

How long?

To measure length, place identical units end-to-end without gaps or overlaps.

- 1 Count the ants crawling past the food at a picnic. How many ants long?



The sandwich is 6 ants long.

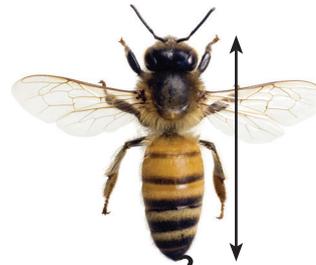


The cheese is 4 ants long.

- 2 Measure these pictures of insects using Base 10 shorts.



The caterpillar is 7 shorts long.



The bee is 3 shorts long.



How long is the blue worm? 6 shorts long

How long is the red worm? 11 shorts long

Which worm is longer? red By how much? 5 shorts

Longest to shortest

1 Estimate, then measure, the length of each piece of food using paperclips like this one.



a



Look at one paperclip to help you estimate.

Estimate: paperclips Length: paperclips

b



Are the ends of your paperclips touching?

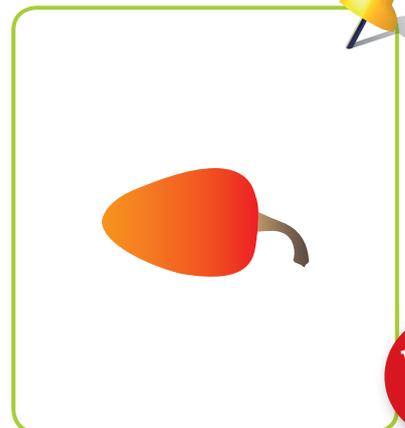
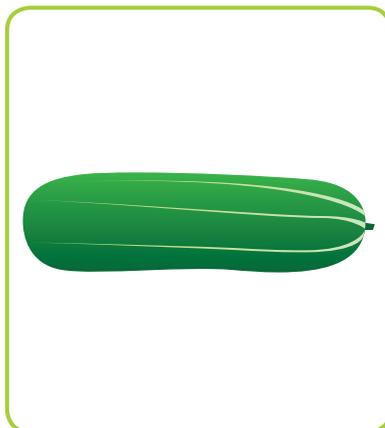
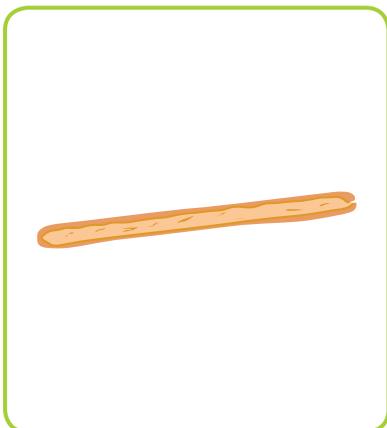
Estimate: paperclips Length: paperclips

c



Estimate: paperclips Length: paperclips

2 Draw the foods above, in order, from longest to shortest.



MIB 1
Cards
92, 96

Measure the creatures

Use the same sized counter to trace around each time.

1 Using counters to measure, draw:

Answers will vary.

A spider that is
1 counter long.

A dragonfly that is 4 counters long.

A caterpillar that is 6 counters long.

Remember that your counters must be just touching each other and not overlapping.

a Which is the longest creature? _____

b Which is the shortest creature? _____

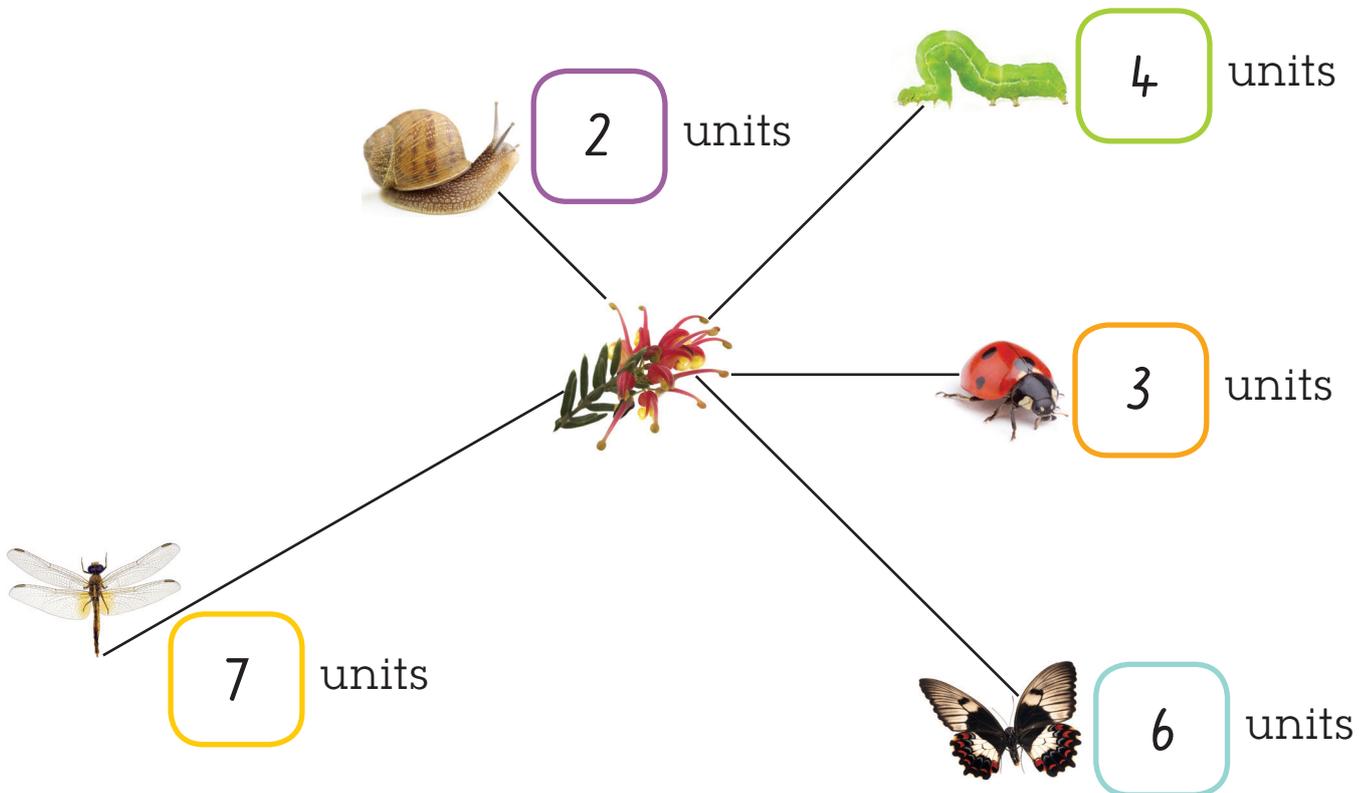
2 The caterpillar is 6 counters long. Estimate, then measure, how many of these units you need to measure its length.

