



## Watch - Observe

Look in your workplace and in your work manuals to find where tables are written.

What sort of information can you find in tables?

Are some words written in darker print (in bold print) or larger writing in the tables?

What are the headings in the tables?



#### Word list

heading: subject of the table



### When do we use it? Context

Tables are made up of information or numbers in boxes. The boxes are arranged in rows (across) and columns (down). Some examples of information that you can find in tables are:

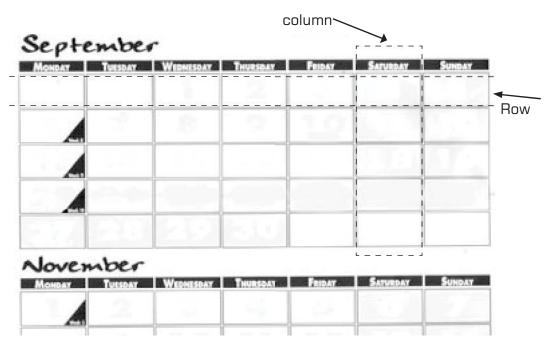
- information about how much pesticide to use
- information about a water sample
- timetables (e.g. for buses and planes).

Work planners are a kind of table.









Reading tables

#### **History**

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People have been making lists of information for thousands of years. For example, the ancient Romans used to collect information about people so that they would know how much tax they were supposed to collect.

A few hundred years ago, English people began using lists to help them think about health. They wrote down information about people who had been dying of an illness called the plague. Some people put this information in lists so that they could start to understand why people were getting sick.



Tables help us to compare different bits of information easily. We can read a lot of information quickly when it is put together in a table.







Tables



### Word list

**compare** = looking at things to see if they are the same or different.



#### Watch - Observe

Look at your organisation's financial reports. Look at how the numbers and words line up.

Are some words written in darker print (in **bold** print) or larger writing in the tables?

What are the headings in the reports?



#### When do we use it? Context

Tables are made up of information or numbers that line up in rows (across) and **columns** (down). Financial reports are a kind of table.

Look at the words in the first column to find out what a row is about.

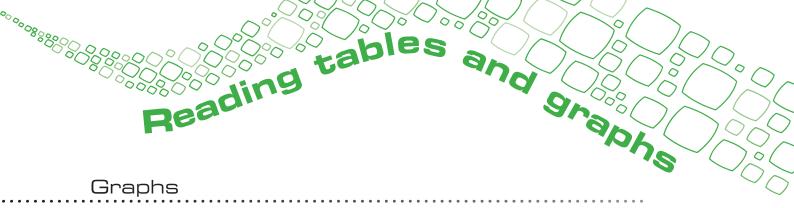
 	April Actual \$	April Budget \$	Actual YTD \$	<b>←</b> Headin
Income			+	Column
Grants	21,000	20,000	133,000	Row
Donations	400	250	2,400	
Total Income	21,400	20,250	(135 <u>,</u> 400)	<b>←</b> —Total
Expenditure				
Wages	17,800	18,000	156,000	
Vehicles	800	1,000	7,200	





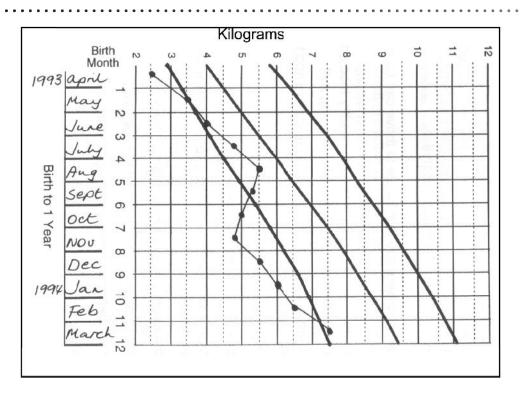
/Sometimes lines are used to show that a group of numbers has been added or subtracted. The total may be in **bold** print or under a line.

20,000 + 250 = 20,250





## Watch - Observe





## Work with your trainer

Talk with your trainer about these questions.

- What do the three straight lines across the graph mean?
- Why are the months written at the bottom?
- When was the baby born? How do we know?
- Talk about the numbers going up the graph. What do they mean?
- What do the dotted lines between each of these numbers mean?
- How to read the baby's weight in each month.









