

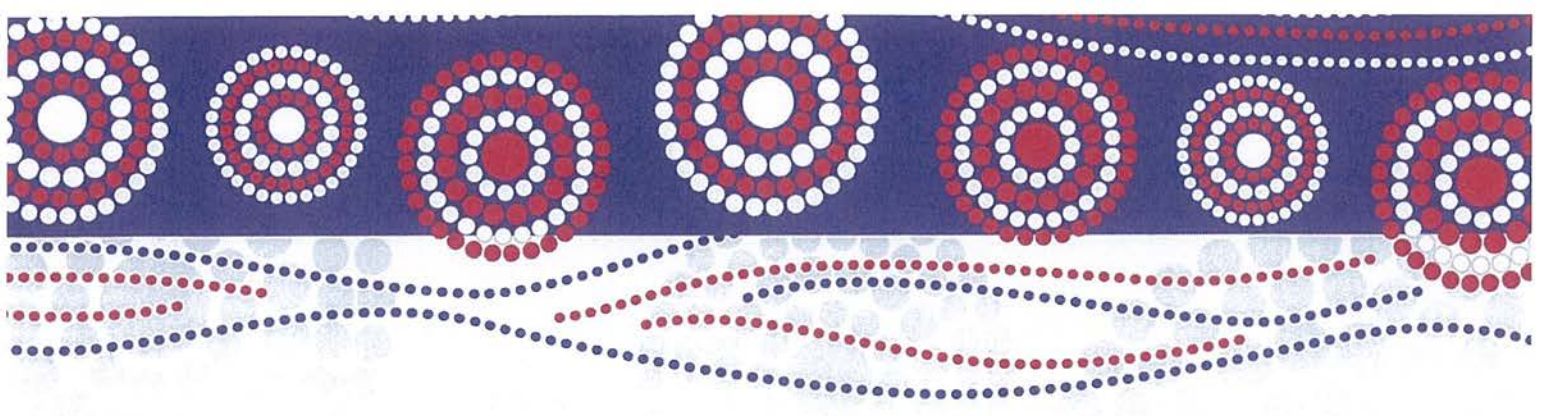
Gorokan High School Workbook



YEAR 7

BOOKLET 2





MATHS

Gorokan High School

Mathematics Online Learning

Week 2 and 3



Year 7

Data

Name:

Gorokan High School – Mathematics

Year 7

Data

Student Instructions:

Students are to work through the specified work outlined below. The prescribed work is for the duration of Weeks 2 and 3 of online learning. Should you have any questions, please email your classroom teacher.

The questions outlined in this lesson information sheet are a guide. You should complete these questions as a minimum. If you would like to complete the higher questions to challenge your understand, please do so. The answers are attached to help you understand if you are successful in your working out. If you find you did not get the correct answer, check your working and try again until you get to the desired answer.

Ex 9A – Types of Data

Read through information and examples and answer the following questions in exercise 9A.

Questions

- 1) all
- 2) all
- 4) every second question
- 5) every second question
- 6) every second question

Ex 9B – Dot Plots and Column Graphs

Read through the information and examples and answer the all questions in exercise 9B.

9C – Line Graphs

Read through information and examples and answer the following questions in exercise 9C.

Questions

- 1) all
- 2) all
- 4) all
- 6) all
- 7) all
- 9) all
- 11) all

9D – Sector Graph and Divided Bar Graph.

Read through information and examples and answer the following questions in exercise 9D.

Questions

- 1) all
- 2) all
- 3) all
- 4) all
- 5) all
- 9) all
- 11) all

Chapter

9

Data collection, representation and analysis

What you will learn

- 9A** Types of data
- 9B** Dot plots and column graphs
- 9C** Line graphs
- 9D** Sector graphs and divided bar graphs
- 9E** Frequency distribution tables
- 9F** Frequency histograms and frequency polygons
- 9G** Mean, median, mode and range
- 9H** Interquartile range EXTENSION
- 9I** Stem-and-leaf plots
- 9J** Surveying and sampling

NSW Syllabus for the Australian Curriculum

Strand: Statistics and Probability
Substrands: DATA COLLECTION AND
REPRESENTATION
SINGLE VARIABLE
DATA ANALYSIS

Outcomes

A student collects, represents and interprets single sets of data, using appropriate statistical displays.

(MA4–19SP)

A student analyses single sets of data using measures of location and range.

(MA4–20SP)

Search engine statistics

Search engines such as Google not only find web pages but also analyse and categorise searches. If the entire world's Google searches for one month (thousands of millions) were listed in a single document it would be an incredible list filling millions of pages, but it would be difficult to make conclusions about such a vast amount of data.

Search engines employ computer software engineers who are also highly skilled in mathematics, especially in statistics. In the case of Google, they organise worldwide searches into categories and present comparisons using graphs. This provides much more interesting and useful information for groups such as online shops, politicians, the entertainment industry, radio and TV stations, restaurants, airline companies and professional sports groups.

Using 'Google Insights for Search', graphical comparisons can be made between the frequencies

of various types of searches within any country, state or city in the world. For example, which topics are of more interest (e.g. sport or news)? On which week days is shopping of more interest than sport? Which Australian state had the most searches about travel in the last year? Which Australian city has the highest percentage of people who buy books online? This information can be quite helpful for businesses wanting to know who their target audiences are.

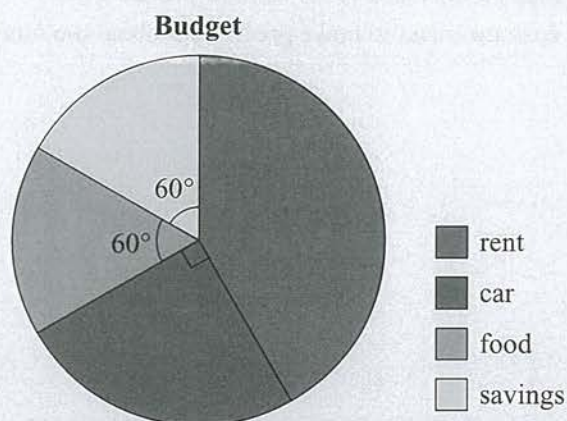
In this chapter you will develop skills for organising data into categories, graphs and summaries so that useful comparisons can be made and future trends determined.

Pre-test

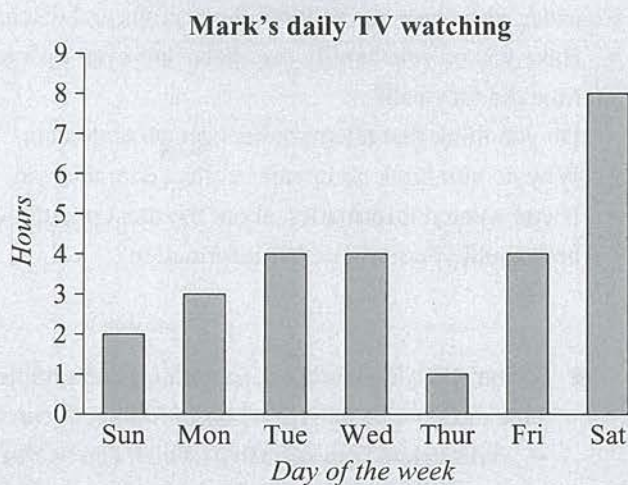
- 1 Arrange the following in ascending (increasing) order.
 - a 2, 4, 10, 7, 1, 0, 6, 14, 9
 - b 101, 20, 30.6, 204, 36, 100
 - c 1.2, 1.9, 2.7, 1.7, 3.5, 3.2
- 2 Write down the total and the mean for each of the sets below.
 - a 4, 6, 8, 10 and 12
 - b 15, 17, 19, 19 and 24
 - c 0.6, 0.6, 0.6, 0.7 and 0.8

- 3 Use the information in the sector graph to answer the following questions.

- a What fraction of the income was spent on food?
- b What is the size of the angle for the rent sector?
- c If \$420 is saved each month, find how much is spent on:
 - i food
 - ii the car



- 4 a How many hours of television were watched on Wednesday?
- b How many hours of television were watched on Monday?
- c On which day was the most television watched?
- d How many hours of television were watched over the week shown?
- e What fraction of Saturday was spent watching television?



- 5 Smarties can be purchased in small boxes. The small boxes are sold in a bag. The boxes in one bag contained the following smarties: 12, 11, 13, 12, 11, 12, 14, 10, 12, 13, 14.
 - a How many boxes were in the bag?
 - b Arrange the scores in ascending order.
 - c Draw a dot plot to represent the data.
 - d What is the most common number of smarties in a box?
 - e What is the mean number of smarties in a box?

9A Types of data

People collect or use data almost every day. Athletes and sports teams look at performance data, customers compare prices at different stores, investors look at daily interest rates, and students compare marks with other students in their class. Companies often collect and analyse data to help produce and promote their products to customers and to make predictions about the future.



→ Let's start: Collecting data – Class discussion

Consider, as a class, the following questions and discuss their implications.

- Have you or your family ever been surveyed by a telemarketer at home? What did they want? What time did they call?
- Do you think that telemarketers get accurate data? Why or why not?
- Why do you think companies collect data this way?
- If you wanted information about the most popular colour of car sold in NSW over the course of a year, how could you find out this information?

- In statistics, a **variable** is something measurable or observable that is expected to change over time or between individual observations. It can be numerical or categorical.
 - **Numerical (quantitative)** which can be discrete or continuous:
 - **Discrete numerical** – data that can only be particular numerical values, e.g. the number of TV sets in a house (could be 0, 1, 2, 3 but not values in between like 1.3125).
 - **Continuous numerical** – data that can take any value in a range. Variables such as heights, weights and temperatures are all continuous. For instance, someone could have a height of 172 cm, 172.4 cm, or 172.215 cm (if it can be measured accurately).
 - **Categorical** – Data that is not numerical such as colours, gender, brands of cars are all examples of categorical data. In a survey, categorical data comes from answers which are given as words (e.g. 'yellow' or 'female') or ratings (e.g. 1 = dislike, 2 = neutral, 3 = like).

- Data can be collected from primary or secondary sources.
 - Data from a **primary source** is firsthand information collected from the original source by the person or organisation needing the data, e.g. a survey an individual student conducts or census data collected by the Bureau of Statistics.
 - Data from a **secondary source** has been collected, published and possibly summarised by someone else before we use it. Data collected from newspaper articles, textbooks or internet blogs represents secondary source data.
- Samples and populations
 - When an entire population (e.g. a maths class, a company, or a whole country) is surveyed, it is called a **census**.
 - When a subset of the population is surveyed, it is called a **sample**. Samples should be randomly selected and large enough to represent the views of the overall population.

Example 1 Classifying variables

Classify the following variables as categorical, discrete numerical or continuous numerical.

- a The gender of a newborn baby
- b The length of a newborn baby

SOLUTION

EXPLANATION

a categorical

As the answer is 'male' or 'female' (a word, not a number) the data is categorical.

b continuous numerical

Length is a measurement, so all numbers are theoretically possible.

Example 2 Collecting data from primary and secondary sources

Decide whether a primary source or a secondary source is suitable for collection of data on each of the following and suggest a method for its collection.

- a The average income of Australian households
- b The favourite washing powder or liquid for households in Australia

SOLUTION

EXPLANATION

a Primary source by looking at the census data

The population census held every 5 years in Australia is an example of a primary data source collection and will have this information.

b Secondary data source using the results from a market research agency

A market research agency might collect these results using a random phone survey. Obtaining a primary source would involve conducting the survey yourself but it is unlikely that the sample will be large enough to be suitable.

Exercise 9A



- 1 Match each word on the left to its meaning on the right.
- | | |
|------------------------|--------------------------------------------------------------|
| a sample | i only takes on particular numbers within a range |
| b categorical | ii a complete set of data |
| c discrete numerical | iii a smaller group taken from the population |
| d primary source | iv data grouped in categories words like 'male' and 'female' |
| e continuous numerical | v data collected first hand |
| f population | vi can take on any number in a range |

Example 1

- 2 Classify the following as categorical or numerical.
- The eye colour of each student in your class.
 - The date of the month each student was born, e.g. the 9th of a month.
 - The weight of each student when they were born.
 - The brands of airplanes landing at Sydney's international airport.
 - The temperature of each classroom.
 - The number of students in each classroom period one on Tuesday.

- 3 Give an example of:

a discrete numerical data b continuous numerical data c categorical data

Example 1

- 4 Classify the following variables as categorical, continuous numerical or discrete numerical data.

- The number of cars per household
- The weights of packages sent by Australia Post of the 20th of December
- The highest temperature of the ocean each day
- The favourite brand of chocolate of the teachers at your school
- The colours of the cars in the school car park
- The brands of cars in the school car park
- The number of letters in different words on a page
- The number of advertisements in a time period over each of the free-to-air channels
- The length of time spent doing this exercise
- The arrival times of planes at JFK airport
- The daily pollutions level in the M5
- The number of SMS messages sent by an individual yesterday
- The times for the 100 m freestyle event at the world championships over the last 10 years
- The number of Blu-ray discs someone owns
- The brands of cereals available at the supermarket
- Marks awarded on a maths test
- The star rating on a hotel or motel
- The censorship rating on a movie showing at the cinema



- 5 Is observation or a sample or a census the most appropriate way to collect data on each of the following?
- The arrival times of trains at central station during a day
 - The arrival times of trains at central station over the year
 - The heights of students in your class
 - The heights of all Year 7 students in the school
 - The heights of all Year 7 students in NSW
 - The number of plastic water bottles sold in a year
 - The religion of Australian families
 - The number of people living in each household in your class
 - The number of people living in each household in your school
 - The number of people living in each household in Australia
 - The number of native Australian birds found in a suburb
 - The number of cars travelling past a school between 8 a.m. and 9 a.m. on a school day
 - The money spent by students during a week at the canteen
 - The average income of Australians
 - The ratings of TV shows



- Example 2** 6 Identify whether a primary or secondary source is suitable for the collection of data on the following.
- The number of soft drinks bought by the average Australian family in a week
 - The age of school leavers in far North Queensland
 - The number of cigarettes consumed by school age students in a day
 - The highest level of education by the adults in a household
 - The reading level of students in Year 7 in Australia





- 7 Give a reason why someone might have trouble obtaining reliable and representative data using a primary source to find the following.
- The temperature of the Indian Ocean over the course of a year
 - The religions of Australian families
 - The average income of someone in India
 - Drug use by teenagers within a school
 - The level of education of different cultural communities within NSW
- 8 Secondary sources are already published data that is then used by another party in their own research. Why is the use of this type of data not always reliable?
- 9 When obtaining primary source data you can survey the population or a sample.
- Explain the difference between a 'population' and a 'sample' when collecting data.
 - Give an example situation where you should survey a population rather than a sample.
 - Give an example situation where you should survey a sample rather than a population.
- 10 A Likert-type scale is for categorical data where items are assigned a number; for example, the answer to a question could be 1 = dislike, 2 = neutral, 3 = like.
- Explain why the data collected is categorical even though the answers are given as numbers.
 - Give examples of a Likert-type scale for the following categorical data. You might need to reorder some of the options.
 - strongly disagree, somewhat disagree, somewhat agree, strongly agree
 - excellent, satisfactory, poor, strong
 - never, always, rarely, usually, sometimes
 - strongly disagree, neutral, strongly agree, disagree, agree
- 11 A sample should be representative of the population it reports on. For the following surveys, describe who might be left out and how this might introduce a bias.
- A telephone poll with numbers selected from a phone book
 - A postal questionnaire
 - Door-to-door interviews during the weekdays
 - A Dolly magazine poll
 - A Facebook survey
- 12 Another way to collect primary source data is by direct observation. For example, the colour of cars travelling through an intersection (categorical data) is best obtained in this way rather than through a questionnaire.
- Give another example of a variable for which data could be collected by observation.
 - Explain how you could estimate the proportion of black cars parked at a large shopping centre car park without counting every single one.