Unit of measurement	Estimate	Actual
Base 10 shorts	<input type="text"/>	<input type="text"/>
Unifix blocks	<input type="text"/>	<input type="text"/>

Why do you need more Base 10 units than counters to measure the caterpillar? What does this tell you?

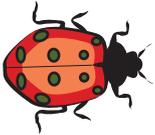
Measure distances

- 1 Use Base 10 units to measure the distance between the flower and each bug. Write the number of units.



- 2 What is the shortest distance to the flower? 2 units
What is the longest distance to the flower? 7 units

- 3 If all the bugs travel at the same speed, draw them in the order they would reach the flower.

1st	2nd	3rd	4th	5th
				

MIB 1
Card 95

Measuring with shoes

1 Measure the length of these objects using your shoe.

Object	Number of shoes	Object	Number of shoes
	<input type="text"/> shoes		<input type="text"/> shoes
	<input type="text"/> shoes		<input type="text"/> shoes

Answers will vary.

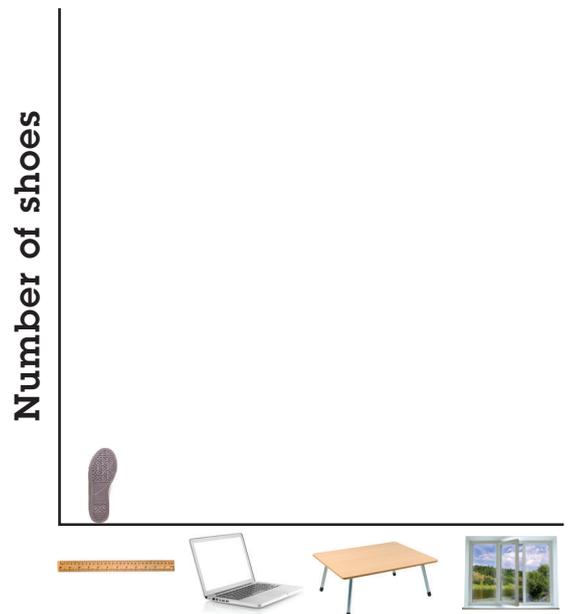
2 Use this information to make a picture graph to show the length of each object. The first one has been started for you.

Try and make your pictures in the graph the same size each time. Start at the bottom line and work upwards.



Did you get the same graph results as a friend? Why might your results be different?

Classroom object lengths



Which object is the longest?

Which object is the shortest?

What is the difference, in shoes, between the longest and shortest objects?

MiB 1
Card 93

Measure your classroom

- 1 Measure the distance between two points in your classroom using popsticks. *Answers will vary.*

Measure between	Number of popsticks
	_____ popsticks
	_____ popsticks
	_____ popsticks

- 2 Order the distances you measured from the shortest to the longest distance.

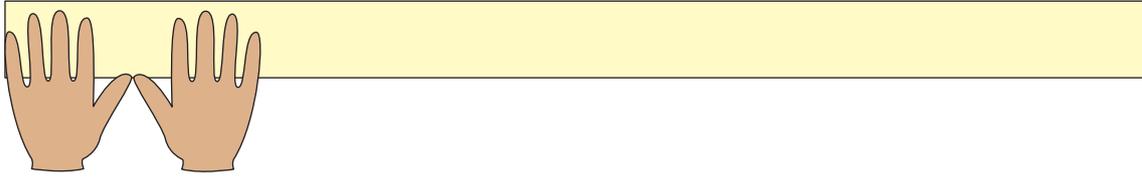
Distance between	Length
Shortest _____ and _____	_____ popsticks
_____ and _____	_____ popsticks
Longest _____ and _____	_____ popsticks

- 3 Find the total distance from the door to the teacher's desk, stopping at the computer and the board on the way.

The total distance is _____ popsticks.

Make your own tape measure

- 1 Make your own tape measure with a strip of paper, marking your hand spans on it. *Answers will vary.*



- 2 Use your tape measure to measure each body part of a partner. My partner is _____.

Leg

hand spans

Arm

hand spans

- 3 Colour the hands to show your results.

My leg:



_____ 's leg:



My arm:



_____ 's arm:



What did you do if your measuring stopped before the hand span did?

- 4 Compare your results with your partner's.

a Who has the longer arm? _____

b What was the difference between your leg and your partner's leg? _____

Comparing area



1 Order the objects from smallest to largest area using the numbers 1, 2 and 3.



2

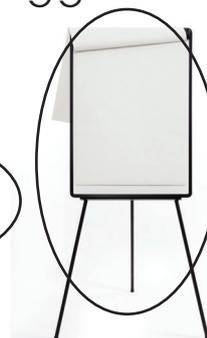
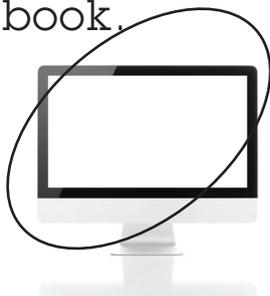


1



3

2 Circle the objects with an area bigger than your maths book.

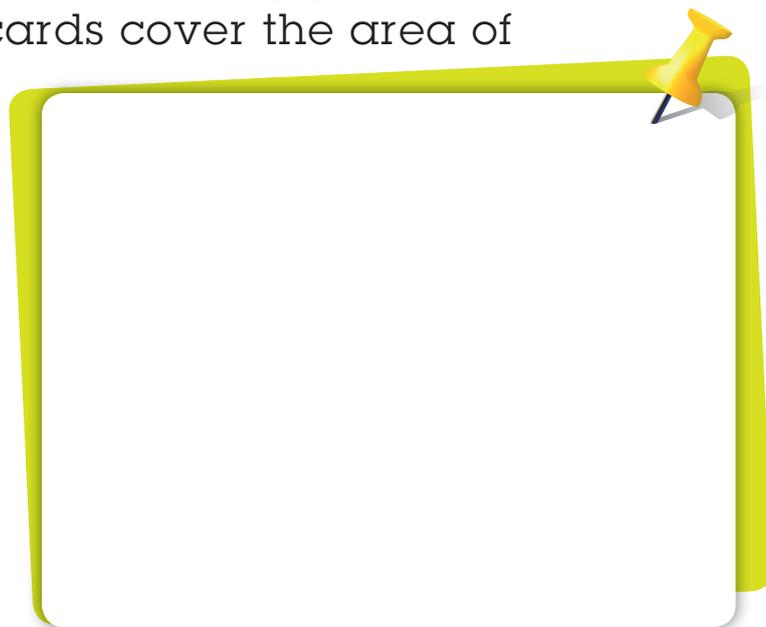


Area is the measure of the amount of surface.