Look at the table below. It gives information about houses in a community.

Information	HOUSE 1	HOUSE 2	HOUSE 3	HOUSE 4
Number of occupants (people in house)	9	7	10	8
Leaking taps	No	No	Yes, laundry	No
Blocked drains	No	No	Yes, bathroom	Sink blocked in kitchen
Cockroaches	No	Yes	No	Yes
Windows	Fly screens torn	ok	No fly screens	ok
Dogs	2 sick dogs	1 sick dog	no dogs	1 well dog
Rubbish bins	ρk	No bin	ok	broken

Colour in red the column that is about HOUSE 1. Colour in yellow the column that is about HOUSE 3. Colour in blue the row that is about leaking taps. Colour in green the row that is about dogs.



Use the table to answer these questions. Write the house numbers next to the question.

Which house has the most people living in it?	House 3	
Which houses need rubbish bins?		
Which houses have blocked drains?		
Which houses do the sick dogs live in?		
Which houses have a cockroach problem?		
Which house has no fly screens?		









This is part of Example Card Wonem Council Income and Expenditure Statement.

	Income	Expenditure	Surplus / (Deficit)
General public services			
Outstations services	53,280	20,791	32,489
Council administration	206,919	141,021	65,898
Total	260,199	161,812	98,387
Public order and safety			
Night Patrol	19,307	32,219	(12,912)
Animal control	8,501	7,540	961
Total	27,808	39,759	(11,951)
Transport	34%		•
Civil works	35,648	20,977	14,671
Total	35,648	20,977	14,671

Colour in red the column that is about Income.

Colour in yellow the column that is about Surplus / (Deficit).

Colour in blue the **row** that is about Night Patrol.

Colour in green the  ${\bf row}$  that shows the total amounts of money for General Public Services.



## Write

Look at the table and circle the best answer to these questions. What is the income for council administration?

\$206,919 (\$260,199) \$141,021

What is the income for animal control?

\$7,540 \$8,501 \$19,307

What is the surplus / (deficit) for civil works?

\$14,671 \$98,387 \$20,977

What is total expenditure for public order and safety?

\$27,808 \$161,812 \$39,759

What is the total surplus / (deficit) for General Public Services?

\$32,489 \$98,387 \$14,671









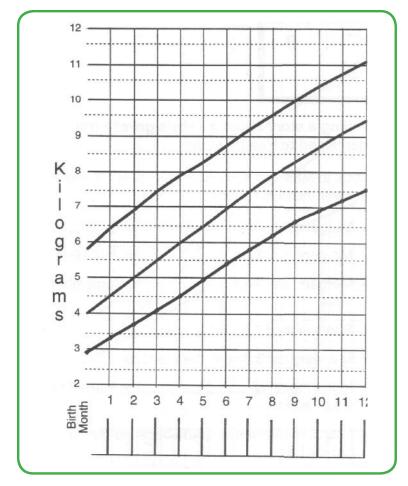
## Work with your trainer

#### Read and write

Work with your trainer to read about Baby Jangala and to make his 'Road to Health' chart.

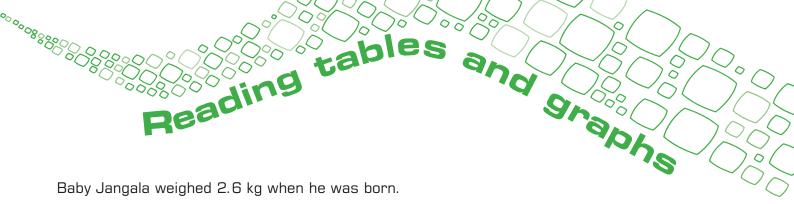
Baby Jangala was born in September 2001.

- Write 'September' in the 'Birth Month' column at the bottom of the 'Road to Health' graph below.
- Then write the names of the other months in the columns at the bottom of the graph.
- What is the number of the month for March 2002?









• Draw a dot to show 2.6 kg in the 'Birth Month' column of the graph. Work with your trainer to check that you know how to put the dot in the right place.