- 13 When conducting research on Indigenous Australians, the elders of the community are often involved. Explain why the community is needed to be involved in the research process.
- 14 Television ratings are determined by surveying a sample of the population
- Explain why a sample is taken rather than conducting a census.
 - What would be a limitation of the survey results if the sample included 50 people nationwide?
 - If a class census was taken on which (if any) television program students watched from 7.30–8.30 last night, why might the results be different to the official ratings?
 - Research how many people are sampled by Nielsen Television Audience Measurement in order to get an accurate idea of viewing habits and stick within practical limitations.
- 15 Australia's census surveys the entire population every five years.
- Why might Australia not conduct a census every year?
 - Over 40% of all Australians were born overseas or had at least one of their parents born overseas. How does this impact the need to be culturally sensitive when designing and undertaking a census?
 - The census can be filled out on a paper form or using the internet. Given that the data must be collated in a computer eventually, why does the government still allow paper forms to be used?
 - Why might a country like India or China conduct their national census every 10 years?
- 16 Write a sentence explaining why two different samples taken from the same population can produce different results. How can this problem be minimised?

Enrichment: Collecting a sample

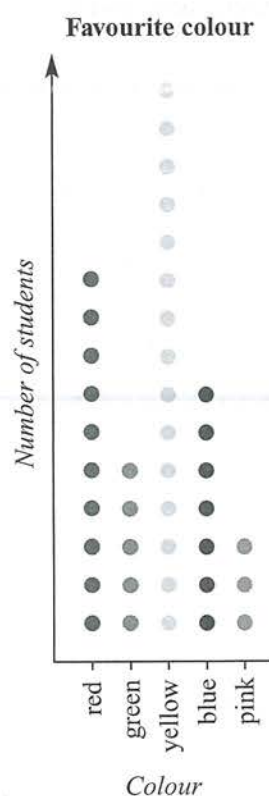
- 17 a Use a random generator on your calculator or computer to record the number of times the number 1 to 5 appears (you could even use a die by re-rolling whenever you get a 6) out of 50 trials. Record this data.
- Tabulate your results.
 - Compare the results of the individuals in the class.
 - Explain why any differences might occur.
- b Choose a page at random from a novel or an internet page and count how many times each vowel (A, E, I, O, U) occurs. Assign each vowel the following value A = 1, E = 2, I = 3, O = 4, U = 5 and tabulate your results.
- Why are the results different from those in part a?
 - How might the results for the vowels vary depending on the webpage or novel chosen?

9B Dot plots and column graphs

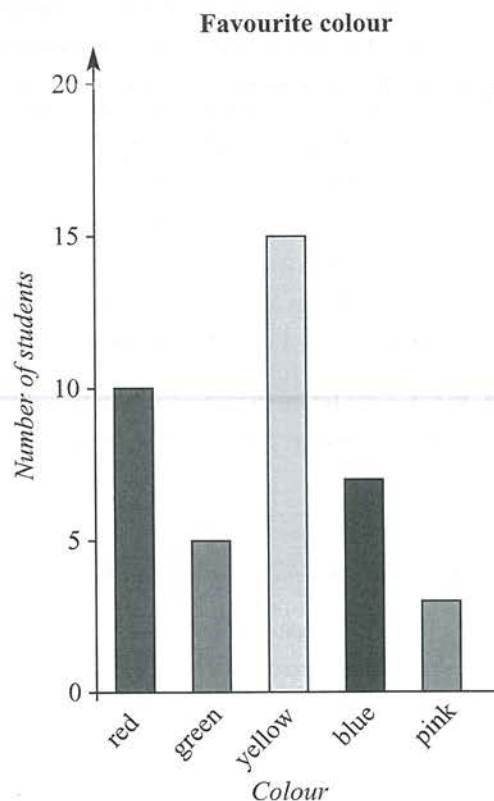


Often, data can be represented using **dot plots**, where each value is represented as a filled circle. More commonly, it is represented using **column graphs**, where the height of each column represents a number. Column graphs can be drawn vertically or horizontally. These graphs are suitable for categorical or discrete numerical data.

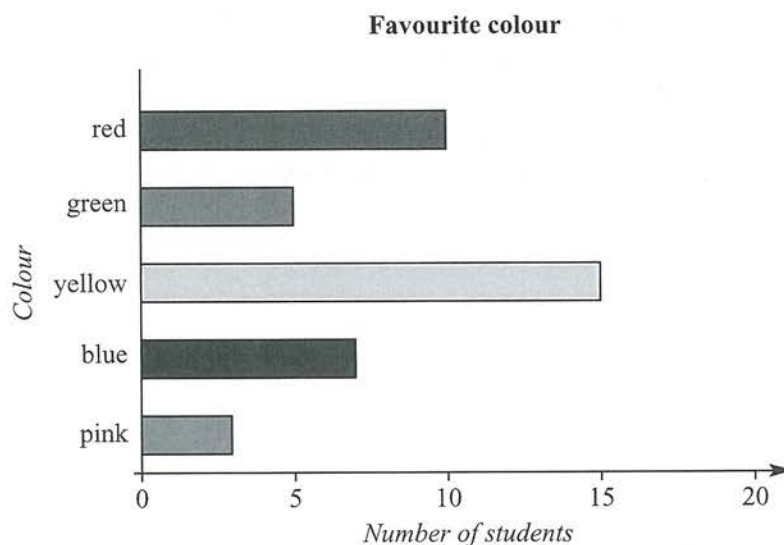
Consider a survey of students who are asked to choose their favourite colour from five possibilities. The results could be represented as a dot plot or as a column graph.



Represented as a dot plot



As a column graph (vertical)



As a column graph (horizontal)

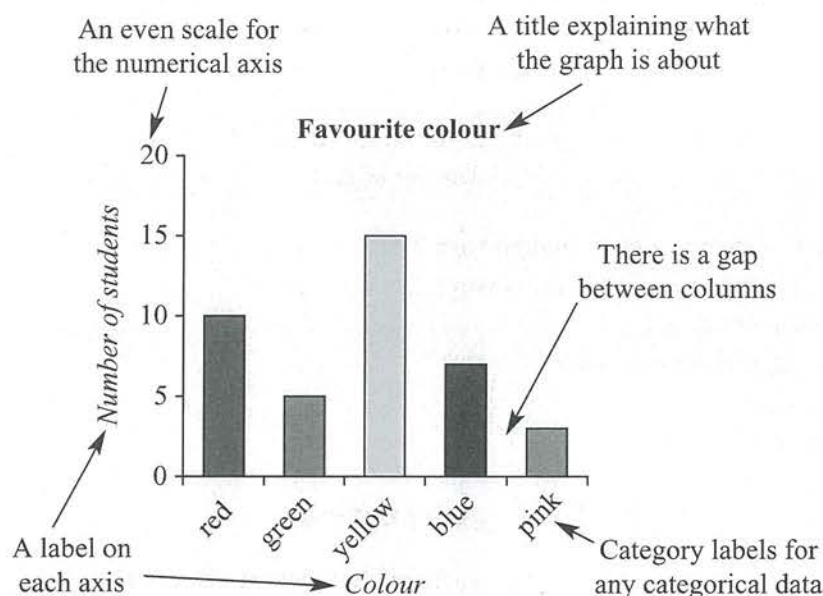
→ Let's start: Favourite colours

Survey the class to determine each student's favourite colour from the possibilities red, green, yellow, blue and pink.

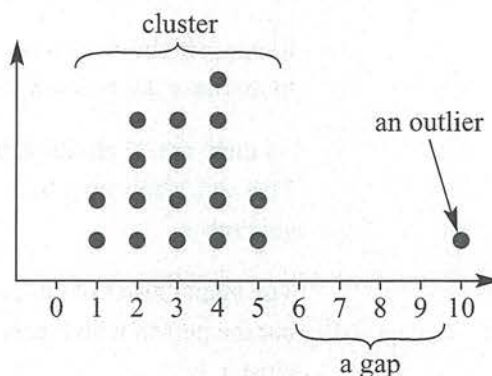
- Each student should draw a column graph or a dot plot to represent the results.
- What are some different ways that the results could be presented into a column graph? (There are more than 200 ways.)

Key ideas

- A **dot plot** can be used to display data, where each dot represents one **data value**. Dots must be aligned horizontally so the height of different columns can easily be seen.
- A **column graph** is an alternative way to show data in different categories, and is useful when more than a few items of data are present.
- Column graphs can be drawn vertically or horizontally.
- Graphs should have the following features:



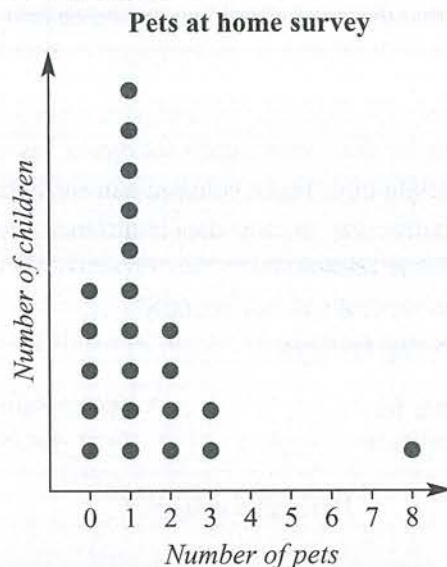
- Any numerical axis must be drawn to scale, usually starting from 0.
- An **outlier** is a value that is noticeably distinct from the main cluster of points.



- The mode is the most common response. It can be seen in the tallest column. In the graphs above, the modes are yellow and 4.

Example 3 Interpreting a dot plot

Some children were asked the following question in a survey: “How many pets do you have at home?” The responses are shown in the dot plot below.



- a Use the graph to state how many children have 2 pets.
- b How many children participated in the survey?
- c What is the range of values?
- d What is the median number of pets?
- e What is the outlier?
- f What is the mode?

SOLUTION

- a 4 children
- b 22 children
- c $8 - 0 = 8$
- d 1 pet
- e the child with 8 pets
- f 1 pet

EXPLANATION

There are four dots in the ‘2 pets’ category, so 4 children have 2 pets.

The total number of dots is 22.

Range = highest – lowest

In this case, highest = 8, lowest = 0.

As there are 22 children, the median is the average of the 11th and 12th value. In this case, the 11th and 12th values are both 1.

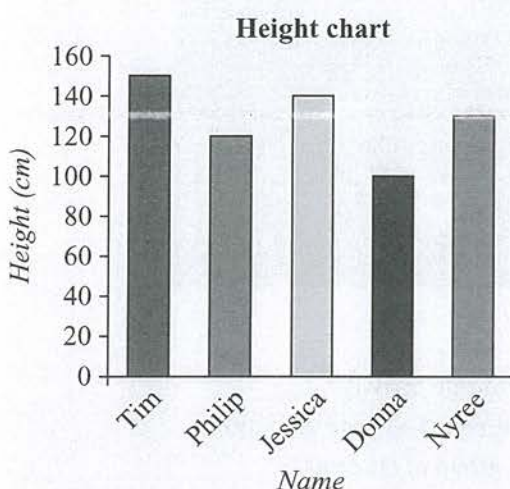
The main cluster of children has between 0 and 3 pets, but the person with 8 pets is significantly outside this cluster.

The most common response was 1. It has the highest column of dots.

Example 4 Constructing a column graph

Draw a column graph to represent the following people's heights.

Name	Tim	Philip	Jessica	Donna	Nyree
Height (cm)	150	120	140	100	130

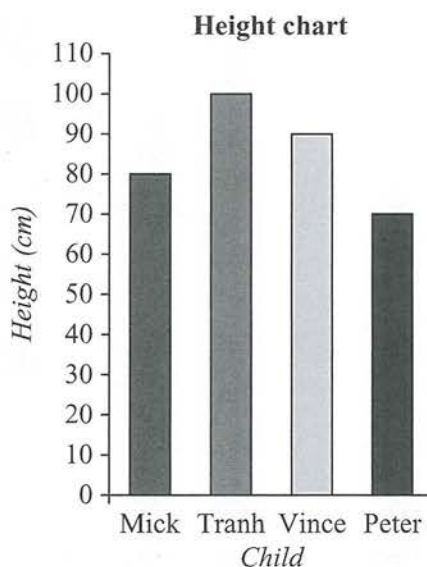
SOLUTION**EXPLANATION**

First decide which scale goes on the vertical axis. Maximum height = 150 cm, so axis goes from 0 cm to 160 cm (to allow a bit above the highest value).

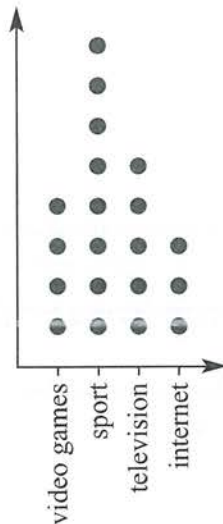
Remember to include all the features required, including axes labels and a graph title.

Exercise 9B

- 1 The graph opposite shows the height of four boys. Answer true or false to each of the following statements.
- Mick is 80 cm tall.
 - Vince is taller than Tranh.
 - Peter is the shortest of the four boys.
 - Tranh is 100 cm tall.
 - Mick is the tallest of the four boys.