3 How many playing cards cover the area of your book?

Draw how you arranged the cards to measure your book.

Answers will vary.



4 Would you use more cards or less cards to measure a computer screen? Answers will vary.

Why? _____



Find a book that can be covered using 8 playing cards.

MiB 1
Card 99

Beach cover up



Trace this shape onto a piece of paper and cut around it. Find objects in the picture with about the same area as this shape. Colour them in.



If you measured the real objects, would they have the same area as the rectangle?

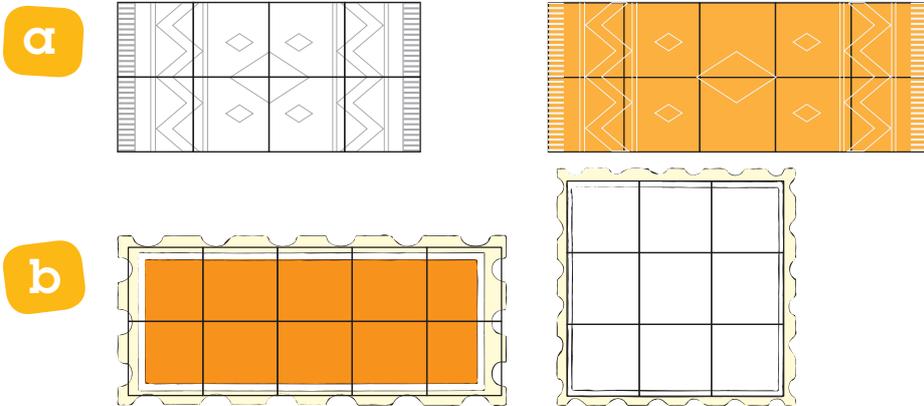


Explain your answer to a partner.

Colour the areas



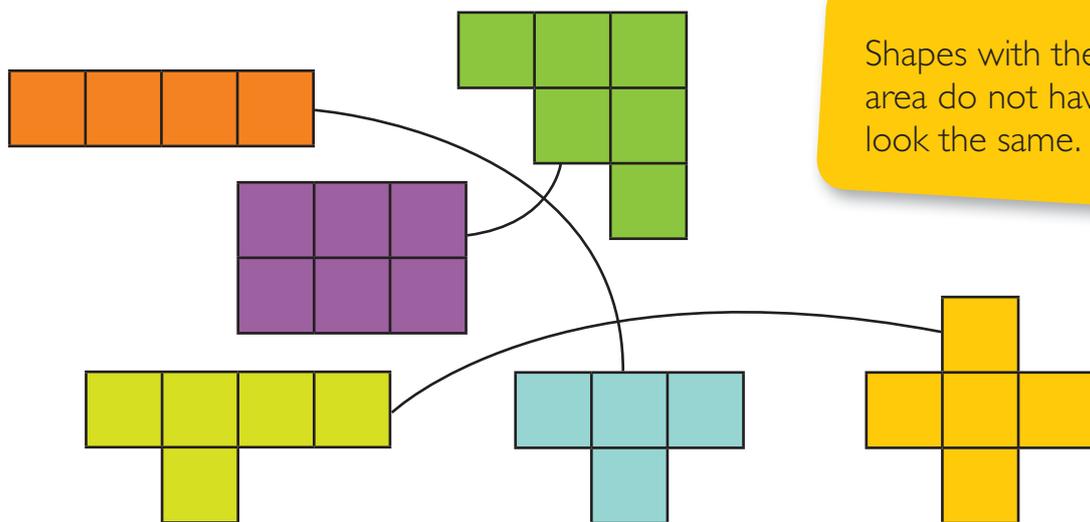
1 Colour the larger area in each pair.



Explain how you know which one has the bigger area.

By counting the number of squares. More squares = greater surface area.

2 Draw lines to match the shapes with the same area.



Shapes with the same area do not have to look the same.

What is the total area of all the shapes in Question 2?

30

squares

Frame work

1 How many Base 10 units will cover each photo frame?



8



6



9



6



10



2

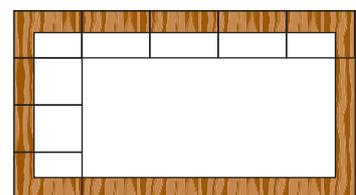
Circle the frame with the largest area.
Colour 2 frames with the same area.

2 Make and draw two different rectangles with areas of 12 Base 10 units. *Answers will vary.*



3 Joel has started to measure the area of this photo frame. How many tiles will he need to measure its area?

20



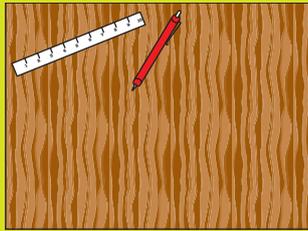
MiB 1
Card
101

Estimate and measure areas



1 Estimate the area of each object below and then use identical square pattern blocks to measure them.

desk



Estimate

Measurement

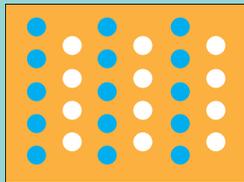
big book



Estimate

Measurement

teatowel

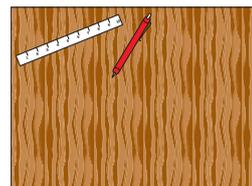
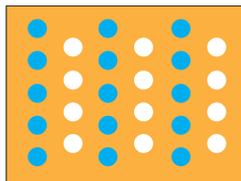


Estimate

Measurement

Answers will vary.

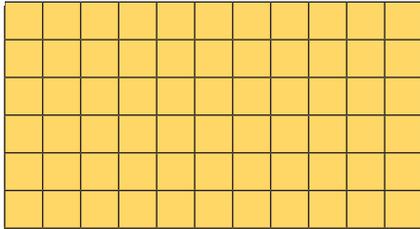
2 Place the three objects in order from smallest area to largest area.



Find an object or surface in the room with an area larger than a teatowel but smaller than a big book.

Covering surfaces

1 Are these units good for covering the rectangle?



yes

no



Give reasons for your choices.



