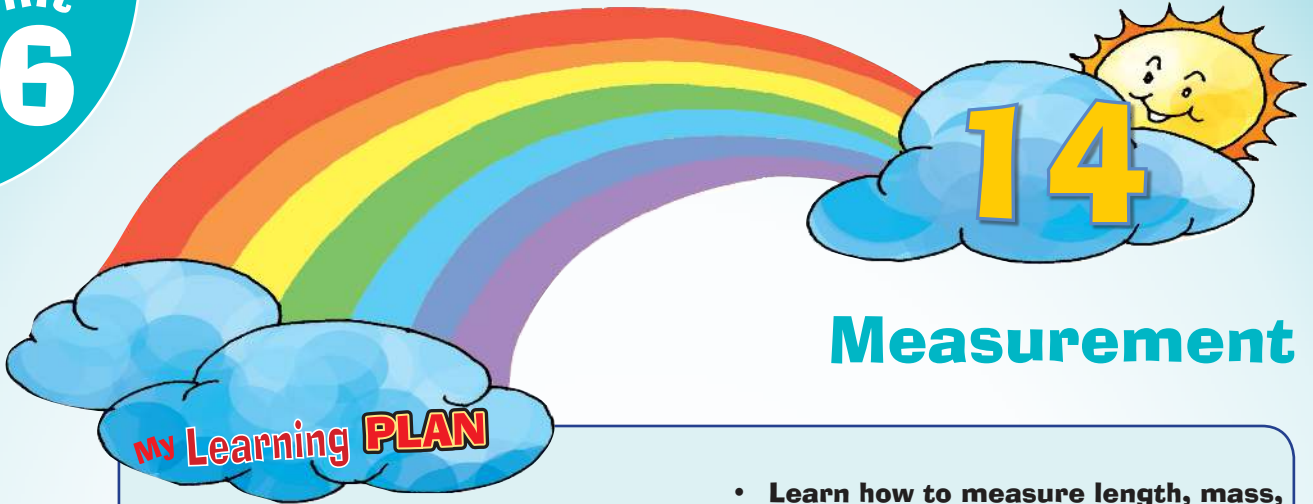




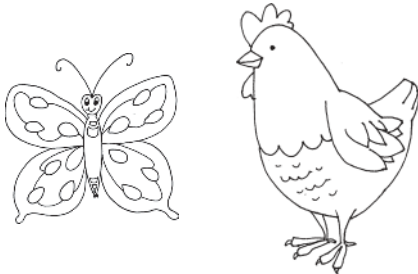
Measurement

- Learn how to measure length, mass, capacity, time and temperature

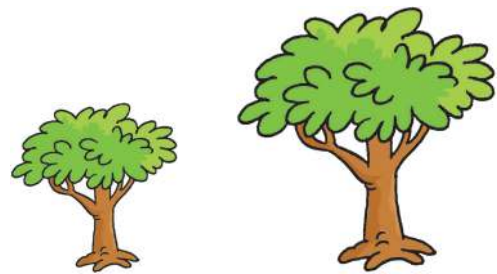


WARM-UP

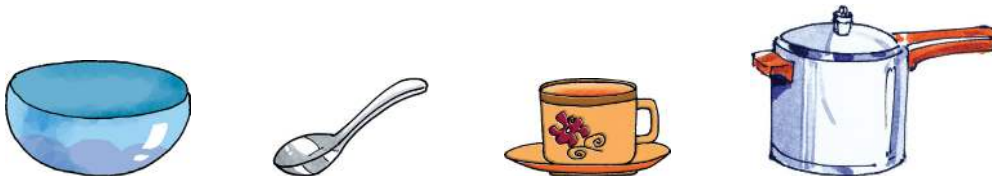
1. Colour the heavier animal.



2. Circle the taller tree.



3. Circle the object which will hold the most amount of soup.

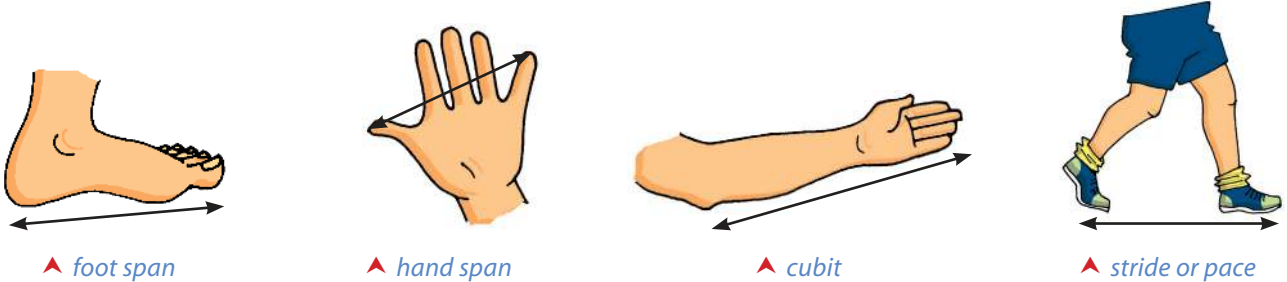


We need to measure many things in our life daily.