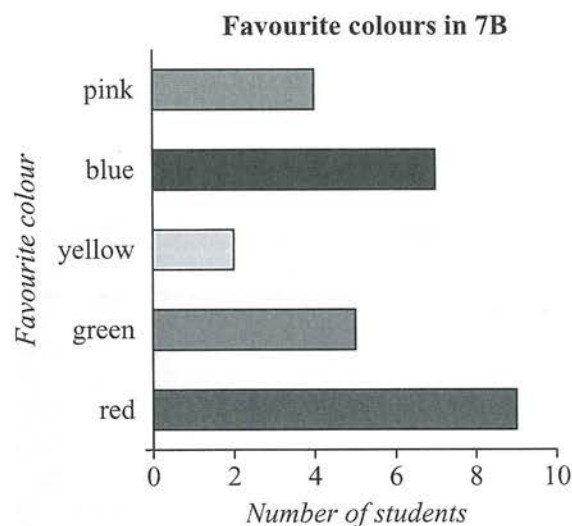


- Example 3** 2 The favourite after-school activity of a number of Year 7 students is recorded in the dot plot below.



- How many students have chosen television as their favourite activity?
- How many students have chosen surfing the internet as their favourite activity?
- What is the most popular after-school activity for this group of students?
- How many students participated in the survey?

- 3 From a choice of pink, blue, yellow, green or red, each student of Year 7B chose their favourite colour. The results are graphed below.

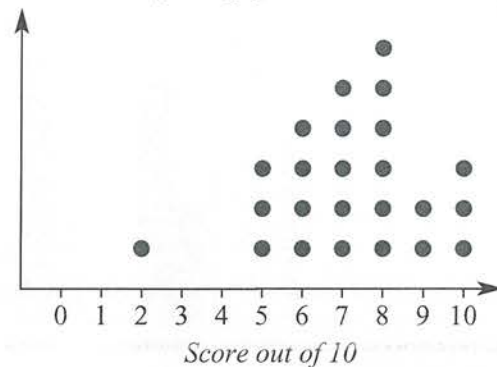


- How many students chose yellow?
- How many students chose blue?
- What is the most popular colour?
- How many students participated in the class survey?
- Represent these results as a dot plot.

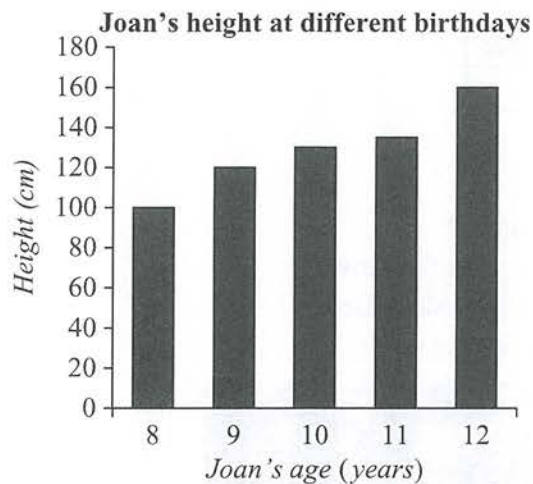
- 4 In a Year 4 class, the results of a spelling quiz are presented as a dot plot.

- What is the most common score in the class?
- How many students participated in the quiz?
- What is the range of scores achieved?
- What is the median score?
- Identify the outlier.
- What is the mode?
- Are there any gaps in this set of data?

Spelling quiz results



- 5 Joan has graphed her height at each of her past five birthdays.



- How tall was Joan on her 9th birthday?
- How much did Joan grow between her 8th birthday and 9th birthday?
- How much did Joan grow between her 8th and 12th birthdays?
- How old was Joan when she had her biggest growth spurt?

Example 4

- 6 Draw a column graph to represent each of these boys' heights at their birthdays.

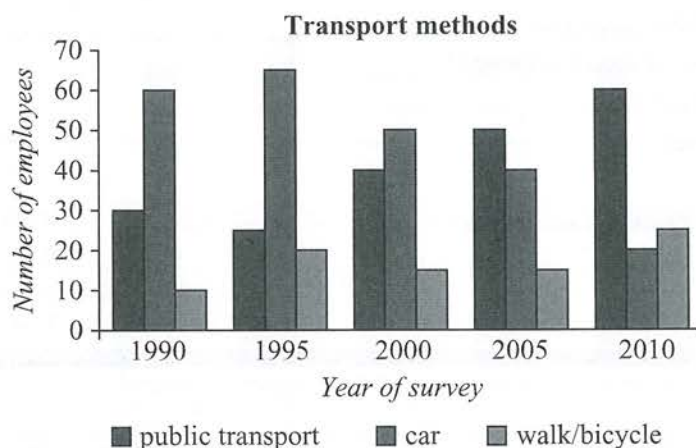
a Mitchell

Age (years)	Height (cm)
8	120
9	125
10	135
11	140
12	145

b Fatu

Age (years)	Height (cm)
8	125
9	132
10	140
11	147
12	150

- 7 Every five years, a company in the city conducts a transport survey of people's preferred method of getting to work in the mornings. The results are graphed below.



- a Copy the following table into your workbook and complete it, using the graph.

	1990	1995	2000	2005	2010
Use public transport	30				
Drive a car	60				
Walk or cycle	10				

- b In which year(s) is public transport the most popular option?
 c In which year(s) are more people walking or cycling to work than driving?
 d Give a reason why the number of people driving to work has decreased.
 e What is one other trend that you can see from looking at this graph?



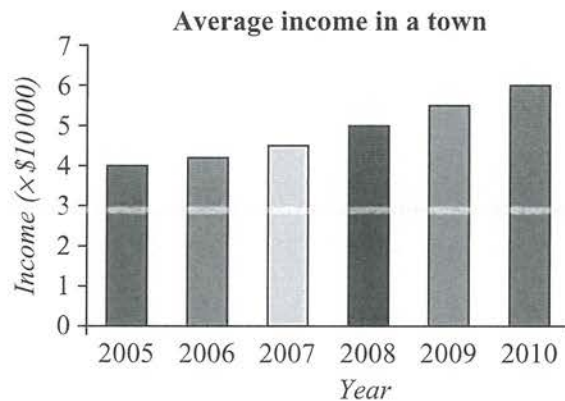
- 8 a Draw a column graph to show the results of the following survey of the number of boys and girls born at a certain hospital. Put time (years) on the horizontal axis.

	2000	2001	2002	2003	2004	2005
Number of boys born	40	42	58	45	30	42
Number of girls born	50	40	53	41	26	35

- b During which year(s) were there more girls born than boys?
 c Which year had the fewest number of births?
 d Which year had the greatest number of births?
 e During the entire period of the survey, were there more boys or girls born?



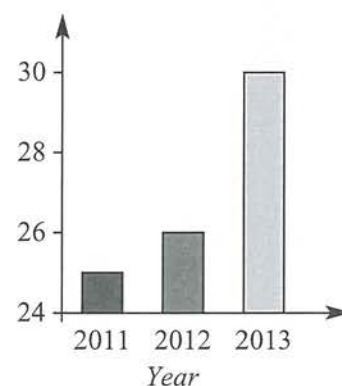
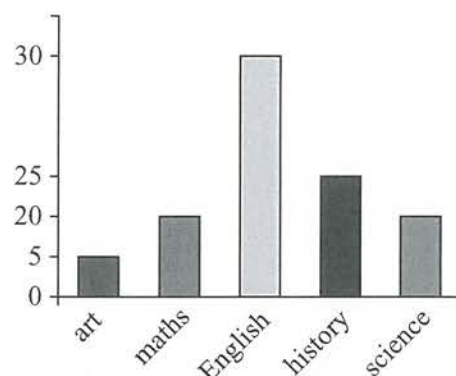
- 9 The average income of adults in a particular town is graphed over a 6-year period.
- Describe in one sentence what has happened to the income over this period of time.
 - Estimate what the income in this town might have been in 2004.
 - Estimate what the average income might be in 2020 if this trend continues.



- 10 Explain why it is important to align dot points in a dot plot. Illustrate your explanation with two dot plots of the set of data below.

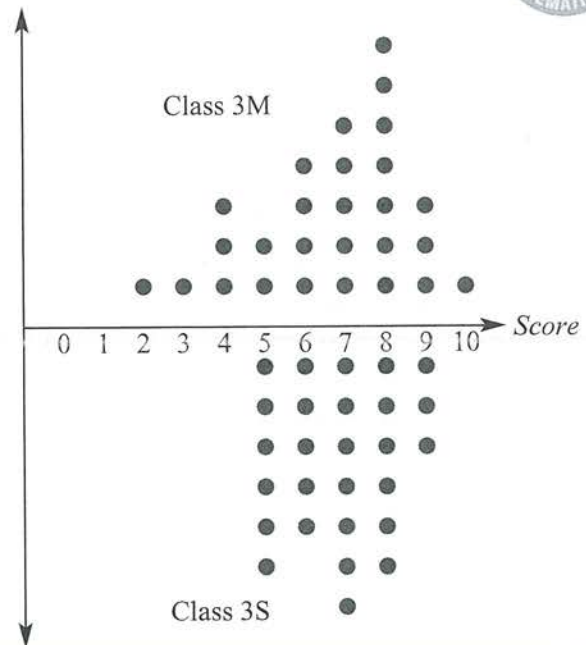
Activity	Netball	Dancing	Tennis	Chess
Number of students	5	3	2	4

- 11 A survey is conducted of students' favourite subjects from a choice of art, maths, English, history and science. Someone has attempted to depict the results in a column graph.
- What is wrong with the scale on the vertical axis?
 - Give at least two other problems with this graph.
 - Redraw the graph with an even scale and appropriate labels.
 - The original graph makes maths look twice as popular as art, based on the column size. According to the survey, how many times more popular is maths?
 - The original graph makes English look three times more popular than maths. According to the survey, how many times more popular is English?
 - An English teacher wishes to show how much his subject has grown in popularity and draws the graph shown. Describe how starting the vertical axis from 24 makes the graph look different from starting the axis at 0.



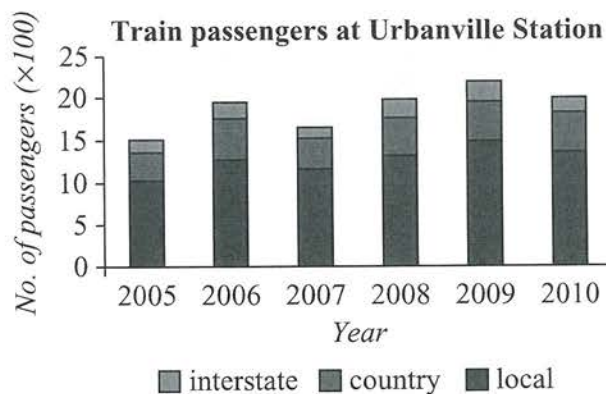
- 12 Mr Martin and Mrs Stevansson are the two Year 3 teachers at a school. For the latest arithmetic quiz, they have plotted their students' scores on a special dot plot called a parallel dot plot, shown below.

- What is the median score for class 3M?
- What is the median score for class 3S?
- State the range of scores for each class.
- Based on this test, which class has a greater spread of arithmetic abilities?
- If the two classes competed in an arithmetic competition, where each class is allowed only one representative, which class is more likely to win? Justify your answer.



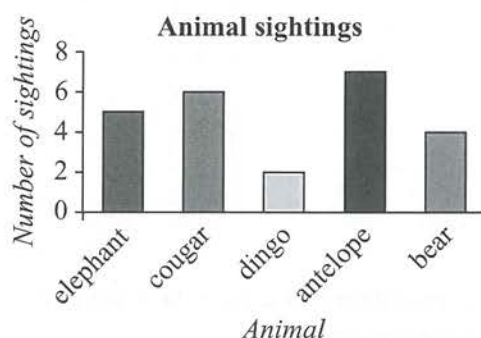
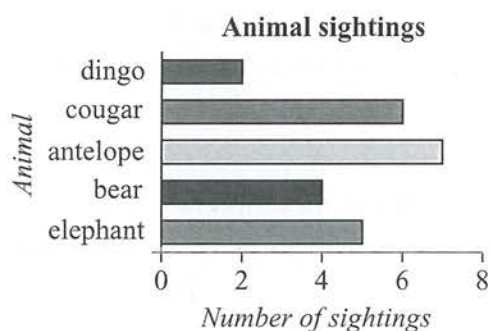
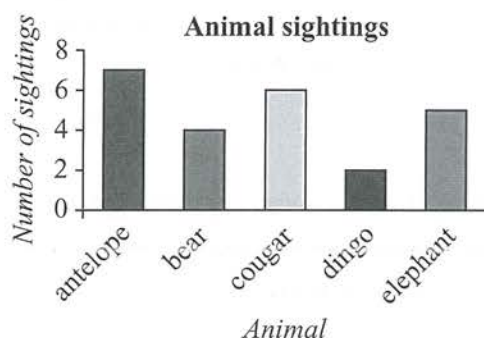
- 13 At a central city train station, three types of services run – local, country and interstate. The average number of passenger departures during each week is shown in the stacked column graph.

- Approximately how many passenger departures per week were there in 2005?
- Approximately how many passenger departures were there in total during 2010?
- Does this graph suggest that the total number of passenger departures has increased or decreased during the period 2005–2010?
- Approximately how many passengers departed from this station in the period 2005–2010? Explain your method clearly and try to get your answer within 10 000 of the actual number.



Enrichment: How many ways?

- 14 As well as being able to draw a graph horizontally or vertically, the order of the categories can be changed. For instance, the following three graphs all represent the same data.



How many different column graphs could be used to represent the results of this survey? (Assume that you can only change the order of the columns, and the horizontal or vertical layout.) Try to list the options systematically to help with your count.

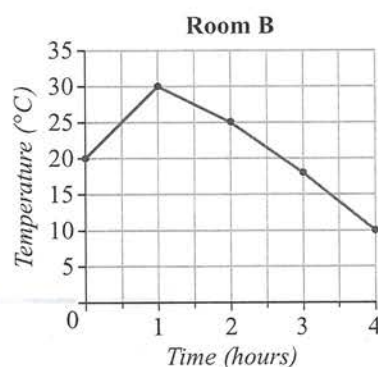
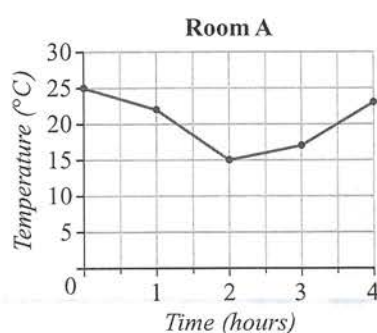
9C Line graphs



A **line graph** is a connected set of points joined with straight line segments. The variables on both axes should be continuous numerical data. It is often used when a measurement varies over time, in which case time is conventionally listed on the horizontal axis. One advantage of a line graph over a series of disconnected points is that it can often be used to estimate values that are unknown.