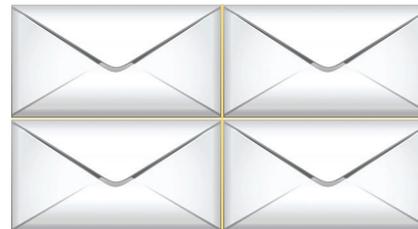
yes

no



yes

no



yes

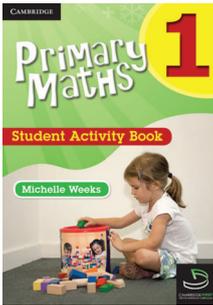
no

2 Choose a surface in the classroom.

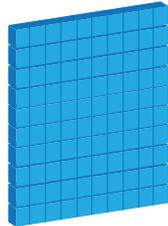
How many of each unit below will cover the area of the surface you have chosen? Estimate first. *Answers will vary.*



Estimate Measurement



Estimate Measurement



Estimate Measurement

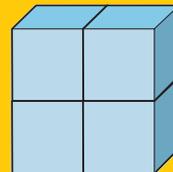


Why did you need more Unifix cubes than maths books to cover the surface?

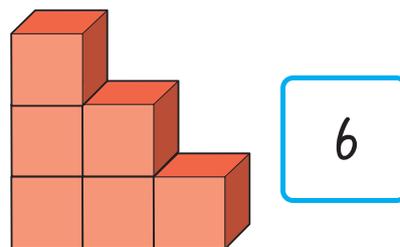
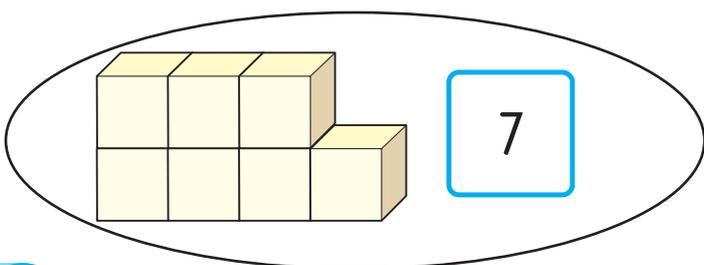
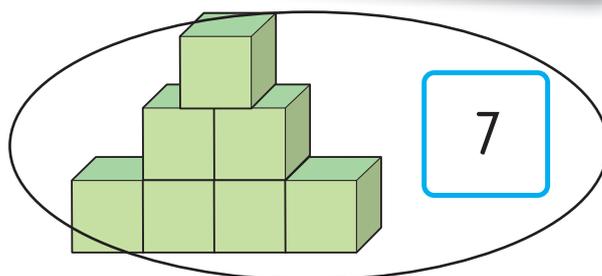
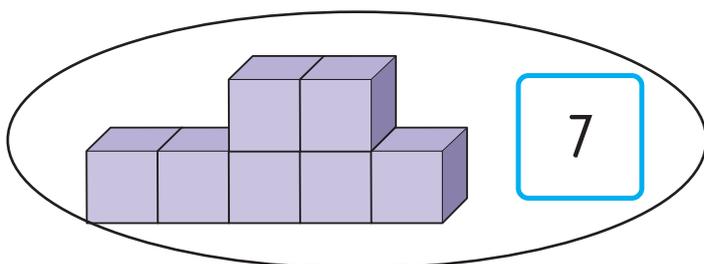
Taking up space

- 1 Count and record the number of blocks used to build each model. Circle the models that take up the same amount of space.

Volume is the amount of space something takes up.



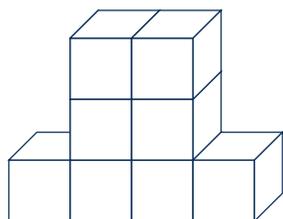
This block wall has a volume of 4 blocks.



- 2 This model has a volume of 8 cubes.



Draw a different model with a volume of 8 cubes.

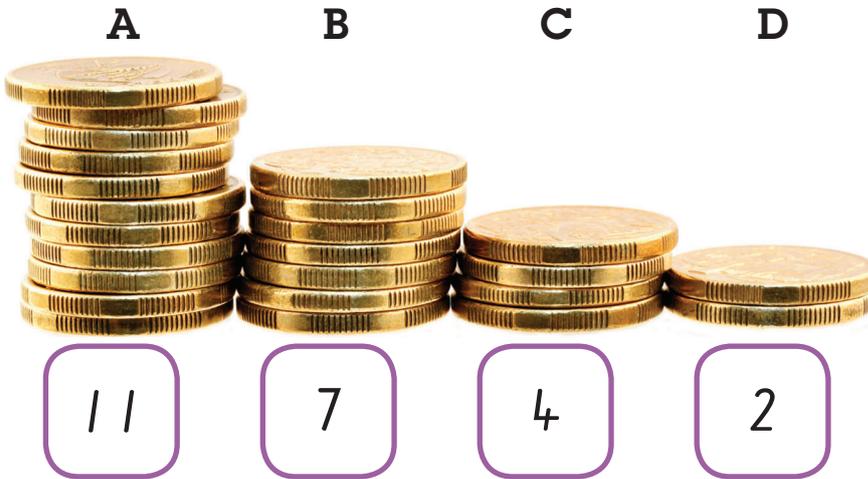


Compare your model with a friend's. How are they different? Discuss how you know that they have the same volume even though they look different.

MiB 1
Card
103

Volume of objects

1 Count the number of coins in each pile.



Remember that volume is the amount of space things take up.

a Which pile has the greatest volume?

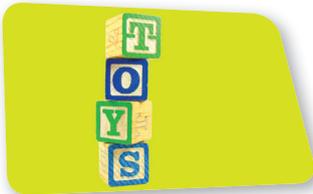
A

b Which pile has a volume of 4 coins?

C

2 Four students have built models using blocks.

Rafi



Karl



Sophie



Lina



a Whose model has the greatest volume? Karl

b Whose models have the same volume?

Sophie and Lina

3 Why does Karl's model have a greater volume than Rafi's, even though Rafi's model is taller?

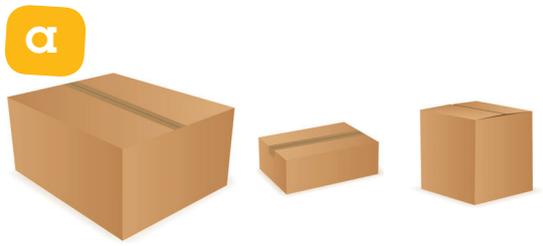
Karl's model take up more space because

it has a greater number of blocks.