We need measurements to know the distance from one place to another, the height of a person, the length of a cloth, amount of milk bought, etc.

MEASURING LENGTH

Earlier people used their body parts to measure the **length** of different objects.



Use your hand span to measure the length of your science textbook. Now request your teacher to measure the length of the same book in this manner.

How many hand spans is the board?

Your hand Teacher's hand

▲ A1

You will see that there is a difference in the number of hand spans. This is because the size of the hand in different people is different. So we cannot always use body parts to find out the correct measurement of an object or an item.



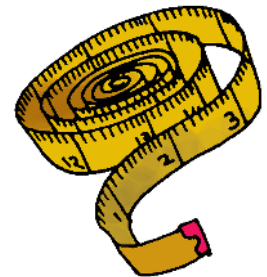
▲ *ruler*

We need standard objects and units for making measurements.

We use rulers, measuring tapes and metre rods to measure length.

What does a tailor use to measure cloth?

The standard unit of measuring length is metre (m). Centimetre (cm) is a smaller unit and is used to measure smaller lengths.



▲ *measuring tape*

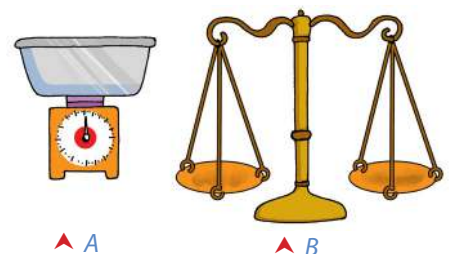
MEASURING MASS

▲ A2

Mass tells us how heavy or light an object is.

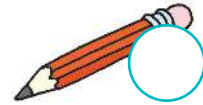
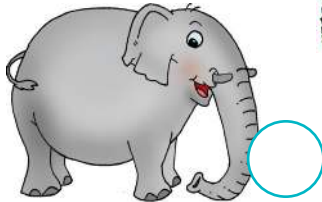
We use a weighing machine and weighing balances for measuring mass. The standard unit of measuring mass is kilogram (kg). Heavy objects are measured in kgs. Light objects are measured in grams (g).

Which of the two weighing balances have you seen in a vegetable shop? (Write A or B or both)





1. Which of the following objects will you measure in grams and which one in kilograms? Write g for gram and kg for kilogram.



MEASURING CAPACITY

Have you seen the milkman pouring milk into a container? He uses a measuring can to know how much milk he should pour.

A baby's milk bottle and medicine bottles have small plastic cups for measuring the liquid.

Capacity or volume is the amount of liquid a container can hold.

The standard unit of measuring capacity is litre (L). Larger amounts of liquid is measured in litres while smaller amounts in milliliters (mL). Volume of liquids, such as milk and water, is measured in litres and millilitres.



▲ milkman pouring milk into a container

MEASURING TIME

What **time** do you start from home for school?

What time does your school get over?

What time do you go to sleep?

We need to know the time for many things that we do in a day. Can you imagine what would happen if we did not know the time at all?

We use clocks and watches to know the time. In earlier days, the movement of the sun was used to calculate what the time of the day was.

Time is measured in hours, minutes and seconds.



▲ clock



▲ watch



Info Bits

ISO (International Organization for Standardization) and FPO (Foodstuffs of Plant Origin) marks assure that the actual measurements are marked on the packed foodstuffs that you buy.

When is your birthday?

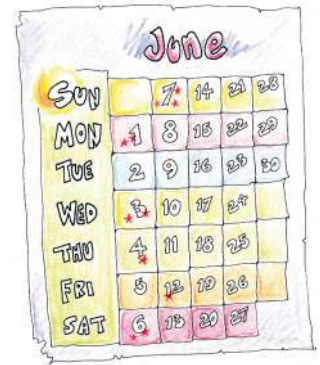
Which day of the week will it fall on this year?

.....

How can you tell whether it will fall on the same day or not, next year?

.....

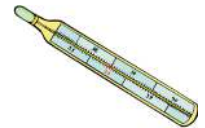
We need a calendar to know about days, weeks and months.



▲ calendar

What does a doctor use to measure and check your **temperature**?

The temperature tells us how cold or hot a body is. Temperature is measured in degree Celsius ($^{\circ}\text{C}$) or degree Fahrenheit. The normal body temperature of humans is 37°C .