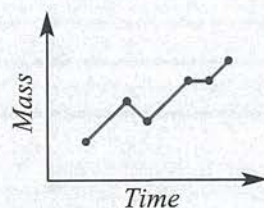
Let's start: Room temperature

As an experiment, the temperature in two rooms is measured hourly over a period of time. The results are graphed below.

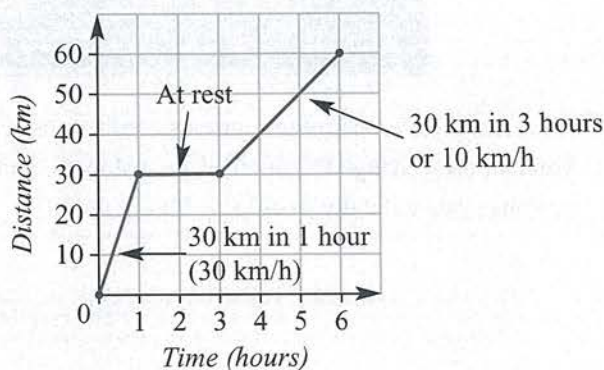


- Each room has a heater and an air conditioner to control the temperature. At what point do you think these were switched on and off in each room?
- For each room, what is the approximate temperature 90 minutes after the start of the experiment?
- What is the proportion of time that room A is hotter than room B?

- A **line graph** consists of a series of points joined by straight line segments. The variables on both axes should be continuous numerical data.
- Time is often shown on the horizontal axis, e.g.



- A common type of line graph is a travel graph.
 - time is shown on the horizontal axis
 - distance is shown on the vertical axis
 - the slope of the line indicates the rate at which the distance is changing over time. This is called **speed**.



Example 5 Drawing a line graph

The temperature in a room is noted at hourly intervals.

Time	9 a.m.	10 a.m.	11 a.m.	12 p.m.	1 p.m.
Temperature ($^{\circ}\text{C}$)	10	15	20	23	18

- Present the results as a line graph.
- Use your graph to estimate the room temperature at 12:30 p.m.

SOLUTION

- Room temperature**



- About 20°C

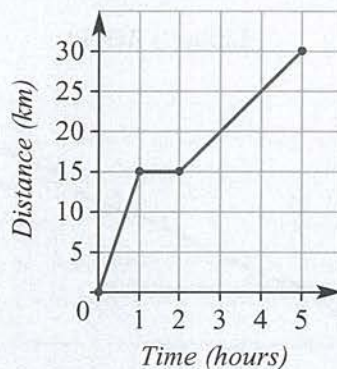
EXPLANATION

- The vertical axis is from 0 to 25. The scale is even (i.e. increasing by 5 each time).
- Dots are placed for each measurement and joined with straight line segments.

By looking at the graph halfway between 12 p.m. and 1 p.m. an estimate is formed.

Example 6 Interpreting a travel graph

This travel graph shows the distance travelled by a cyclist over 5 hours.



- How far did the cyclist travel in total?
- How far did the cyclist travel in the first hour?
- What is happening in the second hour?
- When is the cyclist travelling the fastest?
- In the fifth hour, how far does the cyclist travel?

SOLUTION

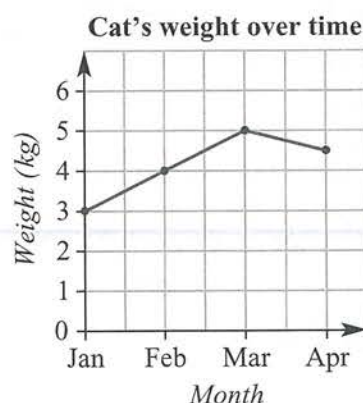
- a 30 km
- b 15 km
- c At rest
- d In the first hour
- e 5 km

EXPLANATION

The right end point of the graph is at (5, 30).
 At time equals 1 hour, the distance covered is 15 km.
 The distance travelled does not increase in the second hour.
 This is the steepest part of the graph.
 In the last 3 hours, the distance travelled is 15 km, so
 in 1 hour, 5 km is travelled.

Exercise 9C

- 1 The line graph shows the weight of a cat over a three-month period. It is weighed at the start of each month. What is the cat's weight at the start of:
- a January?
 - b February?
 - c March?
 - d April?

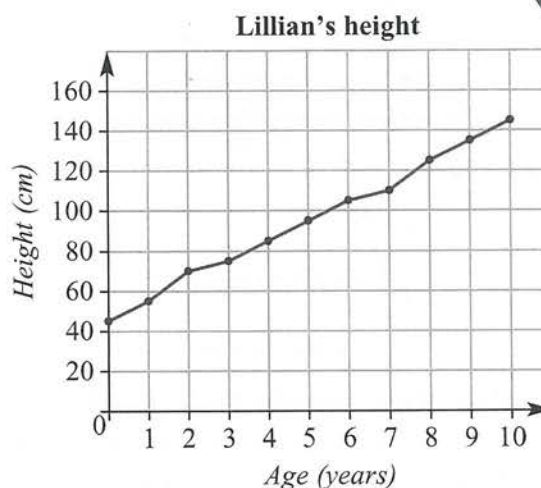


Example 5a

- 2 A dog is weighed over a period of three months. Draw a line graph of its weight.
 January: 5 kg, February: 6 kg, March: 8 kg, April: 7 kg.

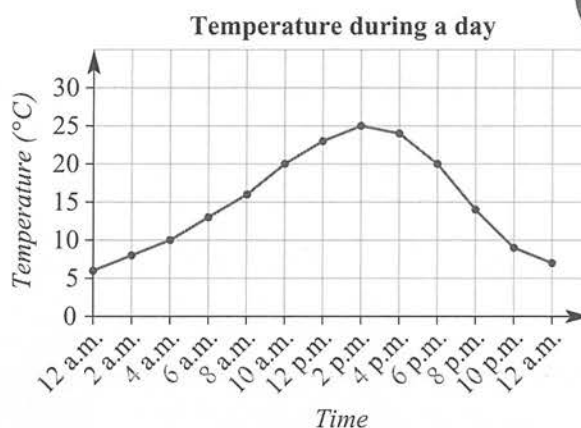
Example 5b

- 3 The graph shows Lillian's height over a 10-year period from when she was born.
- a What was Lillian's height when she was born?
 - b What was Lillian's height at the age of 7 years?
 - c At what age did she first reach 130 cm tall?
 - d How much did Lillian grow in the year when she was 7 years old?
 - e Use the graph to estimate her height at the age of $9\frac{1}{2}$ years.



- 4 Consider the following graph, which shows the outside temperature over a 24-hour period that starts at midnight.

- What was the temperature at midday?
- When was the hottest time of the day?
- When was the coolest time of the day?
- Use the graph to estimate the temperature at these times of the day.
 - 4 a.m.
 - 9 a.m.
 - 1 p.m.
 - 3:15 p.m.



- 5 Oliver weighed his pet dog on the first day of every month. He obtained the following results.



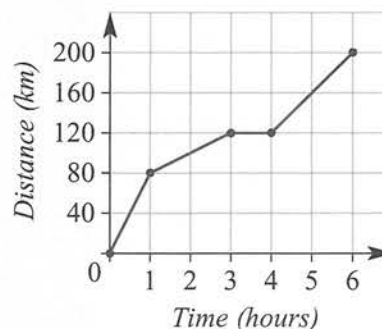
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Weight (kg)	7	7.5	8.5	9	9.5	9	9.2	7.8	7.8	7.5	8.3	8.5

- Draw a line graph showing this information, make sure the vertical axis has an equal scale from 0 kg to 10 kg.
- Describe any trends or patterns that you see.
- Oliver put his dog on a weight loss diet for a period of three months. When do you think the dog started the diet? Justify your answer.
- Use a digital technology (e.g. a spreadsheet) to construct a line graph of the dog's weight.

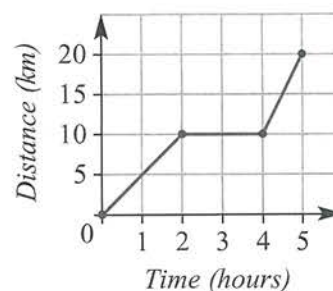


- Example 6** 6 This travel graph shows the distance travelled by a van over 6 hours.

- How far did the van travel in total?
- How far did the van travel in the first hour?
- What is happening in the fourth hour?
- When is the van travelling the fastest?
- In the sixth hour, how far does the van travel?

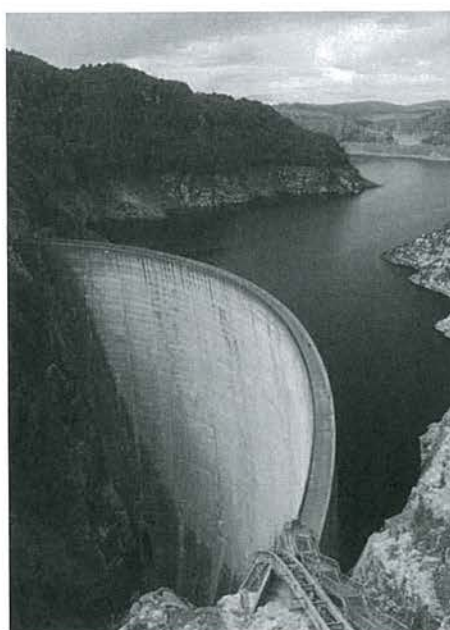
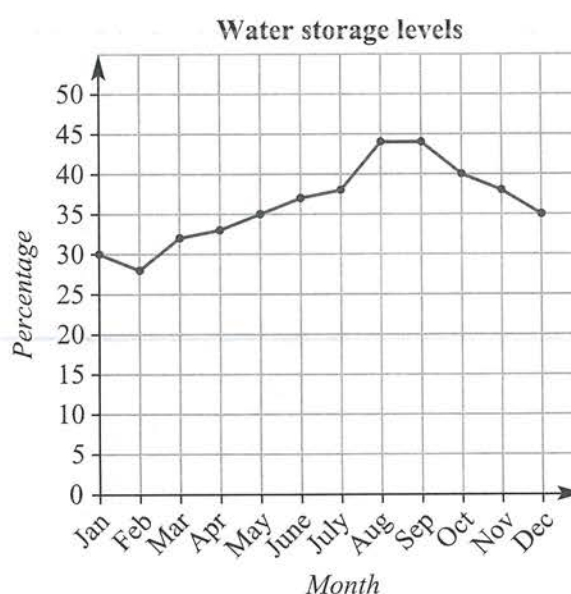


- 7 This travel graph shows the distance travelled by a bushwalker over 5 hours.
- For how long was the bushwalker at rest?
 - How far did the bushwalker walk in the second hour?
 - During which hour did the bushwalker walk the fastest?

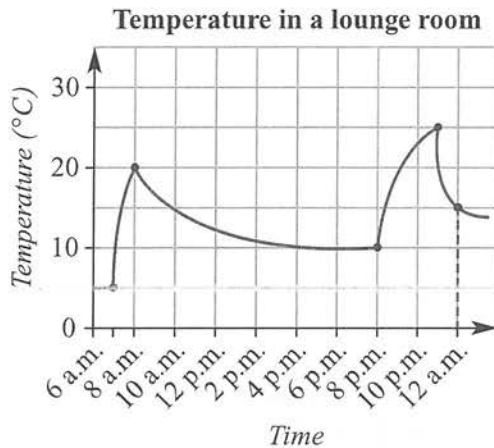


- 8 The water storage levels for a given city are graphed based on the percentage of water available. For this question, assume that the amount of water that people use in the city does not change from month to month.

- During which month did it rain the most in this city?
- At what time(s) in the year did the water storage fall below 40%?
- From August to September, it rained a total of 20 megalitres of water. How much water did the people in the city use during this period?
- Is it more likely that this city is located in the Northern Hemisphere or the Southern Hemisphere? Justify your answer.



- 9 The temperature in a lounge room is measured frequently throughout a particular day. The results are presented in a line graph, as shown below. The individual points are not indicated on this graph to reduce clutter.



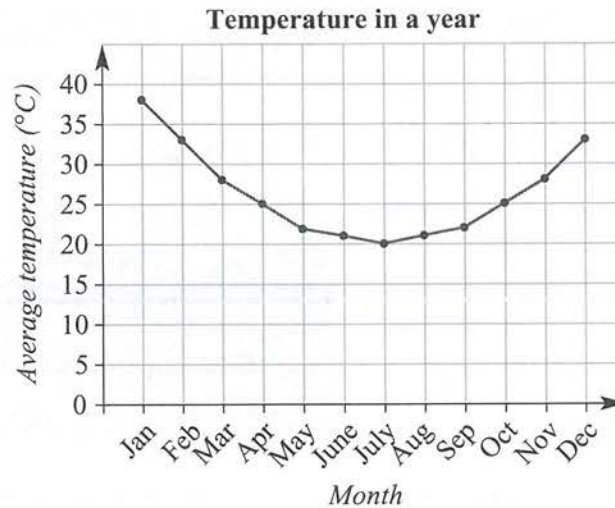
- Twice during the day the heating was switched on. At what times do you think this happened? Explain your reasoning.
- When was the heating switched off? Explain your reasoning.
- The house has a single occupant, who works during the day. Describe when you think that person is:
 - waking up
 - going to work
 - coming home
 - going to bed
- These temperatures were recorded during a cold winter month. Draw a graph that shows what the lounge room temperature might look like during a hot summer month. Assume that the room has an air conditioner, which the person is happy to use when at home.

- 10 Draw travel graphs to illustrate the following journeys.