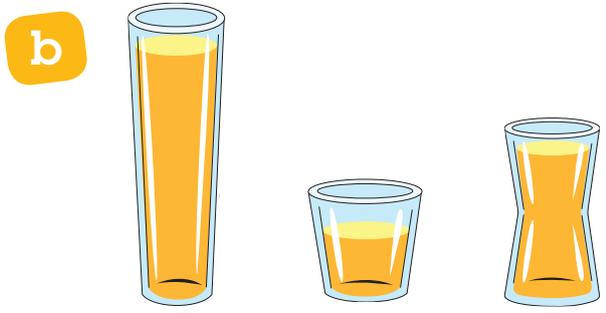
Ordering containers

Capacity is the amount a container can hold.

1 Order these containers from the one that holds the least (1) to the one that holds the most (3).

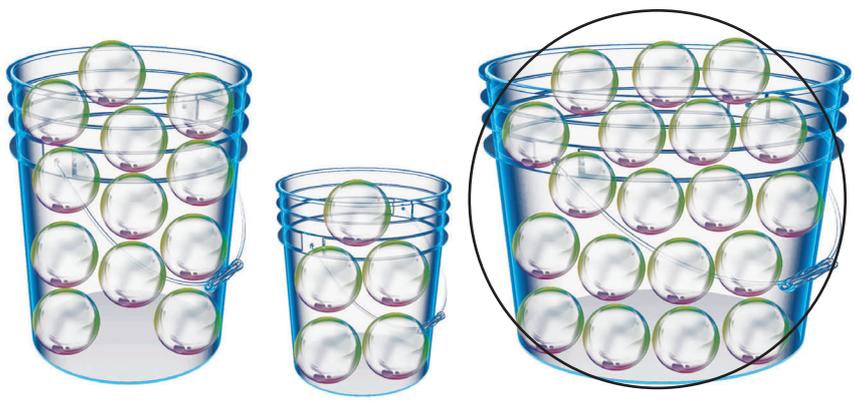


3 1 2

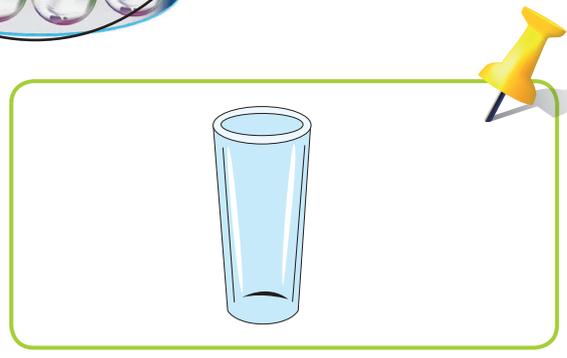


3 1 2

2 Circle the container that holds the most balls.



Draw a container that is the same height as the middle container but holds less.



Why does it hold less? The container is thinner.

3 Are balls a good unit for measuring capacity? No.

Explain your answer. They do not stack without leaving space or gaps.

Filling containers

- 1 Put one cube into each container and estimate how many cubes will be needed to fill the container. Check by filling the containers. *Answers will vary.*

	Estimate	Actual
		
		
		
		

- 2 Order the containers from the one that holds the least (1) to the one that holds the most (4).



3 2 4 1

Discuss why others might have different answers even though they used the same unit to measure.

Pouring problems

- 1 Yuri filled a cup with water and then poured the cup of water into an empty bucket.



The bucket holds more.

The cup holds less.

Jenny filled a jug with water and poured it into the same empty bucket.



The bucket holds more.

The jug holds less.

- 2 Complete these statements.

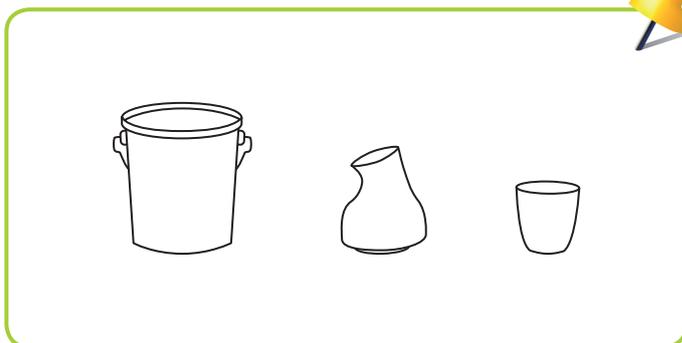
The bucket holds more than the jug.

The cup holds less than the bucket.

The jug holds more than the cup.

more
less

- 3 Draw the jug, bucket and cup in order from largest to smallest volume.



Estimate how many glasses of water would fill the bucket.

MiB 1
Card
107

How many cups?

- 1 Follow these instructions to make a measuring container.
 - a Choose a clear container.
 - b Fill a cup with water and empty it into the container.
 - c Mark the water level on the side of the container.
 - d Repeat until the container is full.

Draw the container and the marks made at each level.

Repeat with a different container. *Answers will vary.*

Container 1

Container 2

2 How many cups of water does Container 1 hold?

How many cups does Container 2 hold?

Which container has the larger volume?

 Find a container that holds about 4 cups of water.

 Discuss what you noticed about the lines on both your containers. Which ones are closer together? Why do you think this is so?