Here are Baby Jangala's weights in his first 12 months:

October 2001 November 2001 December 2001 January 2002 February 2002 March 2002 April 2002 June 2002	4.1 kg5.4 kg6.3 kg6.8 kg6.2 kg6.2 kg
June 2002	7.1 kg
July 2002 August 2002	_

- Draw dots on the graph to show all of Baby Jangala's weights for his first year.
- Draw a line to join up the dots.



## When do we use it? Context

When a baby is born, we keep a regular record of the baby's weight (each month or every two weeks).

- We do this to check that a baby is growing in a healthy way.
- We write the baby's weight on a graph every time we weigh the baby.



Why?

The graph tells us the story of the baby's growth. The graph is a quick way to see if the baby is on the road to good health because you can easily see if the baby's weight has gone up or down.







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gram = a measurement of weight.

metre = a measurement of length.

litre = a measurement of a liquid.

**degrees Celsius** = a measurement of temperature.

**Instrument** = tool

Precise = exact

For example, my sister is 1.7 metres (precise) or my sister is tall (not precise).



#### Watch – Observe

Look around your workplace. What tools can you see that are used to **measure** and weigh? We use different tools to help us measure in different ways.



### When do we use it? Context

We use tools to help us when we need to measure something exactly. Most exact measurements are written with decimal points. For example:

- her temperature is 40.1 °C
- she weighs 12.25 kg
- I gave her 0.5 mL of medicine.

Dolly is about 1 and  $\frac{1}{2}$  metres (150 cm) tall. But for her medical records, we need an accurate measurement. We use tools to find out exactly how tall she is.

Sometimes tools can be confusing.

They may not look the same, even when they are measuring the same thing. They may be difficult to read, because they use lines instead of numbers, or are on a dial.





1908 86 80 ac co



## Talk about - Discuss

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tools

Talk to someone at work about the meaning of **milli** (a thousandth – a small part) and **kilo** (one thousand – a large amount).

1000 millilitres (1000 mL) is the same as 1 litre (1 L)	1000 mL = 1 L
1000 milligrams (1000 mg) is the same as 1 gram (1 g)	Each tablet is 500 mg 500 mg + 500 mg = 1000 mg = 1 g
1000 grams (1000 g) is the same as 1 kilogram (1 kg)	Together these apples weigh about 1000 g or 1 kilogram (kg)



## When do we use it? Context

When we measure things we can use different units of measurement such as metres, grams, litres and degrees:

Milli <b>grams</b> (mg)	What size is that tablet?	500 mg
grams (g)	How heavy is that apple?	150 g
kilo <b>grams</b> (kg)	How heavy is baby John?	15 kg
Milli <b>metre</b> (mm)	How wide is your fingernail?	10 mm
centi <b>metre</b> (cm)	How long is baby John?	80 cm
metre (m)	How tall is Helen?	1.5 m
milli <b>litre</b> (mL)	How much drug is in the syringe?	1 mL
litre (L)	How much water is in the jug?	2 L
degrees Celsius ( <sup>O</sup> C)	What's Michael's temperature?	37.5 °C









## Watch - Observe

Look around your work place.

Find bottles and packages with metric measurements written on them. Write down the metric measurements and what is in the package (for example, 500 mg Paracetemol tablets).

Look at the measurement units 'mg' or 'mL' or 'mm'. These measurement words have **milli** at the front of the word:

- **milli**gram (gm)
- millilitre (mL)
- millimetre (mm).

Some measurement words have kilo at the front of the word:

- **kilo**gram (kg)
- **kilo**metre (km).



#### Why?

We usually need to write down exact measurements – to remember them accurately or because we need to keep good records.

Using decimal points makes it clear that we have measured exactly.

Liquids (such as water) are measured in mililitres or litres.









1000 ml measuring jug

5 litre bucket



Measuring weight



### Watch - Observe

Watch your trainer weighing a baby, or weigh a baby yourself.

- What units of measurement do you use to record weight?
- · How much does a small baby weigh?
- · How much does a heavy baby weigh?
- Where do you write down these measurements?
- What do you use to measure a baby's weight?
- What do you use to measure an adult's weight



## When do we use it? Context

You may need to weigh a patient:

- when you are doing a general physical assessment
- when you are working out how much drug to give a patient.

#### History

In the past, people used many different ways of measuring height and length, such as the length of their thumb, the length of their arm or foot, the length of their step.