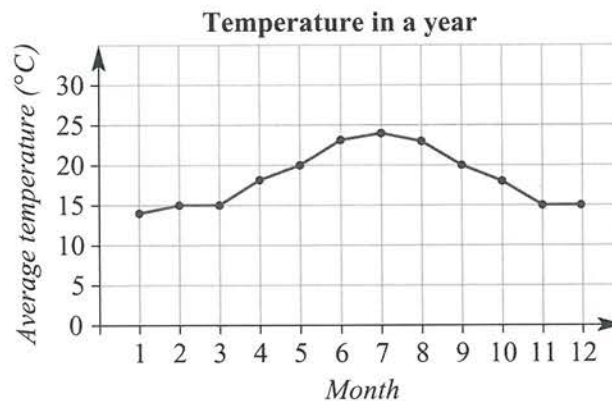
- A car travels:
 - 120 km in the first two hours
 - 0 km in the third hour
 - 60 km in the fourth hour
 - 120 km in the fifth hour
- A jogger runs:
 - 12 km in the first hour
 - 6 km in the second hour
 - 0 km in the third hour
 - at a rate of 6 km per hour for two hours

Enrichment: Which hemisphere?

11 The following line graph shows the average monthly temperature in a city.



- Is this city in the Northern or Southern Hemisphere? Explain why.
- Is this city close to the equator or far from the equator? Explain why.
- Use digital technologies (e.g. a spreadsheet) to redraw the graph to start the 12-month period at July and finish in June.
- Describe how the new graph's appearance is different from the one shown above.
- In another city, somebody graphs the temperature over a 12-month period, as shown below.
In which hemisphere is this city likely to be? Explain your answer.

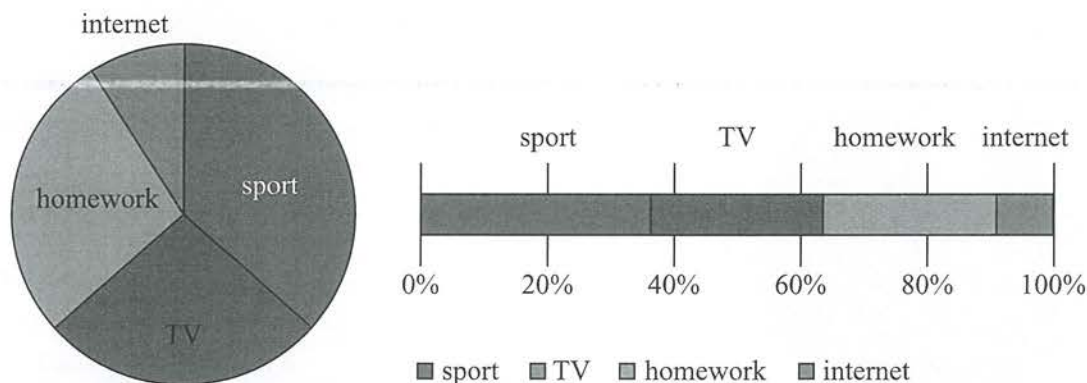


9D Sector graphs and divided bar graphs



A sector graph (also called pie chart) consists of a circle divided into different sectors or 'slices of pie', where the size of each sector indicates the proportion occupied by any given item. A divided bar graph is a rectangle divided into different rectangles or 'bars', where the size of each rectangle indicates the proportion of each item. Both types of graphs are suitable for categorical but not numerical data.

If a student is asked to describe how much time they spend each evening doing different activities, they could present their results as either type of graph:

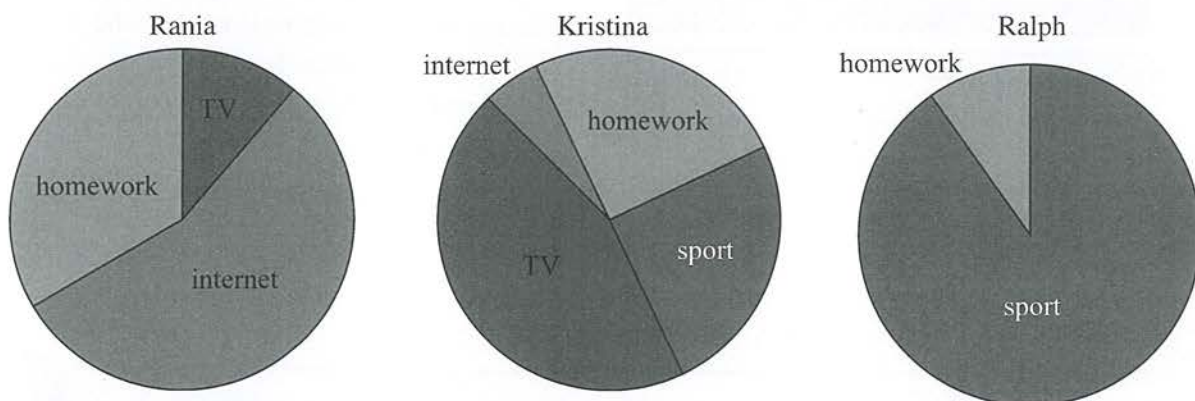


From both graphs, it is easy to see that most of the student's time is spent playing sport and the least amount of time is spent using the internet.



Let's start: Student hobbies

Rania, Kristina and Ralph are asked to record how they spend their time after school. They draw the following graphs.



- Based on these graphs alone, describe each student in a few sentences.
- Justify your descriptions based on the graphs.

Key ideas

- To calculate the size of each section of the graph, divide the value in a given category by the sum of all category values. This gives the category's proportion or fraction.
- To draw a **sector graph** (also called a **pie chart**), multiply each category's proportion or fraction by 360° and draw a sector of that size.
- To draw a **divided bar graph**, multiply each category's proportion or fraction by the total width of the rectangle and draw a rectangle of that size.

Example 7 Drawing a sector graph and a divided bar graph

On a particular Saturday, Sanjay measured the number of hours he spent on different activities.

TV	internet	sport	homework
1 hour	2 hours	4 hours	3 hours

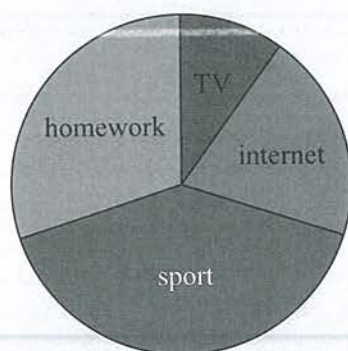
Represent the table as:

a a sector graph

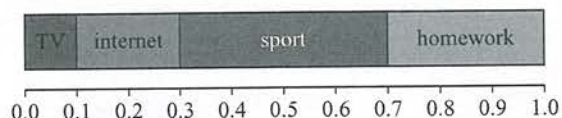
b a divided bar graph

SOLUTION

a



b



EXPLANATION

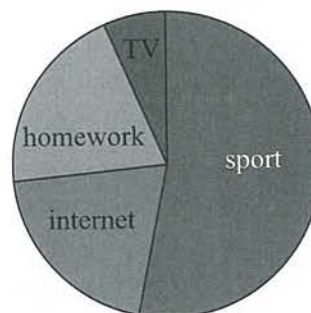
The total amount of time is $1 + 2 + 4 + 3 = 10$ hours. Then we can calculate the proportions and sector sizes:

Category	Proportion	Sector size ($^{\circ}$)
TV	$\frac{1}{10} = 0.1 = 10\%$	$\frac{1}{10} \times 360 = 36$
internet	$\frac{2}{10} = 0.2 = 20\%$	$\frac{2}{10} \times 360 = 72$
sport	$\frac{4}{10} = 0.4 = 40\%$	$\frac{4}{10} \times 360 = 144$
homework	$\frac{3}{10} = 0.3 = 30\%$	$\frac{3}{10} \times 360 = 108$

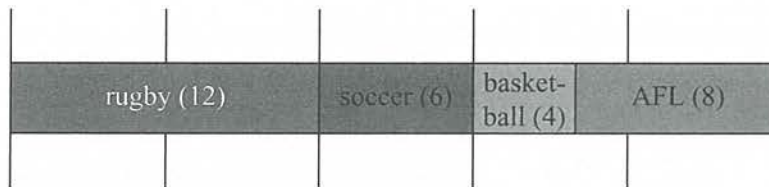
Using the same proportions calculated above, make sure that each rectangle takes up the correct amount of space. For example, if the total width is 15 cm, then sport occupies $\frac{2}{5} \times 15 = 6$ cm.

Exercise 9D

- Jasna graphs a sector graph of how she spends her leisure time.
 - What does Jasna spend the most time doing?
 - What does Jasna spend the least time doing?
 - Does she spend more or less than half of her time playing sport?



- 2 Thirty students are surveyed to find out their favourite sport and their results are graphed below.



- What is the most popular sport for this group of students?
- What is the least popular sport for this group of students?
- What fraction of the students has chosen soccer as their favourite sport?
- What fraction of the students has chosen either rugby or AFL?



Example 7a

- 3 A group of passengers arriving at an airport is surveyed to establish which countries they have come from. The results are presented below.

Country	China	United Kingdom	USA	France
No. of passengers	6	5	7	2

- What is the total number of passengers who participated in the survey?
- What proportion of the passengers surveyed have come from the following countries? Express your answer as a fraction.
 - China
 - United Kingdom
 - USA
 - France
- On a sector graph, determine the angle size of the sector representing:
 - China
 - United Kingdom
 - USA
 - France
- Draw a sector graph showing the information calculated in part c.



Example 7b

- 4 A group of students in Years 7 and 8 is polled on their favourite colour, and the results are shown at right.

- Draw a sector graph to represent the Year 7 colour preferences.
- Draw a different sector graph to represent the Year 8 colour preferences.
- Describe two differences between the charts.
- Construct a divided bar graph that shows the popularity of each colour across the total number of Years 7 and 8 students combined.

Colour	Year 7 votes	Year 8 votes
red	20	10
green	10	4
yellow	5	12
blue	10	6
pink	15	8

- 5 Consider the following results of a study on supermarket shopping habits.

Items	food	drinks	household items	other
Proportion of money spent	50%	25%	20%	5%

- Represent this information in a divided bar graph.
- Graph this information as a sector graph.
- Use a digital technology (e.g. a spreadsheet) to create each type of graph and describe how your answers to parts a and b differ from the technology's output.



- 6 A group of Year 7 students was polled on their favourite foods, and the results are shown in this sector graph.

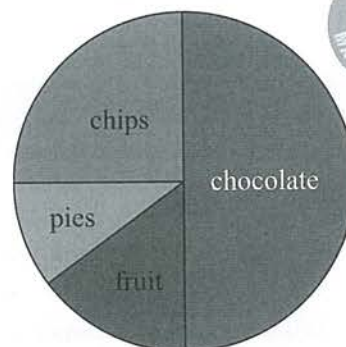
- a If 40 students participated in the survey, find how many of them chose:

- i chocolate ii chips
iii fruit iv pies

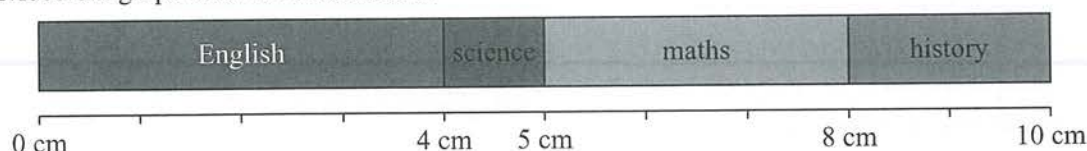
- b Health experts are worried about what these results mean. They would like fruit to appear more prominently in the sector graph, and to not have the chocolate sector next to the chips. Redraw the sector graph so this is the case.

- c Another 20 students were surveyed. Ten of these students chose chocolate and the other 10 chose chips. Their results are to be included in the sector graph. Of the four sectors in the graph, state which sector will:

- i increase in size ii decrease in size iii stay the same size



- 7 Yakob has asked his friends what is their favourite school subject, and he has created the following divided bar graph from the information.



- a Calculate the percentage of the whole represented by:

- i English ii maths iii history

- b If Yakob surveyed 30 friends, state how many of them like:

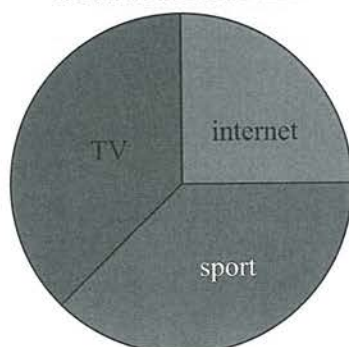
- i maths best ii history best iii either English or science best

- c Redraw these results as a sector graph.

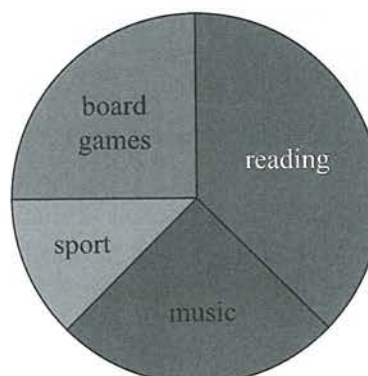
- 8 Friends Krishna and Nikolas have each graphed their leisure habits, as shown below.

- a Which of the two friends spends more of their time playing sport?
b Which of the two friends does more intellectual activities in their leisure time?
c Krishna has only 2 hours of leisure time each day because he spends the rest of his time doing homework. Nikolas has 8 hours of leisure time each day. How does this affect your answers to parts a and b above?
d Given that Krishna's TV time and sport time are equal, what percentage of his leisure time does he spend watching TV?

Krishna's leisure time

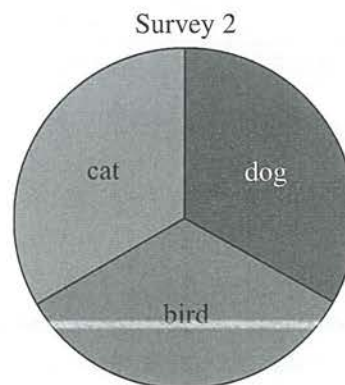
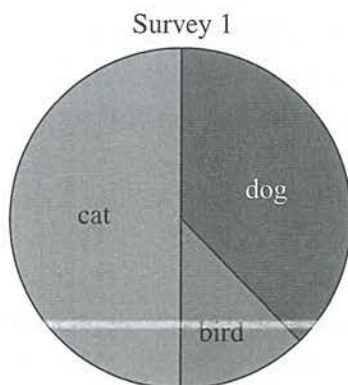


Nikolas' leisure time

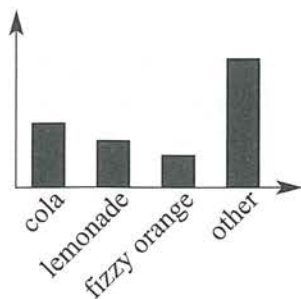




- 9 In two surveys, people were asked what is their favourite pet animal.