Animal masses



1 Colour the correct label.



is heavier than

is lighter than

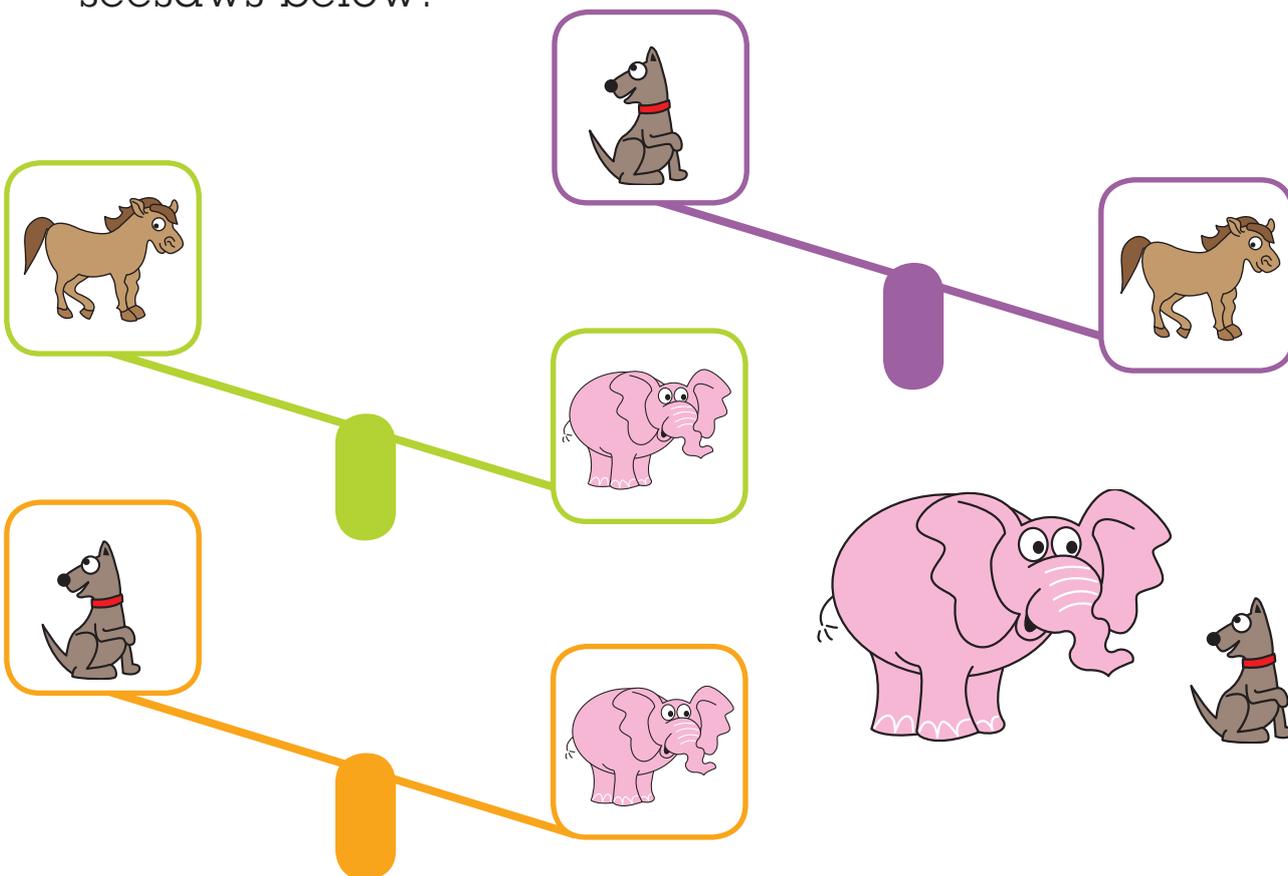


is heavier than

is lighter than



2 Draw a dog or elephant in each space on the seesaws below.



Which animal is the lightest?

dog

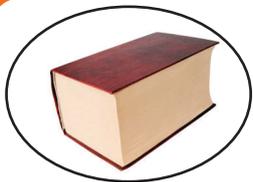
Which animal is the heaviest?

elephant

MiB 1
Cards
111, 114

Hefting

1 Heft these objects. Circle the heavier one in each pair.



book



apple



glue



tape



scissors



shoe

Hefting is important in helping you estimate mass.

2 Check your choice using an equal arm balance. Draw the objects on each balance and complete the statements.



The book is heavier than the apple.



The tape is heavier than the glue stick.



The shoe is heavier than the scissors.



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Using an equal arm balance



1 Circle the object you think is the heaviest.

Cross the object you think is the lightest.



2 Use an equal arm balance to find which object is the heaviest.

The heaviest item is the

hole punch



Explain to a friend how you used the balance to find the heaviest object.

3 Use the equal arm balance to order all the objects from heaviest to lightest. Draw them in the boxes.

Heaviest

hole punch



orange



calculator



Lightest

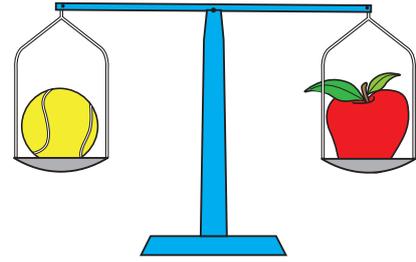
hat



Find an object that will balance all of these items if they are placed together on one side of the equal arm balance.

Measuring mass

When an equal arm balance has the same weight on each side, it is **balanced**.

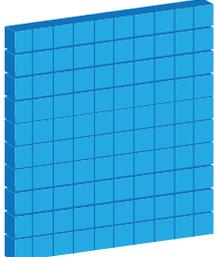


1 How many Unifix cubes balance these objects? *Answers will vary.*




cubes


cubes


cubes


cubes

2 Circle the heaviest object and cross the lightest. *Answers will vary.*

a Find an object in your classroom with a mass of **20** Unifix cubes.

A has a mass of **20** Unifix cubes.

b Find an object that has a mass of **15** Unifix cubes.

A has a mass of **15** Unifix cubes.

When an object has a mass of 20 cubes, it takes 20 cubes to balance the scales.

 If an orange weighs 20 Unifix cubes, how much do 3 oranges weigh? Check your answer by measuring.

Balancing objects



1 How many longs balance these objects? Estimate first.
Answers will vary.

Estimate Measurement

Estimate Measurement

Estimate Measurement

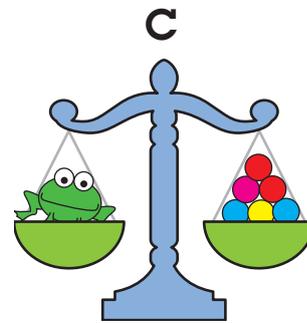
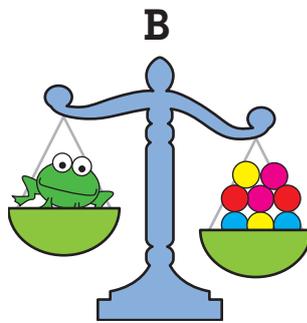
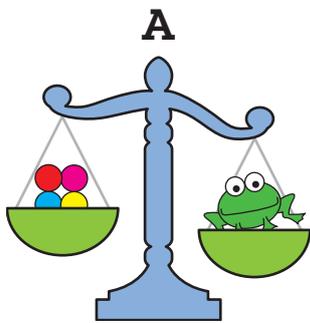
Order the objects from lightest to heaviest.

ruler

calculator

dictionary

2 Fill in the blanks.



The frog is heavier than 4 balls.

The frog is the same mass as 6 balls.

