasses? Why?
5. How many glasses can be filled with 3 jugs of lemonade?
6. How many ladles are needed to fill 4 glasses?
7. Can you use a ladle, bowl or a glass to find out how much lemonade a jug can hold?



Teacher's Note: Let children discuss how many times they will have to pour using each thing. Discuss how utensils with less capacity can be used to fill a utensil of larger capacity and how utensils with larger capacity can fill a number of utensils of smaller capacity. Let them conclude that in both cases the quantity remains the same.

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A Measuring Bottle

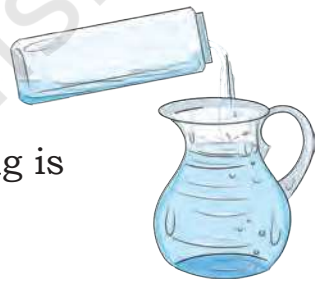


Nita sees the milkman pour milk using a measuring cup everyday.

Why do you think milkmen use measuring cups for giving milk? Discuss with your parents, grandparents and in your class.



Nita pours water from the bottle into the jug. The jug is exactly 1 litre.



Let us Discuss

1. Tick ✓ the appropriate word in the sentences given below.

   (a) The glass holds more than/less than 1 litre.

   (b) The bowl holds more than/less than 1 litre.

   (c) The jug holds more than/less than/exactly 1 litre.



Teacher's Note: Encourage children to do the above activities in the class. Discuss children's findings in the class. Children may get different answers depending on the vessels they choose. Teacher can get a few vessels and ask them to guess if each will hold 1 litre or more, or less than a litre.

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2. Find the vessels at home that are exactly 1 litre. Use your 1 litre bottle to check.

3. Identify vessels that are more than or less than 1 litre.



Let us Think

Look at the picture and tick ✓ the appropriate word.



(a) The mug holds a litre/half litre of water.

(b) The glass holds a litre/half litre/quarter litre of water.





Let us Explore

First guess and check with the 1 litre bottle.

(a) How much water does a bucket hold at your home: more than/less than/equal to 1 litre.

(b) How much water does a mug hold at your home: less than/more than/equal to half a litre.

(c) How much water does a glass hold: less than/more than/equal to a quarter litre.



Teacher's Note: Please procure measuring cups or vessels that have a capacity of 1 litre, half litre and quarter litre. Conduct the activities for measuring water in the classroom with children. Also, encourage children to establish in class that 4 quarter litre glasses are equal to 1 litre, and 2 half litre mugs are equal to 1 litre.

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Do you Know?

To make a 1 litre single-use plastic water bottle, we need about 5 litres of water! Less water is wasted if we use our own glass or reusable bottle.



Heavy or Light?

Chintu is holding 3 textbooks in one hand and a pencil box in the other hand for 30 seconds.



Discuss in pairs why one hand of Chintu is lower than the other?

Try holding the following things in both hands. Make observations in pairs. Which is heavier and which is lighter?

Do you and your friends agree on which is lighter and heavier?

Things to Compare	My Observation	My Friend's Observation
Lunch box and pencil box	..... is heavier than	..... is heavier than .....
Your school bag and lunch bag		
Apple and watermelon		
A balloon filled with air and a basketball		



Teacher's Note: Children need to understand that heavier things tend to go down due to their weight. Teacher can bring the pan-balance or invite a vegetable vendor to give children some experience with weighing.

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Let us Do

1. Write the names of the objects and their weights in the table given below:



Objects	How many coins or erasers balance the object?
Pencil	
Ping Pong Ball	

2. Let us make another weight to measure slightly heavier objects. Fill a matchbox with sand and use this to weigh the following objects. Guess the weight in terms of matchboxes and then verify.

Objects	Your guess for the number of matchboxes needed to balance the object	Number of matchboxes used to balance the object
Pencil box		
A spoon		
4 marbles		

Write the names of all objects measured in the order of lightest to heaviest.

.....



Teacher's Note: Procure a simple to y pan-balance. Use weights readily available like coins or unused erasers.

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Let us Do

Weight hunt



Do this activity in groups. Among your group find a bag that is heavier than yours. Find a bag that is lighter than yours. Discuss.

1. Why is your bag heavier or lighter?
2. Count the number of books to see if there is a difference in the number of books in the bag.
3. Can you make the two bags of about the same weight by moving a book? Discuss.

How much is 1 Kilogram?



With the help of your parents, find objects in your home on which 1 kilogram is written. Feel it with your hand and guess what other objects may be 1 kilogram. Verify by checking on the label of the object or by asking your parents.

4. Write the names of the objects that are 1 kilogram.

..... , ...

Let us keep a 1 kilogram salt packet or any other readily available packet as our measuring tool.

5. Can you guess which of these things are likely to be lighter or heavier than 1 kilogram? Put a tick ✓ mark in the appropriate box.

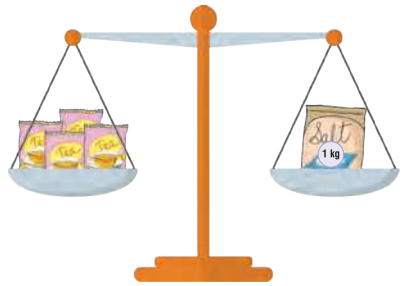
Objects							
More than 1 kg	☐	☐	☐	☐	☐	☐	☐
Less than 1 kg	☐	☐	☐	☐	☐	☐	☐

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6. Look at the balance and tick ✓ the correct word.





(a) Each *daal* packet weighs a half kilogram/kilogram

(b) Each tea packet weighs a half kilogram/quarter kilogram/kilogram.



Let us Explore

Look around your house, and identify objects that are about half a kilogram and quarter of a kilogram. Feel these things with your hand and guess what other things are a half or quarter kilogram. List the objects that are about a quarter kilogram and a half kilogram. Verify with the 1 kilogram salt packet.





Teacher's Note: Have discussions with children in the class as to how children are making their guesses. Encourage children to discover and discuss relationships between 1 kg, half kg, and quarter kg using the pan-balance and the 1 kg salt packet.

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Tricky balls

1. Montu poses a puzzle to his friends: 3 balls look similar in size. One of them is heavier and 2 balls are equal in weight. You have only a pan-balance and no weights. Using the 3 balls and the pan-balance, can you identify which is the heavy ball?





   (a) How many times will you have to weigh?

   (b) Use the balance only one time and tell which is the heavy ball.

2. There are three same-sized balls of different weights and colours: red, orange and green.

   You can use the pan-balance for it but cannot use weights.



   How will you find which one is the heaviest and which one is the lightest?

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