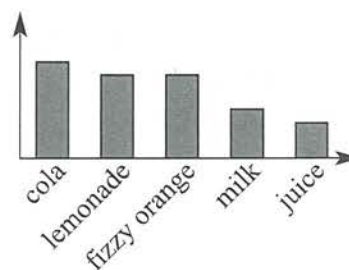
- If 16 people participated in survey 1, how many chose a dog?
 - If 30 people participated in survey 2, how many chose a bird?
 - Jason claims that 20 people participated in survey 1. Explain clearly why this cannot be true.
 - Jaimee claims that 40 people participated in survey 2. Explain clearly why this cannot be true.
 - In actual fact, the same number of people participated for each survey. Given that fewer than 100 people participated, how many participants were there? Give all the possible answers.
- 10 Explain why you can use a sector graph for categorical data but you cannot use a line graph for categorical data.
- 11 Three different surveys are conducted to establish whether soft drinks should be sold in the school canteen.



Survey 1: Favourite drink



Survey 2: Favourite type of drink



Survey 3: Sugar content per drink

- Which survey's graph would be the most likely to be used by someone who wished to show the financial benefit to the cafeteria of selling soft drinks?
- Which survey's graph would be the most likely to be used by someone who wanted to show there was not much desire for soft drink?
- Which survey's graph would be the most likely to be used by a person wanting to show how unhealthy soft drink is?



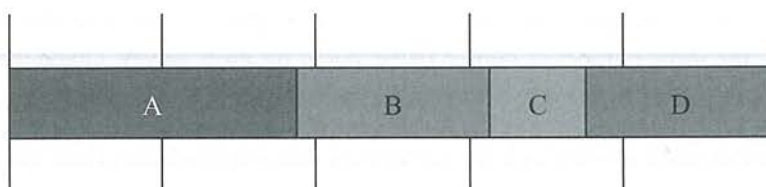
- 12 The 'water footprint' of different foods refers to the volume of fresh water that is used to produce the food. The water footprint of some foods is shown in the table below.

Food	bread	cheese	chicken	cucumber	lettuce	milk	potato	rice
Footprint (L/kg)	1608	3178	4325	353	237	1800	287	2497

- What type(s) of graph could be used for the data above? Justify your choice(s).
- Choose a suitable type of graph and depict the above numbers graphically.
- How is a food's water footprint related to how sustainable it is to produce?
- Estimate how many litres of water would be used for a chicken burger. Include your estimates of each item's weight.
- Another way to present the data is to say how many grams of each food is made from 1 kilolitre of water. Redraw the table above with a row for 'water efficiency' in g/kL.

Enrichment: Rearranging graphs

- 13 Consider the divided bar graph shown below.



- Show how this graph will look if the segments are placed in the order C, D, A, B (from left to right).
- In how many different ways could this divided bar graph be drawn (counting ABCD and CDAB as two different ways)?
- If this bar graph is redrawn as a sector graph, how many ways could the segments be arranged? Try to list them systematically. Do not consider two sector graphs to be different if one is just a rotation of another.

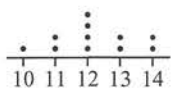
- 12 a $AE = CE$, $AB = CB$ and BE is common
 $\therefore \triangle ABE \equiv \triangle CBE$ (SSS)
 b $\angle AEB = \angle CEB$ because $\triangle ABE \equiv \triangle CBE$
 and since $\angle AEB + \angle CEB = 180^\circ$
 $\angle AEB = \angle CEB = 90^\circ$ so AC and BD bisect at right angles.

Extended-response question

- 1 a $A'(0, 1)$, $B'(-2, 1)$, $C'(-2, 4)$
 b $A'(3, 1)$, $B'(3, -1)$, $C'(0, -1)$
 c $A'(1, -1)$, $B'(-1, -1)$, $C'(-1, 2)$

Chapter 9

Pre-test

- 1 a 0, 1, 2, 4, 6, 7, 9, 10, 14 b 20, 30.6, 36, 100, 101, 204
 c 1.2, 1.7, 1.9, 2.7, 3.2, 3.5
 2 a Total = 40, average = 8
 b Total = 94, average = 18.8
 c Total = 3.3, average = 0.66
 3 a $\frac{1}{6}$ b 150° c i \$420 ii \$630
 4 a 4 b 3 c Saturday
 d 26 e $\frac{1}{3}$
 5 a 11
 b 10, 11, 11, 12, 12, 12, 12, 13, 13, 14, 14
 c

 d 12
 e 12.18

Exercise 9A

- 1 a iii b iv c i
 d v e vi f ii
 2 a categorical b numerical c numerical
 d categorical e numerical f numerical
 3 Answers will vary.
 4 a discrete numerical
 b continuous numerical
 c continuous numerical
 d categorical
 e categorical

- f categorical
 g discrete numerical
 h discrete numerical
 i continuous numerical
 j continuous numerical
 k continuous numerical
 l discrete numerical
 m continuous numerical
 n discrete numerical
 o categorical
 p discrete numerical
 q discrete numerical
 r categorical
 5 a observation
 b sample of days using observation or secondary source records
 c census of the class
 d sample
 e sample
 f sample using secondary source data
 g census (every 5 years this question appears on the population census)
 h census of the class
 i sample
 j results from the population census
 k observation
 l observation
 m sample
 n census
 o sample
 6 a secondary – a market research company
 b secondary – department of education data
 c primary data collection via a sample
 d secondary source using results from the census
 e secondary source using NAPLAN results or similar
 7 a Proximity to the Indian Ocean makes first hand collection of the data difficult.
 b Too many people to ask and a sensitive topic means that using the census results as your source would be better.
 c Extremely large population makes primary data difficult to collect.
 d Sensitive topic might make student less keen to give honest and reliable answers.
 e Cultural issues and the different cultural groups that exist in the community makes collection difficult.
 8 The data is often collected by a market research company. It is not always possible to know how the data is collected, the areas it is collected from and whether there was a bias introduced in the surveys.

- 9 a Population is the entire group of people but a sample is a selection from within it.
 b If the population is small enough (e.g. a class) or there is enough time/money to survey the entire population (e.g. national census).
 c When it is too expensive or difficult to survey the whole population, e.g. television viewing habits of all of NSW.
- 10 a The answers stand for different categories and are not treated as numbers. They could have been A – E rather than 1 – 5.
 b i 1 = strongly disagree, 2 = somewhat disagree, 3 = somewhat agree, 4 = strongly agree.
 ii 1 = poor, 2 = satisfactory, 3 = strong, 4 = excellent.
 iii 1 = never, 2 = rarely, 3 = sometimes, 4 = usually, 5 = always.
 iv 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.
- 11 a Excludes people who have only mobile numbers or who are out when phone is rung; could bias towards people who have more free time.
 b Excludes people who do not respond to these types of mail outs; bias towards people who have more free time.
 c Excludes working parents; bias towards shift workers or unemployed.
 d Excludes anyone who does not read this magazine; bias towards girls.
 e Excludes people who do not use Facebook; bias towards younger people or people with access to technology.
- 12 a For example, number of babies at a local playground. Other answers possible.
 b Count a sample, e.g. just one floor of one car park.
- 13 It gives ownership and establishes trust where there may not have been any. It also ensures a deeper understanding of the process and need for honesty in the collection and use of any data.
- 14 a Too expensive and difficult to measure television viewing in millions of households.
 b Not enough people – results can be misleading.
 c Programs targeted at youth are more likely to be watched by the students.
 d Research required.
- 15 a Too expensive and people might refuse to respond if it came too often.
 b English as a second language can impact the collection of data (simple, unambiguous English is required). Some people from particular cultures may not be keen to share information about themselves.
 c Some people cannot access digital technologies and they would be excluded from the results.
 d Larger populations and a greater proportion of people in poverty can make census data harder to obtain.

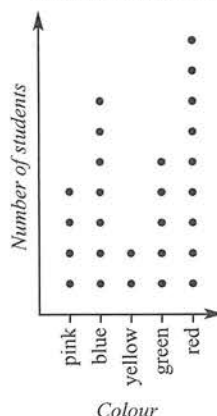
16 Different people are chosen in the samples. Larger, randomly selected samples give more accurate guides.

- 17 a i and ii Answers will vary.
 iii Random processes give different results.
 b i Different vowels have different frequencies of occurring.
 ii If a high frequency word has an unusual range of vowels, e.g. a page a webpage on Mississippi.

Exercise 9B

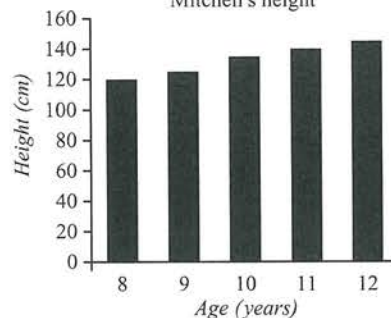
- 1 a true b false c true d true e false
 2 a 5 b 3 c sport d 20
 3 a 2 b 7 c red d 27

e Favourite colour in 7B

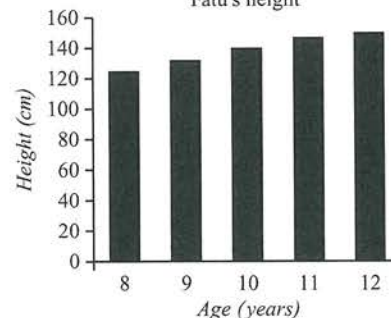


- 4 a 8 b 24 c 8 d 7
 e 2 f 8 g yes (between 2 & 5)
 5 a 120 cm b 20 cm c 60 cm d 11 years old

6 a Mitchell's height



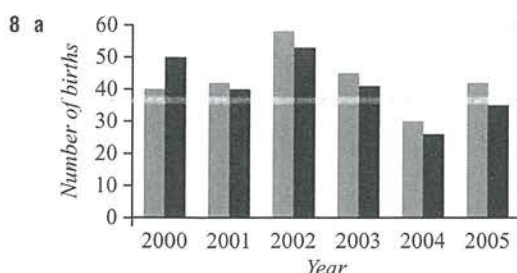
b Fatu's height



7 a

	1990	1995	2000	2005	2010
Using public transport	30	25	40	50	60
Driving a car	60	65	50	40	20
Walking or cycling	10	20	15	15	25

- b 2005 and 2010
 c 2010
 d Environmental concerns; others answers possible.
 e Public transport usage is increasing; other answers possible.

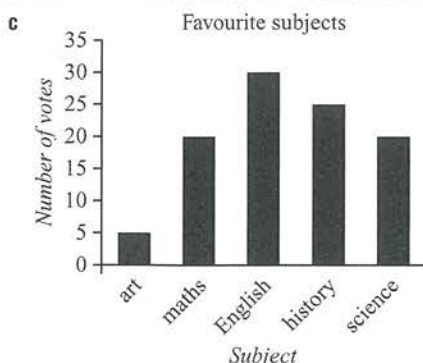


- b 2000 c 2004 d 2002 e boys

- 9 a It has increased steadily. b approx. \$38 000
 c approx. \$110 000-\$130 000

- 10 Helps to compare different categories quickly by comparing heights.

- 11 a It is unequal.
 b The axes have no labels and it does not have a title.

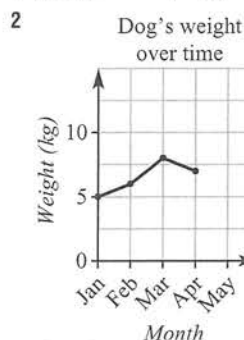


- d four times as popular
 e one and a half times as popular
 f Makes growth appear to have tripled when in fact it has only increased slightly.

- 12 a 7
 b 7
 c 3M: 8, 3S: 4
 d 3M
 e 3M because best student got 10.
 13 a 1500 b 104 000 c increased
 d approx. 590 000 passengers
 14 240

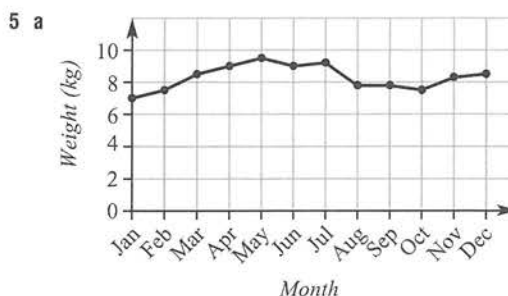
Exercise 9C

- 1 a 3 kg b 4 kg c 5 kg d 4.5 kg



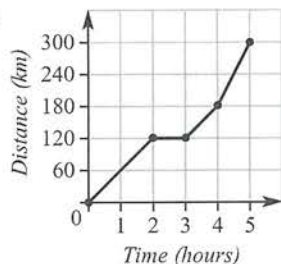
- 3 a 45 cm b 110 cm c 8 years
 d 15 cm e 140 cm

- 4 a 23°C b 2 p.m. c 12 a.m.
 d i 10°C ii 18°C iii 24°C iv 24.5°C

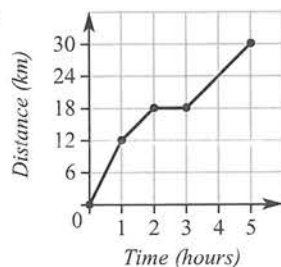


- b Weight increases from January until July, then goes down suddenly.
 c July 1
 d Completed on computer
 6 a 200 km
 b 80 km
 c At rest
 d In the first hour
 e 40 km
 7 a 2 hours
 b 5 km
 c Fifth hour
 8 a July
 b From October until the following July
 c 20 megalitres because the level stayed the same
 d Southern Hemisphere because winter occurs in middle of year.
 9 a at 7 a.m. and 8 p.m. b at 8 a.m. and 11 p.m.
 c i around 7 a.m. (heater goes on)
 ii around 8 a.m. (turns heater off)
 iii around 8 p.m. (heater put back on)
 iv around 11 p.m. (heater turned off)
 d Answers will vary.

10 a



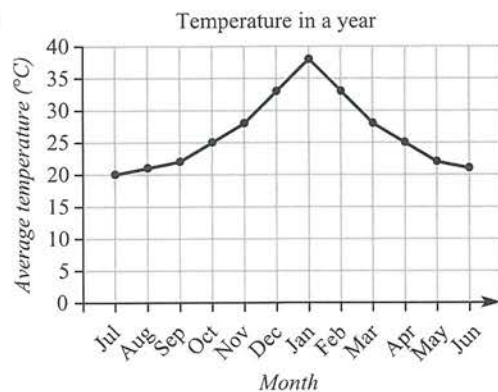
b



11 a City is in Southern Hemisphere because hot in January/December.

b City is quite close to equator because winter temperatures reasonably high.

c



d Maximum occurs in the middle.

e It depends on what Month 1 means. If it means January, then this is the Northern Hemisphere. If it means June, then this is the Southern Hemisphere.