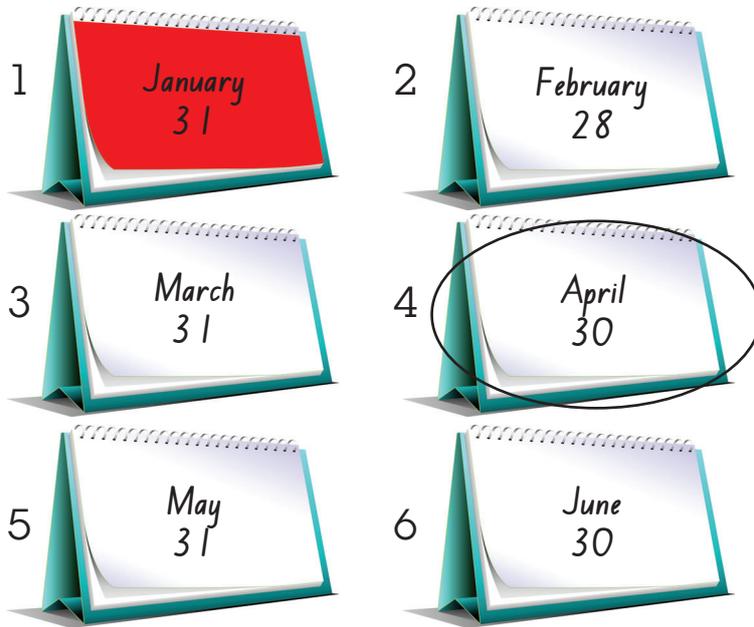
The frog is lighter than 8 balls.

What would happen if 4 balls were taken off Balance C?

The frog will be heavier.

Six months

- 1 Write the first six months of the year in order.



Talk to a partner about one special thing that happens for you in the first six months of the year.

Word bank

February
March
April
January
June
May

- 2 Write the number of days in each month on the calendars above.

- 3 Colour the first month of the year **red**.

- 4 Which is the sixth month in the year? June

- 5 Which month comes before April? March

- 6 Which month comes after May? June

- 7 Circle the month that Anzac Day is in.

- 8 In which month is Australia Day? January

- 9 Which month has a different number of days to the others? February

Seasonal fun



1 Follow the instructions so that each child reaches the months for their season.

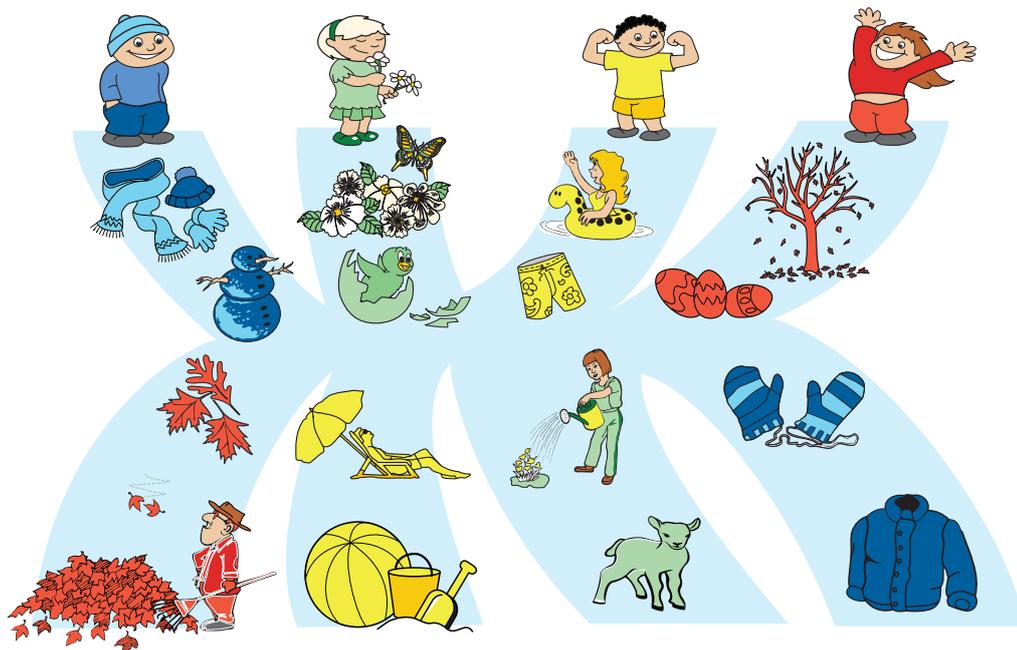
- a Have Winter follow the winter path by colouring the winter things blue.
- b Have Summer follow the summer path by colouring the summer things yellow.
- c Have Spring follow the spring path by colouring the spring things green.
- d Have Autumn follow the autumn path by colouring the autumn things red.

Winter

Spring

Summer

Autumn



March

December

September

June

April

January

October

July

May

February

November

August

2

a Which is the coldest season? Winter

b In Australia, which season is Christmas in?

Summer

MIB 1
Cards

115, 116,
117, 118,
119

Calendar work

What is missing? Check the days of the week and the dates.

1

June

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

a Fill in the missing parts of the calendar.

b What month is this calendar showing? June

2

On what days of the week are these dates?

7 June Sunday 13 June Saturday

22 June Monday 30 June Tuesday

Colour the first day of June **blue**. What day is it? Monday

Colour the last day of June **red**. What day is it? Tuesday

Which month would come next in the calendar? July

3

Colour all the Friday dates **green**. List the dates that fall on a Friday.

5th, 12th, 19th, 26th

What pattern can you see in the dates that fall on a Friday? Would the pattern be the same if you looked at the dates on a Tuesday? Why does this pattern occur?

MiB 1
Card
13

Duration

- 1
- a How many days are there in a week? 7
 - b How many hours are there in a day? 24
 - c How many months are there in a year? 12

2 Look at the timetable, and then answer the questions.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	 Library	 Computer	 Music	 Sport		