Today, most countries in the world use measurements such as metres, centimetres and millimetres to measure length.

These units of measurement are called metric units.







#### Measuring Temperature

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#### **History**

In the past, it was difficult to measure temperature accurately because people didn't have accurate thermometers. Today, people use several different types of thermometer to measure temperature very closely.

Check out the types of thermometer in your workplace.

Some thermometers show only whole numbers. On some thermometers the temperature may have a decimal point. The numbers after the decimal point are less than a whole degree.

For example, the thermometer may read 45.5°C (forty five point five degrees Celsius).



### Why?

Measuring the temperature of the hot water helps to make sure it is safe for the people living in the house, especially children and people with a disability.

People can get burnt if the hot water in the house is too hot.

If the temperature of the hot water is above  $60^{\circ}$ C, it can take less than a second to burn a child. If the temperature of the water is  $50^{\circ}$ C, it takes about 5 minutes to burn a child. Less than  $50^{\circ}$ C is much safer.



#### Word list

**liquid** = something that flows like water.

**dose** = an amount of medicine to be taken at one time.

thermometer = tool to measure temperature (people).

**syringe** = tool used to give medicine or take blood.





## Work with your trainer





With your trainer, colour in the parts of the thermometer which show when a patient (adult) is getting sick.

1000 gg gg gg gg good





### Watch - Observe

Look at the thermometer that you use to measure temperature. Turn it on and read the number on the screen.



## When do we use it? Context

Temperature tells us how hot or cold something is.

Temperature is measured in degrees Celsius (°C).

Water freezes at 0°C and boils at 100°C.

When we do a housing survey, we check the temperature of water coming from the hot taps. This water should not be hotter than  $50^{\circ}$ C.

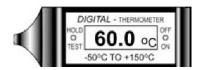
No higher than this temperature



The temperature is ok



The temperature is too hot









#### Reading measurements



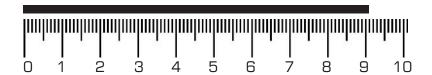
### When do we use it? Context

Some tools have whole numbers, with small lines or marks between them.



To read the measurements on these tools we need to know:

- 153 \_\_\_\_ 1.53 152 \_\_\_\_ 1.52 151 \_\_\_\_ 1.51
- What is the unit of measurement?
- How many spaces are there between the whole numbers?

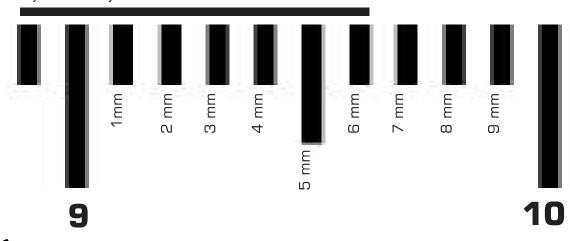


To measure this line, we need to know that this is a centimetre ruler.

We can see that the line is longer than 9 cm, but not 10 cm.

To work out the exact measurement we need to know that each line marks the end of a millimetre. So there are 9 lines and 10 gaps.

So you can say that the line measures 9.6 cm or 96 mm.





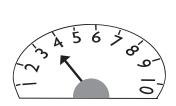




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## When do we use it? Context

Some tools use a dial (circle) or half circle to show the measurement. These dials will have numbers marked and usually more small lines or marks between the numbers.







tools

To read the measurements on these tools we need to know:

- what is the unit of measurement?
- how many lines are there between the whole numbers?

Look at these two dials you might find in a car. They look alike but measure different things.



#### Fuel gauge

Tells you how much petrol you have in the tank.

There is no unit shown (fuel tanks are measured in litres).

Lines show when the tank is full, 3/4 full, 1/2 full, 1/4 full and empty.



#### **Speedometer**

Tells you how fast you are going.

Unit = kilometres per hour (km/h)

Numbers go from 0 to 300 and show the number every 20 km.

Lines mark every 5 km.