Exercise 9D

1 a playing sport

b watching TV

c more

2 a rugby

b basketball

c $\frac{1}{5}$

d $\frac{2}{3}$

3 a 20

b i $\frac{3}{10}$

ii $\frac{1}{4}$

iii $\frac{7}{20}$

iv $\frac{1}{10}$

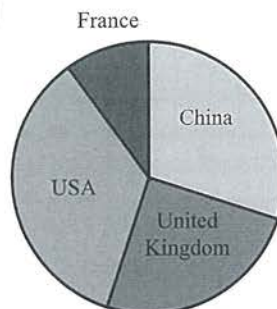
c i 108°

ii 90°

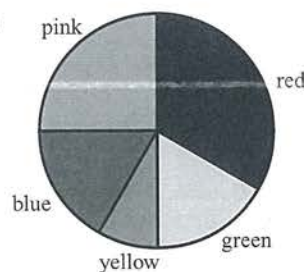
iii 126°

iv 36°

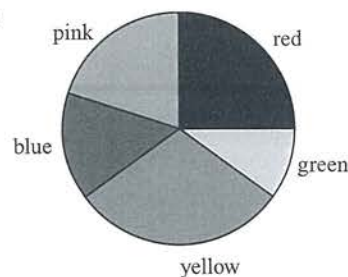
d



4 a

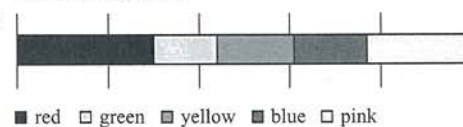


b

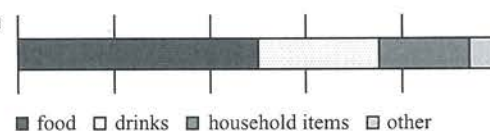


c Higher proportion of Year 7s like red; higher proportion of Year 8s like yellow.

d



5 a



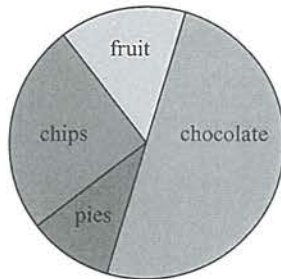
b



c Comparison required.

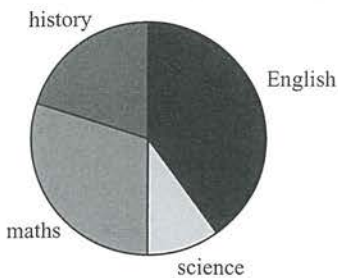
- 6 a i 20 ii 10 iii 6 iv 4

b



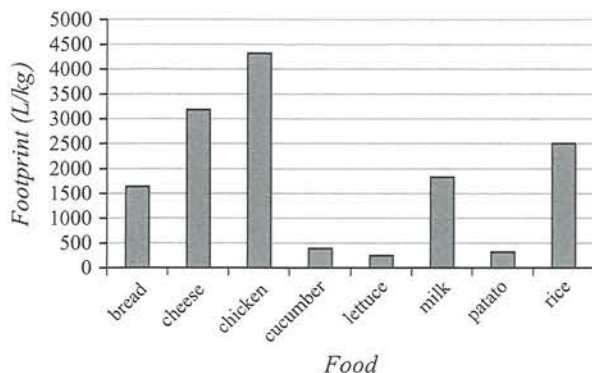
- c i chips ii fruit and pies iii chocolate
7 a i 40% ii 30% iii 20%
b i 9 ii 6 iii 15

c



- 8 a Krishna b Nikolas
c It means Nikolas also spends more time playing sport.
d 37.5°
9 a 6 b 10
c Bird was chosen by $\frac{1}{8}$, which would be 2.5 people.
d Each portion is $\frac{1}{3}$, but $\frac{1}{3}$ of 40 is not a whole number.
e 24, 48, 72 or 96 people participated in survey.
10 Need numbers for a meaningful axis but not for labels of each sector.
11 a Survey 2 b Survey 1 c Survey 3
12 a Column graph – categorical data. (Sector graph is inappropriate as not measuring proportions of a whole)

b Column graph



- c As water becomes scarcer it is more difficult to produce these foods.
d Answers will vary.

e

	Bread	Cheese	Chicken	Cucumber	Lettuce	Milk	Potato	Rice
Efficiency (g/kL)	622	315	231	2833	4219	556	3484	400

13 a



b 24

c 6

Exercise 9E

- 1 a true b false c true d false
2 a 4 b 7 c 11 d 11111111

3 a

	Passes	Shots at goal	Shots that go in	Steals
Frequency	3	12	8	2

b 12

c 8

d 4

4 a

People in family	2	3	4	5	6	7	8
Tally	I	II	III	IIII	IIII	II	III
Frequency	1	2	4	4	4	2	3

b 4

c 9

5 a

Number of hours	0-4	5-9	10-14	15-19	20-24	25 or more
Tally	8	12	15	9	4	2

b 50

c 9

d 8

6 a

Height (cm)	Tally	Frequency
130-139	III	3
140-149	IIII	5
150-159	II	2
160-169	III	3
170-179	III	3
180-189	I	1
190+	IIII	4

b 2

c 5

d 10

7 a 10

b 2

c 4

d 17

8 a B

b D

c A

d C

9 a 28

b 130

c 19

d 13.1 years old

e 14.4



10 a

Score	0–19	20–39	40–59	60–79	80–100
Frequency	0	4	7	20	12

b

Score	0–29	30–59	60–89	90–100
Frequency	3	8	30	2

c It is unknown how many of the 3 people in the 20s got less than 25 and how many got more.

d

Score	0–24	25–49	50–74	75–100
Frequency	2	4	20	17

e 43

11 a

Range	10–19	20–29	30–39
Frequency	3	4	6

b Many possible answers. c a stem-and-leaf plot

d When individual numbers are not required but an overview is more important.

12 a Many possible answers.

b There are 5 possible values and it happened 6 times, so one value is repeated.

c Even if each score was achieved twice that would only account for 10 weeks (not 11).

d yes e yes

13 a Monday 3, Tuesday 2, Wednesday 1, Thursday 3

b 2 hours c 12 ways d 3 ways

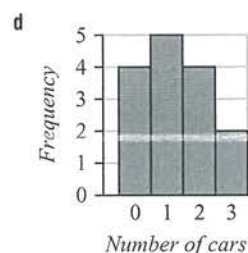
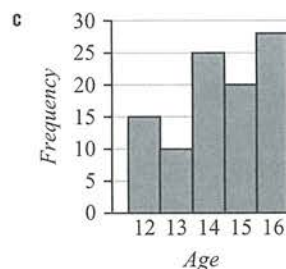
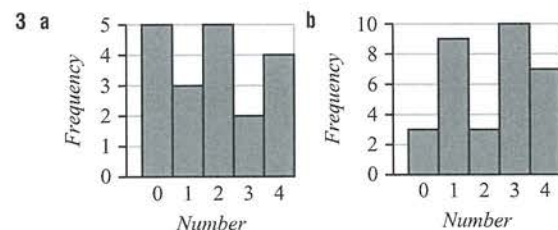
e 6 ways f 30 ways

Exercise 9F

1 a 2 b 9 c 11 years old

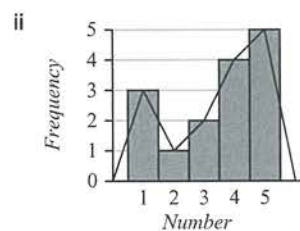
2 a 4 b 4

c 8 d frequency polygon



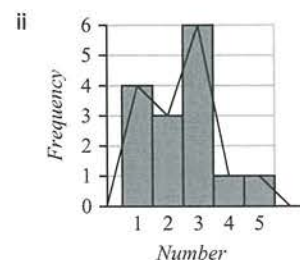
4 a i

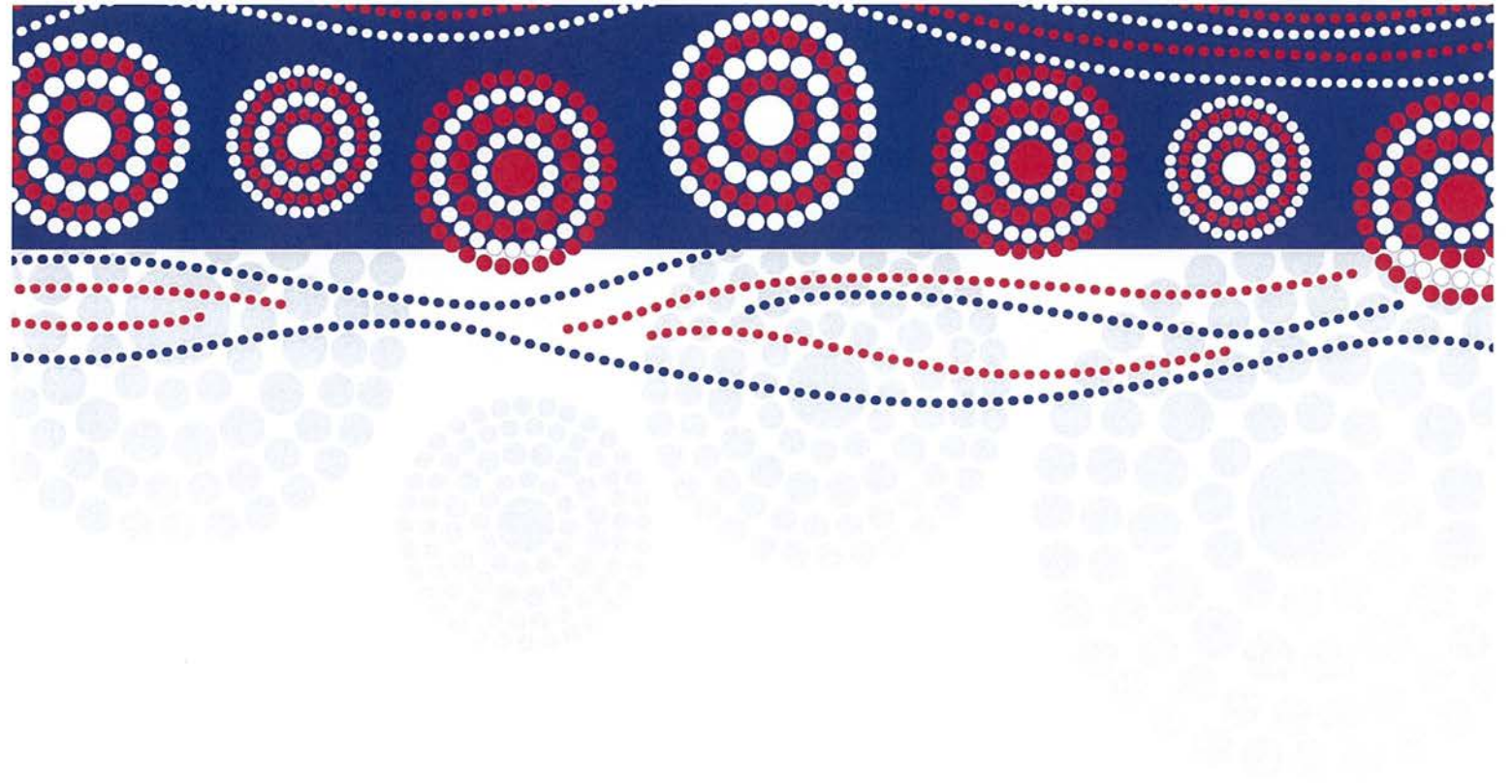
Number	Frequency
1	3
2	1
3	2
4	4
5	5



b i

Number	Frequency
1	4
2	3
3	6
4	1
5	1





LAC

LAC

- Explore your backyard and write down all the key geological features you can see. Eg rocks, dirt
- Look up the definition of geographical features and geological features and write them in your book.
- Explore your backyard and write down all the key geographical features you can see. Eg lakes, mountains
- Research photos of different landscapes or features on Darkinjung Country. E.g Mt Yengo
- Create a model of a landscape or feature on Darkinjung Country. Use whatever resources you can get your hands on. Be creative!
- Explore your local area and find resources that would be used by Darkinjung people to survive. List these and their possible uses.
- Determine the importance of different natural elements on Darkinjung Country and how they were used for survival.
- Complete an illustration about the geographical location of your area.
- Write a short story, with illustrations, about how resources on Darkinjung Country aid in sustaining human life.

Adjectives

English	Darkinjung	English	Darkinjung
some	dhanguyn	hollow	baradu
three	barang	wide	bilayn
deep	birgu	two	bula
none	bundi	straight	dhurur
big	burag	none	gurayn
sharp	gimbayi	soft	ginyad
blunt	mandin	alive	mudang
a load	murar	hard	narama
black	naru	one	waagul
half	waagulangi	a few	wagulwagul
crooked	walagulan	leaning	walang

Human Emotions

English	Darkinjung	English	Darkinjung
crazy	ngarawayi	greedy	buluyn
sleepy	nanggar	hungry	dhali
afraid	gindja	bad	gudjalang
angry	guluwi	good	marung
happy	wadhayi	tired	wunal
laugh	yaringaa	be sorry	ngaradjba
		.	