▲ thermometer

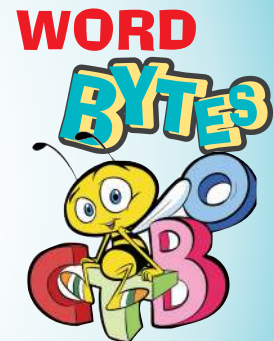
length: length tells us how long something is

mass: mass tells us how heavy or light an object is

capacity: capacity tells us how much of a substance is present

time: a quantity used to indicate a precise moment, period or interval

temperature: tells you how cold or hot a body is



- Length is measured in centimetres (cm) and metres (m).
- Mass tells us how heavy or light an object is. Mass is measured in kilograms (kg) and grams (g).
- Capacity is the amount of liquid a container can hold. Capacity is measured in litres (l) and millilitres (ml).
- Time is measured in hours, minutes and seconds.
- We need a calendar to know about days, weeks and months.
- We need a thermometer to measure temperature. Temperature is measured in degree Celsius ($^{\circ}\text{C}$) or degree Fahrenheit ($^{\circ}\text{F}$).



REVIEW ZONE

A Tick (✓) the correct answer.

- Which of the following is not a unit of time?
a. minutes b. seconds c. Celsius d. hours
- Which of the following cannot be measured with a measuring tape?
a. length of a pencil b. height of a mountain
c. height of a boy d. length of a chocolate

B Choose the most suitable word from the following to fill in the blanks.

degree Celsius	grams	millilitres	degree Fahrenheit	
kilograms	metres	seconds	centimetres	litres

- Length is measured in and
- Capacity is measured in and
- Mass is measured in and
- Temperature is measured in and

C State whether the following statements are TRUE or FALSE.

- We use rulers to measure mass.
- Measurement of the length of an object using the forearm is called cubit.....
- The temperature tells us how hot or cold a body is.....

D Match the measuring objects with the things that can be used to measure them.

1.



2.



3.



4.



a.



b.



c.

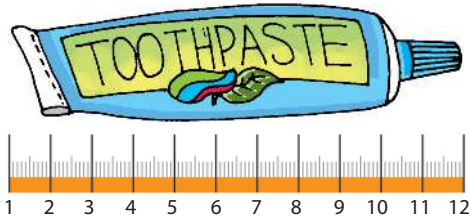


d.



E Measure the following objects using a ruler and find out which is the longest and which the shortest. Write down their length in cm.

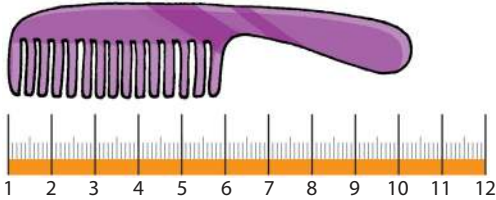
a.



b.



c.



F Answer the following questions.

1. What is mass?
2. What does a calendar tell us?
3. Name two objects used to measure length.
4. What is volume?
5. Name two objects that you can use to measure mass.



1. How can you and your friend find out the following:
 - a. Whose bag is heavier?
 - b. Whose water bottle contains more water?
 - c. Who is taller?
 - d. Who is heavier?





ENHANCE YOUR LIFE SKILLS

1. Become a tailor!

You can have fun with a measuring tape. Take a measuring tape and perform this activity on one of your friend. Record your measurements in a tabular format.

Body Part	Estimated Measurement (in cm)	Actual Measurement (in cm)
around the head		
waist		
arm		
shoulder		
hand		
leg		



ONLY A CLICK AWAY

1. Scientists use special apparatus to measure substances in the laboratory. Find out more about these. You can visit the science laboratory in your school and look at some apparatus used to measure weight, length and volume for experiments. Take help from your elders and find more about them from the Internet.



ACTIVITY BAG

1. Use a ruler to measure the length of your notebook.

Activity
1

How long is it? cm.

Now use a different ruler (may be your friend's) to measure the same length. You will observe that the length remains the same even when the length of your notebook is measured with a different ruler.

2. Use a simple weighing machine to measure your weight. You must have seen such a machine in a doctor's clinic earlier. Also measure the weight of another student in the class.

Activity
2

How much is your weight?

How much is the other student's weight?

Whose weight is greater?



3. Look at a calendar for this year and write when the following festivals will occur.

a.



Christmas

b.



Diwali

c.



Eid

d.



Pongal

e.



Onam

f.



Rakshabandhan

Teacher's Notes

- Teacher can show the children the measuring instruments they have studied in the chapter.
- Teacher can bring a digital thermometer and teach students how to take temperatures.
- Answers to Warm-up: 1. hen; 3. cooker.
- Answers to Question Drill: 1. elephant (kg); chocolate (g); harmonium (kg); pencil (g).