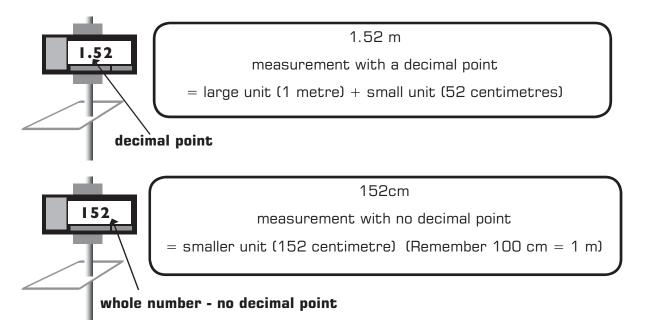


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All of these tools are made to measure something accurately. They show the exact measurement on a **digital** display.

This makes it easier to be sure you have the right measurement. But you still need to know what the number means.

We know that Dolly is about 1 and 1/2 metres tall. Different tools might show that measurement in different ways.



We use the point to separate the big number from the small numbers. Remember:

- the unit is metres.
- the number(s) in front of the point tell you how many whole metres.
- the numbers after the decimal point are less than a whole metre (.75 m = 75 cm).

You use the decimal point in the same way when you are weighing (except the unit is kilograms) or measuring liquid (the unit is litres).







Writing measurements in different ways



### Watch - Observe

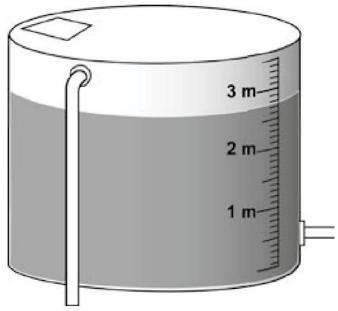
Look in manuals for numbers that have a decimal point in them.



## When do we use it? Context

Many numbers in the workplace are written with decimal points. For example:

- the temperature of the water is 43.5°C
- the length of the trench is 19.5m
- there is 0.6mL of dog medicine in the syringe.



The depth of the water in this tank is closer to 3 metres (300 cm) than 2 metres (200 cm).

The depth of the water in this tank can be written in two ways: 2.75 m (with a decimal point) = large unit (metre) or 275 cm (with no decimal point) = small unit (centimetre)

100 cm = 1 m







Talking about measurements in different ways



### Watch - Observe

What words people use when they talk about measurements? For example:

the distance to the tip is 2 kilometres (km)

the width of the flyscreen is 800 millimetres (mm)

the depth of the rubbish trench is 2 metres (m).

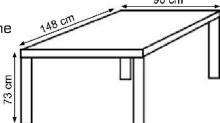


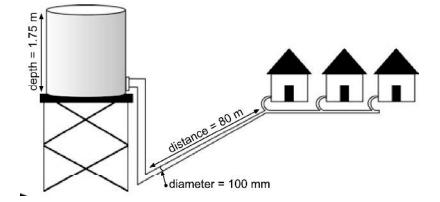
#### When do we use it? Context

What is the height of the table? The table is 73 cm high.

What is the length of the table?

The table is 148 cm long. What is the **width** of the table? The table is 90 cm **wide**.





The water in the tank is 1.75~m deep. The distance from the house is 80~m. The diameter of the pipe is 100~mm.







Strength of Drugs



## When do we use it? Context

Different people need to take different amounts of a drug. You must give the right amount of drug for the weight of the person.

To check that you are giving a child the right amount of a drug, you should weigh the child first, because some children weigh less than other children of the same age.

#### History

In past times, people didn't have instruments to measure drugs very precisely. These days, drugs are made using very precise measuring instruments. Sometimes a very strong drug can be inside a small tablet or a small amount of liquid.



## When do we use it? Context

Different people need to take different amounts of a drug. You must give the right amount of drug for the weight of the person.

To check that you are giving a child the right amount of a drug, you should weigh the child first, because some children weigh less than other children of the same age. We also measure liquids when we:

- make up paint
- make up a bucket of disinfectant for cleaning
- · use milk or water in our cooking.

Sometimes you can estimate how much liquid you need.



Why?



It is important to measure some liquids accurately. If a child is given too much or too little of a drug, it might not work, or they might get sicker. You can estimate how much liquid you need when it is not as important to get the amount right.









### Watch - Observe

Read the label on a bottle of Children's Panadol.