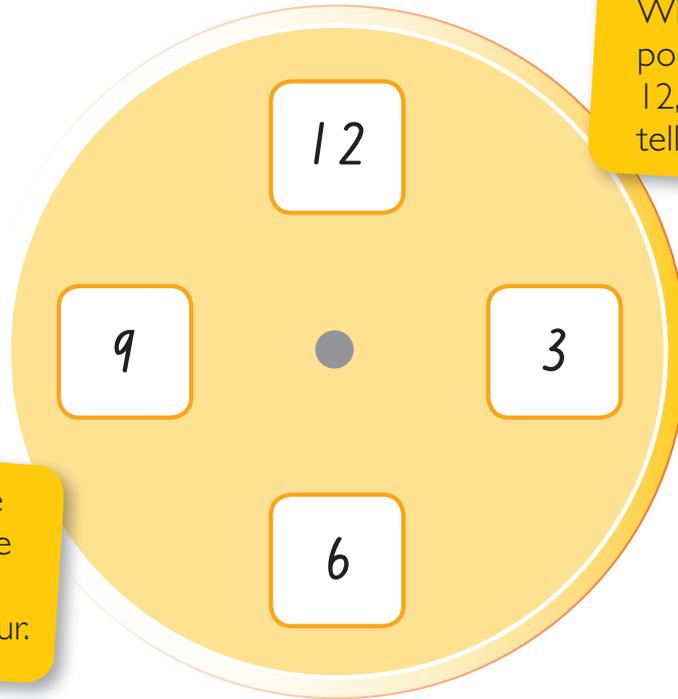
- a If today is Monday, how many days are there until sport takes place? 4
- b If today is computer day, how many days are there until the library is visited? 6
- c If music only takes place every 2nd Thursday, how many days are there between music lessons? 14

3 Look at the table below. If school begins at 9 o'clock, how many hours are there until each activity begins? Write your answers in the table below.

Activity	Time it starts	How many hours?
Computer	10 o'clock	1 hour
Sport	2 o'clock	5 hours
Music	1 o'clock	4 hours

O'clock/half-past

1 Write numbers on the clockface.



When the minute hand points to the number 12, it is **o'clock** or telling an hour.

When the minute hand points to the number 6, it is **half-past** the hour.

2 What time is it?



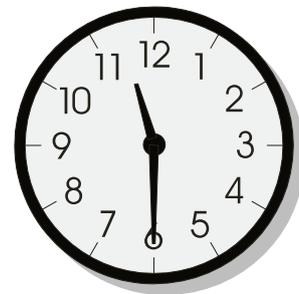
2 o'clock



half-past 5



8 o'clock



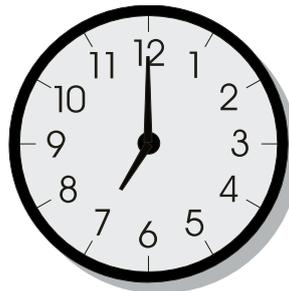
half-past 11

3 Draw these times on the clockfaces.

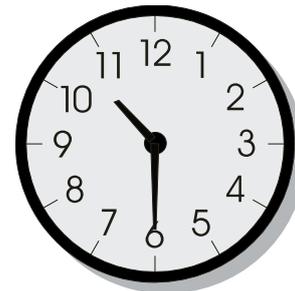
4 o'clock



7 o'clock



Half-past 10



MiB 1
Card
122

Telling the time

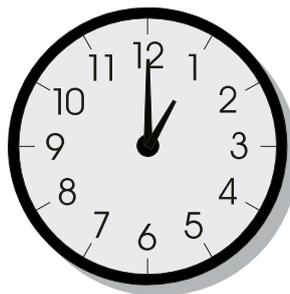
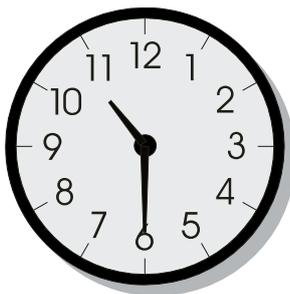
1 Draw hands on the clockfaces to show each time.

10:30

8:00

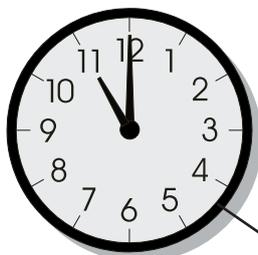
3:30

1:00



Colour **red** the clock showing the most likely time you eat breakfast.

2 Match each clockface with the digital time and the most likely activity you would do at that time.



9:00



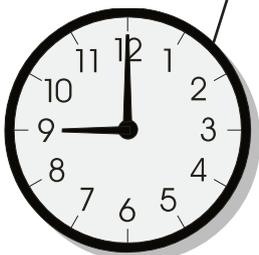
Eat morning tea



11:00



Wake up



7:30



Start school

MiB 1
Card
123

Half-past

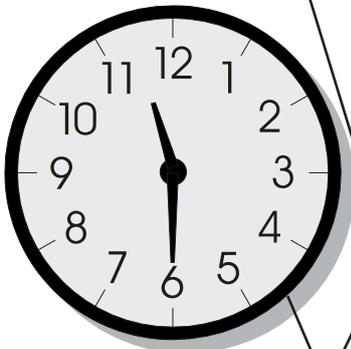
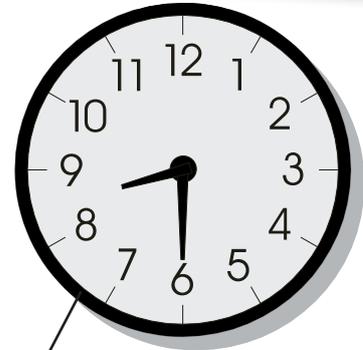
When the minute hand points to the 6, it is half-past the hour because the hand has moved way around the clock.

1 Match the times with the clocks.



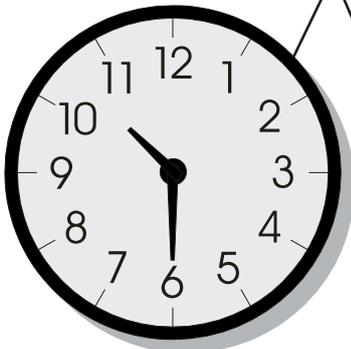
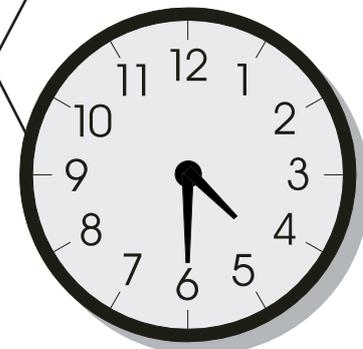
Half-past 2

4:30



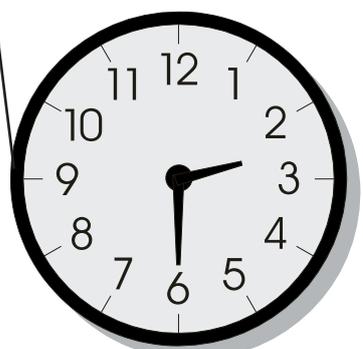
Half-past 10

8:30



Half-past 3

11:30



2 Draw these times.

Half-past 5



Half-past 9



1:30



7:30