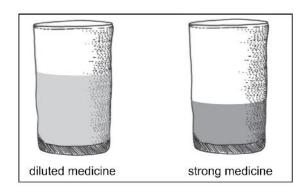
- Find where it says 100 mg/ 5 ml. This means that there are 100 milligrams of Paracetamol in every 5 millilitres of liquid.
- Read the writing on a box of Paracetamol tablets.
- Find where it says how many milligrams of Paracetamol there are in a Paracetamol tablet.



### When do we use it? Context

Some medicine in bottles or tablets are stronger than other medicine. When the medicine is stronger, it means that we have to give less of it, e.g. **Baby Panadol** is stronger than **Children's Panadol**.

Strong medicine is like strong cordial. Imagine you put the same amount of cordial in two cups. Then you put just a little bit of water in one cup, and a lot of water in the other cup.



You have the same amount of cordial in each cup, but one cup is stronger than the other cup.











Write the temperatures shown below.

	пириц	ппрппр	<u>ım ım </u>	ոորող	ımlım	hiiliiii	hiii	
35	36	37	38	39	40	41	42	37.9
	ıııılıııı	ппрппр	ıııılıııı	mlmi	ıııılıııı	hmhm	hml	
35	36	37	38	39	40	41	42	_
35	1111 1111  36	37	38	1111 1111  39			42	
	36	37	38	39	1111 1111		42	
35	36	37	38	39		41	42	



Take your own temperature and write it down.

By mouth, the temperature is

Under the arm, the temperature is

In the ear, the temperature is









Fill in the sentences in this table about a tablet that has 200 mg of drug in it.

This tablet has 200 mg of drug in it.	The whole tablet contains 200 mg.
	Half (1/2 ) a tablet contains mg.
	A quarter (1/4 ) of a tablet contains mg.
	One and a half tablets (1 1/2 ) contain mg.



From the box at the bottom, write the best measurement and unit for each picture.

30cm	250ml	5ml	500mg	2L		
A ruler usua	lly measures					
A paracetamol tablet has of drug.						
There are	here are of r			of milk in the container.		
There is abo	ut	in a glass of water.				
A teaspoon holds about			of water.			







Measurem

We use different tools to help us measure in different ways. Draw a line to match the job to the tool you might use.

Measuring height	
Filling in the vehicle log book	
Taking blood pressure	20'40 to 80' 20'40 to 80' 80' 80' 80' 80' 80' 80' 80' 80' 80'
Measuring temperature	12:58PM
Filling in a time sheet	
Weighing a baby	c 38.5 I



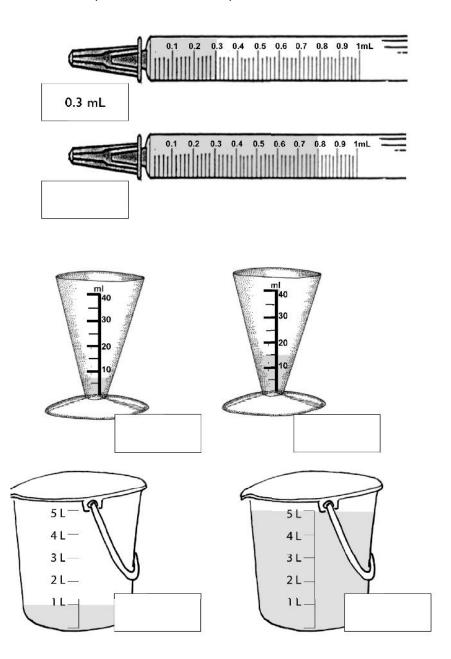






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Write the amount of liquid shown in each picture.



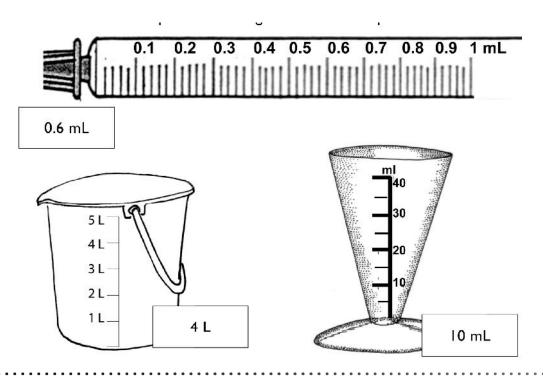






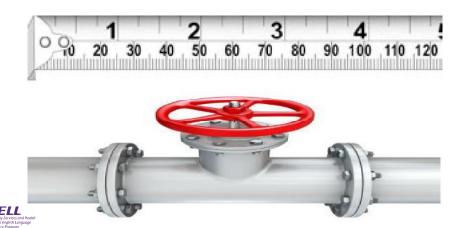


Draw a line on each picture showing the amount of liquid.





Look at the tape measure. Write the length of the pipe.



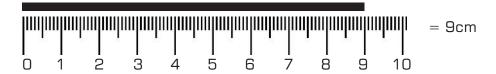


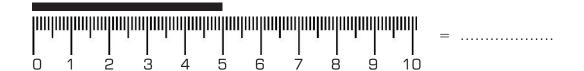
# NUMERACY • LEVEL 3 •



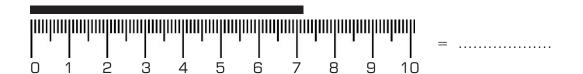
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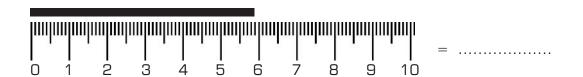
Write down the exact length of each line.













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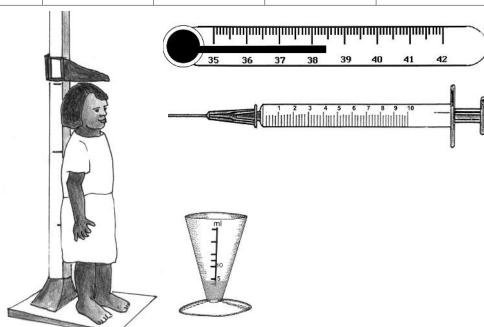






Find four different tools that measure with lines and then fill in the table (for example a ruler, a medicine cup or a measuring jug).

Name of tool		
What is the unit of measurement?		
How many lines or marks are there between each number?		
So what do the lines show?		







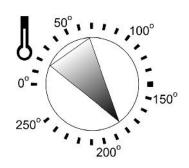
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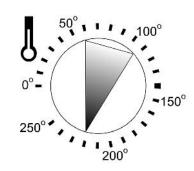


## Vrite

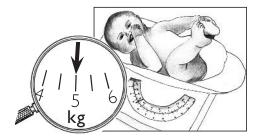
Look at the measurements showing on each of these dials.



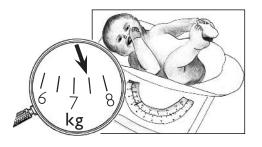
Temperature =



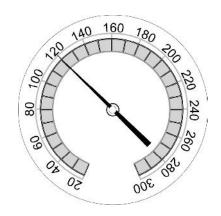
Temperature =



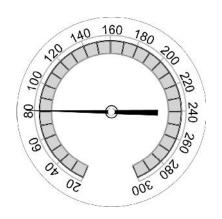
Weight =



Weight =



Blood pressure =



Blood pressure =







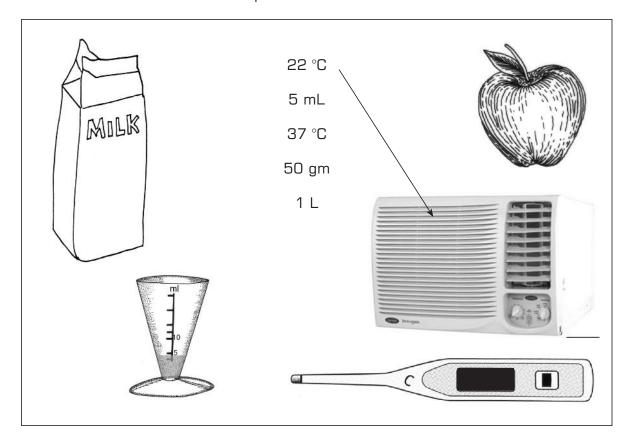


## Talk about - Discuss

Do you know the meaning of **milli** and **kilo**? Can you think of other words with 'milli' and 'kilo' in them?



Match the measurement to the picture.











Read the numbers and circle the best answer.

Which one of these measurements is most like the length of a rubbish disposal trench?

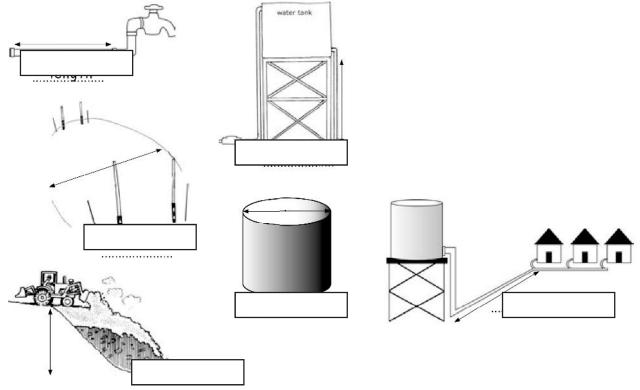
19.5 m 19.5 km 195 m



Do

Write the right word under each picture.

height	depth	length	width	distance	diameter



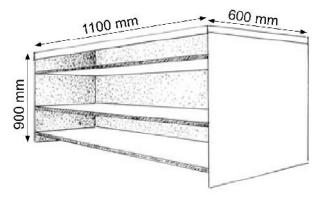








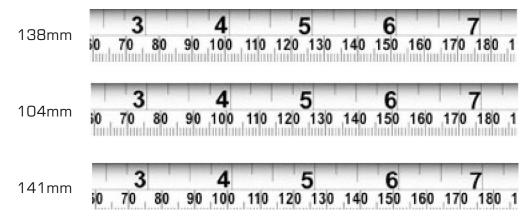
Larry helped the Environmental Health Officer check that a kitchen had been built to plan. The arrows show the measurements he made.



How long is the kitchen bench?	mm
How high is the kitchen bench?	mm
How wide is the kitchen bench?	mm



Helen needs to do some plumbing repairs. She has measured the length of some pipes with a tape measure.











Measure the temperature of the water from the hot and cold taps in a house and write it down. If you do not know how to use a thermometer, ask your support person to show you.

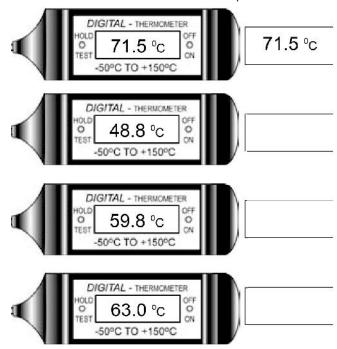
Water from cold tap Temperature is

Water from hot tap Temperature is



Selina has measured the temperature of the hot water in some houses.

Look at the thermometers below. Write the temperature in the box.



Circle the thermometer that tells us the hot water in the house is a safe temperature.







#### Units of Measurement and Symbols

#### Length

10 millimetres (mm) = 1 centimetre (cm)

100 centimetres (cm) = 1 metre (m)

1000 millimetres (mm) = 1 metre (m)

1000 metres (m) = 1 kilometre (km)

How high or how long?

#### Mass

1000 milligrams (mg) = 1 gram (g)

1000 grams (g) = 1 kilogram (kg)

How heavy?

#### Liquid volume

1000 millilitres (ml) = 1 litre (L)

1000 litres = I kilolitre (kL)

How much liquid?

#### Time

60 seconds (s) = 1 minute (min)

60 minutes (min) = 1 hour (h)

24 hours (h) = (1 day)

7 days = 1 week

365 days = 1 year

366 days = 1 leap year

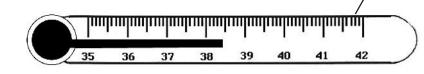
12 months = 1 year

10 years = 1 decade

100 years = 1 century

How much time?

How serious?







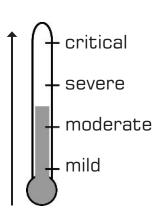


#### How serious

We can use different words to show that something is very serious or not so serious. These words work a bit like a thermometer. As the situation gets more serious you choose a 'hotter' or more serious word.

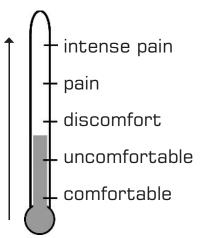
#### **Patient condition**

These words can describe the seriousness of a patient's condition



#### Amount of pain

These words can describe the amount of pain a patient feels



#### Attention to problem

These words can describe how quickly a problem needs attention