Mammals

English	Darkinjung	English	Darkinjung
kangaroo	bandar	wallaroo	wambuyn
possum	yuiwi	dog	mirri
kangaroo rat	dharumbayi	rock wallaby	wirayn
flying fox	wanagan	flying squirrel	banggu
scrub wallaby	mari	ringtail possum	gindang
bandicoot	gara	short nosed bandicoot	barga
bettong	bidjang	echidna	ganyi
koala	guluwayn	small bandicoot	gundjiyang
quoll	midhingin	grey kangaroo	walambang
black kangaroo	walaru	male animal	gawal

Marine Animals

English	Darkinjung	English	Darkinjung
water monitor	bidjiwang	turtle	gudumang
eel	bara	fish	mara
mussel	bidjaagan	mullet	djirul
perch	wagar	lobster	wira

Reptiles/Amphibians

English	Darkinjung	English	Darkinjung
carpet snake	badayir	water monitor	bidjiwang
brown snake	biridjiral	frog	gudad
black snake	mudu	death adder	munda
sleepy lizard	ngulang	jew lizard	wiramin

Tools, Food and Cooking

English	Darkinjung	English	Darkinjung
tobacco pipe	babalu	white paint	barag
boomerang	bargan	money	baril
fish spear	dhadayi	musket	djarabara
spear (wood)	djulu	hut	gundji
yamstick	ganayi	fire	guyung
club	gudjar	knife	gudjila
net bag	gulayi	light	gili
spear shield	guril	reed spear	guwarang
tomahawk	mugu/naba	canoe	naawayi
Path	murū	food, full	gandu
sugar	garanang	bread	birida
flour	djalura	smoke, tobacco	gadjal

Verbs

English	Darkinjung	English	Darkinjung
bite	badhi	eat	banda
spit	djuga	make	banga
hang up	barbanga	rest	barura
fall	bayi	knock down	bindi
throw	binggiba	blow	bumbi
kiss	djungga	hit	buynba
see	daanda	watch	dhara
hide	dudba	kill	Dudhang buynba
break	gadbanga	cut	gadbara
search	gadu	climb	galiwa
dive	gambulung	cook	ganama
hide	gara	steal	garaamal

Verbs

English	Darkinjung	English	Darkinjung
scratch	gargi	be	gayung
sing	gudi	stop	guraynba
shine	malig	bring	mana galuring
take	mana wari	be jealous	mindalba
stare	murami	run	murunda
sleep	nangga	forget	nga
speak	ngangga	turn off	nganuga
listen	ngara	sweat	ngarindjalga
rise	ngaruga	drink	ngura
dance	nhangara	pinch	nyima
swim	waadba	pretend	wandjaagur
send	yanaalang	twist	warbanga



HUMANITIES

Writing Probe 1

This image shows a single page of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

TOTAL WORDS WRITTEN	
<p>My writing;</p> <ul style="list-style-type: none"> Includes ALL full stops Includes ALL capital letters Makes sense Includes complex sentences Includes commas to show phrasing 	

Writing Probe 2

Harry opened the old suitcase he found in his grandmother's closet. It contained a...

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook page.

TOTAL WORDS WRITTEN	

My writing;	
<input type="checkbox"/>	Includes ALL full stops
<input type="checkbox"/>	Includes ALL capital letters
<input type="checkbox"/>	Makes sense
<input type="checkbox"/>	Includes complex sentences
<input type="checkbox"/>	Includes commas to show phrasing
<input type="checkbox"/>	_____

Date: _____

Writing Probe 3

A beautiful green glass bottle lay washed up on the shore. She bent down to pick it up and noticed there was something inside...

TOTAL WORDS WRITTEN	
My writing;	
<input type="checkbox"/>	Includes ALL full stops
<input type="checkbox"/>	Includes ALL capital letters
<input type="checkbox"/>	Makes sense
<input type="checkbox"/>	Includes complex sentences
<input type="checkbox"/>	Includes commas to show phrasing
<input type="checkbox"/>	_____

Writing Probe 4

As we crept up the narrow staircase of the old lighthouse, an eerie sound followed us...

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook page or a sheet of stationery. There is no handwriting or other markings on the page.

	<p>TOTAL WORDS WRITTEN</p> <p>_____</p>
	<p>My writing;</p> <p> Includes ALL full stops</p> <p> Includes ALL capital letters</p> <p> Makes sense</p> <p> Includes complex sentences</p> <p> Includes commas to show phrasing</p> <p> _____</p>

Writing Probe 5

[illegible]

Fig. 1. <http://www.sagepub.com> is the source of the data used in the study. The data were collected from the website of the International Association of Agricultural Economists (IAAE) and the International Association of Agricultural Economists (IAAE) website.

- 11 Includes ALL full stops
- 11 Includes ALL capital letters
- 11 Makes sense
- 11 Includes complex sentences
- 11 Includes commas to show phrasing

Writing Probe 6

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

- || Includes ALL full stops
- || Includes ALL capital letters
- || Makes sense
- || Includes complex sentences
- || Includes commas to show phrasing

Writing Probe 7

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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- Includes ALL full stops
- Includes ALL capital letters
- Makes sense
- Includes complex sentences
- Includes commas to show phrasing

Writing Probe 8

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook page or a sheet of stationery. There is no handwriting or other markings on the page.

- || Includes ALL full stops
- || Includes ALL capital letters
- || Makes sense
- || Includes complex sentences
- || Includes commas to show phrasing

Writing Probe 9

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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- || Includes ALL full stops
- || Includes ALL capital letters
- || Makes sense
- || Includes complex sentences
- || Includes commas to show phrasing

Writing Probe 10

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

- 11 Includes ALL full stops
- 11 Includes ALL capital letters
- 11 Makes sense
- 11 Includes complex sentences
- 11 Includes commas to show phrasing

Date: _____

Writing Probe 11

"These aren't at all like the peas my mother makes me eat," thought Eric. He popped one into his mouth and...

TOTAL WORDS WRITTEN	
<hr/>	
My writing;	
<input type="checkbox"/>	Includes ALL full stops
<input type="checkbox"/>	Includes ALL capital letters
<input type="checkbox"/>	Makes sense
<input type="checkbox"/>	Includes complex sentences
<input type="checkbox"/>	Includes commas to show phrasing
<input type="checkbox"/>	<hr/>

Writing Probe 12

[illegible]

TOTAL WORDS WRITTEN	
My writing:	
<input type="checkbox"/>	Includes ALL full stops
<input type="checkbox"/>	Includes ALL capital letters
<input type="checkbox"/>	Makes sense
<input type="checkbox"/>	Includes complex sentences
<input type="checkbox"/>	Includes commas to show phrasing
<input type="checkbox"/>	_____



Year 7 History

Term 3, 2021

An Introduction to History

Syllabus Dot Point: Outline the main features of history

Task 1:

Step 1: Students are to complete the activity 'Why Study History'

Step 2: Students are to take notes and read through the 'Welcome to History' slides and complete the activities.

BONUS: Crack this code to figure out, one reason we study history

Syllabus Dot Point: Outline the main features of history

Task 2:

Students are to read through and note take the 'Introduction to timelines' slide show and complete the 'timeline of my life' activity

Syllabus Dot Point: Outline the theory that people moved out of Africa around 60,000 years ago and migrated to other parts of the world including Australia.

The Overview

According to the '**out of Africa**' theory, about 60 000 years ago modern humans (Homo sapiens) began to leave that continent and gradually spread throughout the world. Some groups eventually settled down to grow crops and domesticate animals. In some regions, villages, towns and finally cities emerged and

Specialised occupations and trades developed. Organised activities and institutions developed, such as manufacture and trade, art and writing, religion and law, military and political structures. Some of these societies became the focal points of empires which shaped various parts of the ancient world.

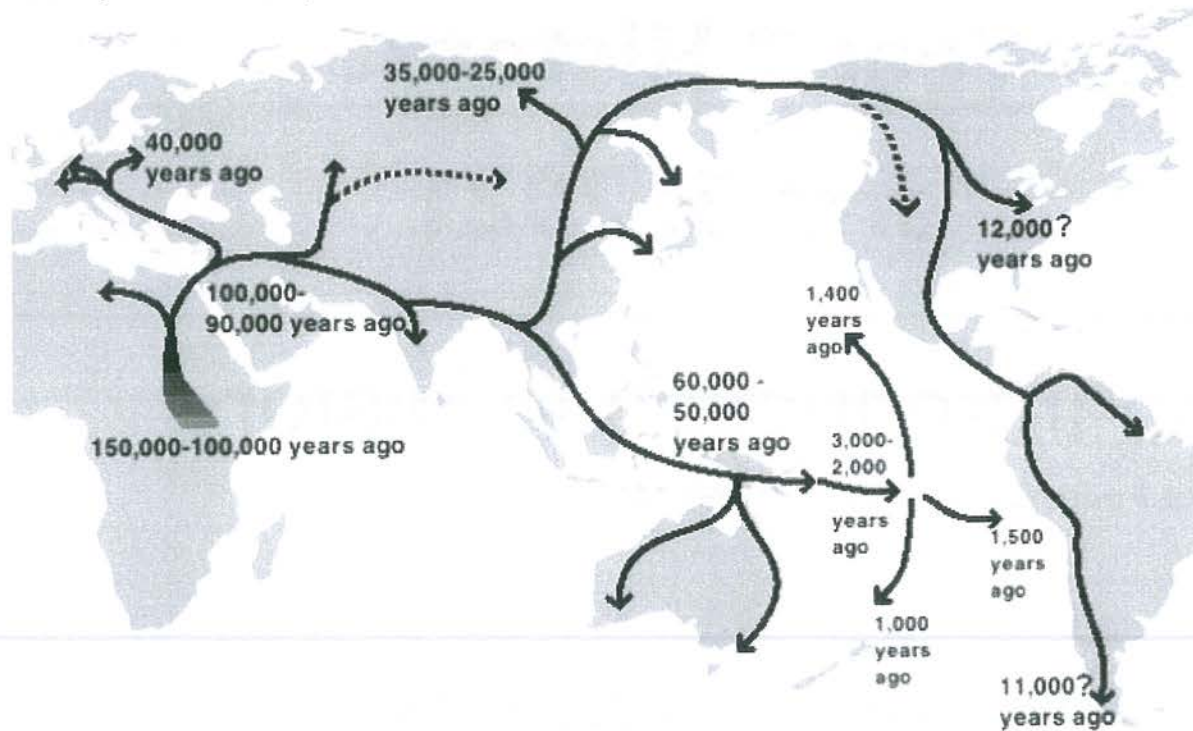


Figure 1: Map depicting the routes from the 'Out of Africa Theory'.



Figure 2: Prehistoric men making a fire National Museum of Mongolian History Ulaanbaatar Mongolia

Task 3:

Watch this [video](#) and complete this [comprehension worksheet](#)

Syllabus Dot Point: Outline the theory that people moved out of Africa around 60,000 years ago and migrated to other parts of the world including Australia.



Task 4:

Read Macaulay's 'Out of Africa' and complete all the **Comprehension** and **Thinking** questions. Choose either the **Creative** or **Research** task to complete.
Syllabus Dot Point: Outline the evidence for the emergence and establishment of ancient societies, including art, iconography, writing, tools and pottery.

Task 5:

Read Macaulay's 'Evidence of the Ancients' and complete all the **Comprehension** and **Thinking** questions. Choose either the **Creative** or **Research** task to complete.
Syllabus Dot Point: Key features of ancient societies (farming, trade, social classes, religion, rule of law).

Task 6:

Read Macaulay's 'Ancient Technology' and complete all the **Comprehension** and **Thinking** questions. Choose either the **Creative** or **Research** task to complete.

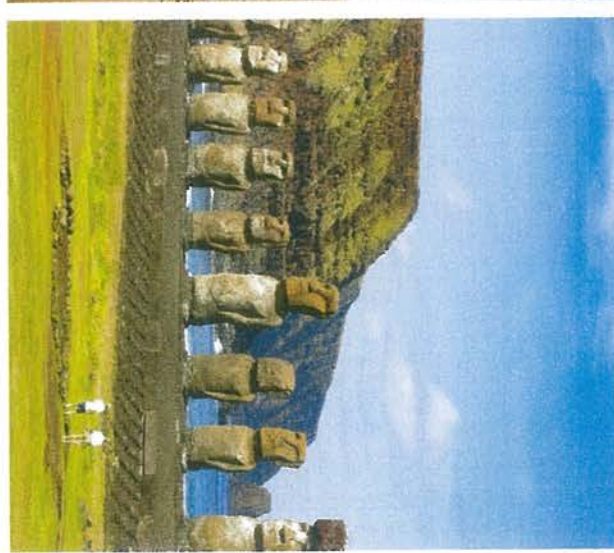
WELCOME TO YEAR 7 HISTORY!



Lesson Objectives

Understand the study
of History.



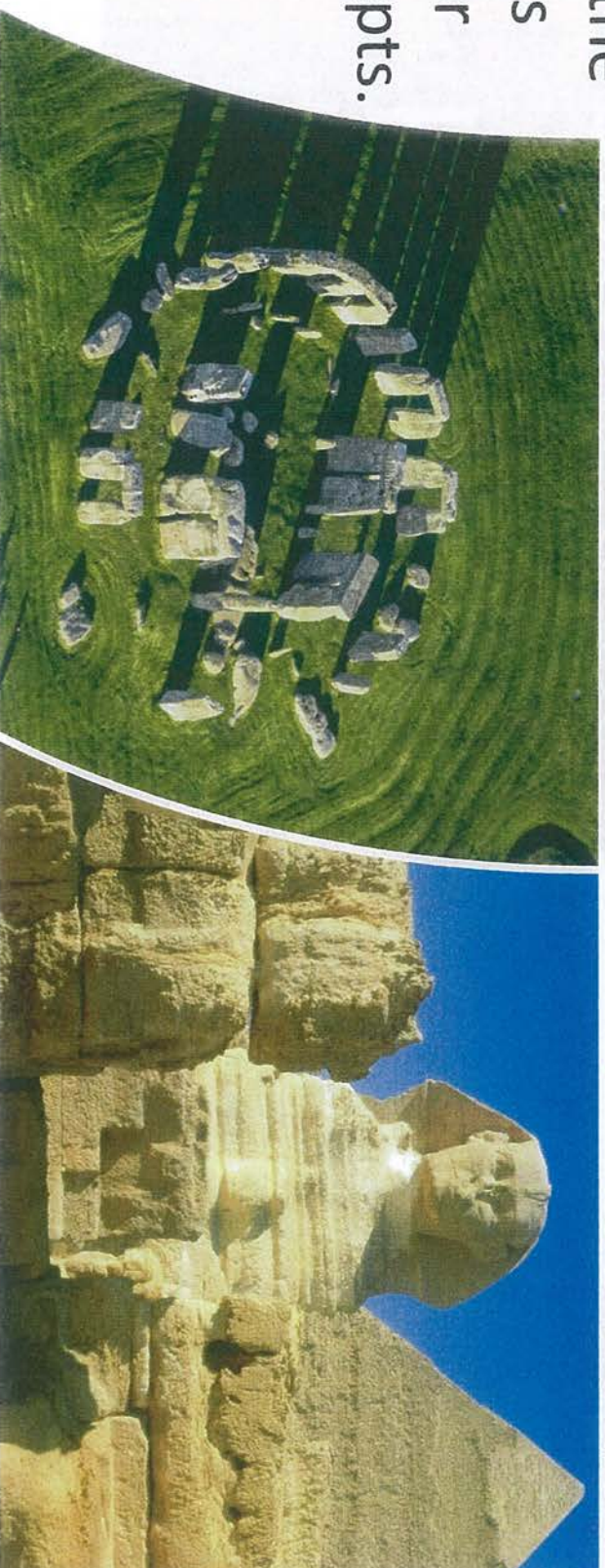
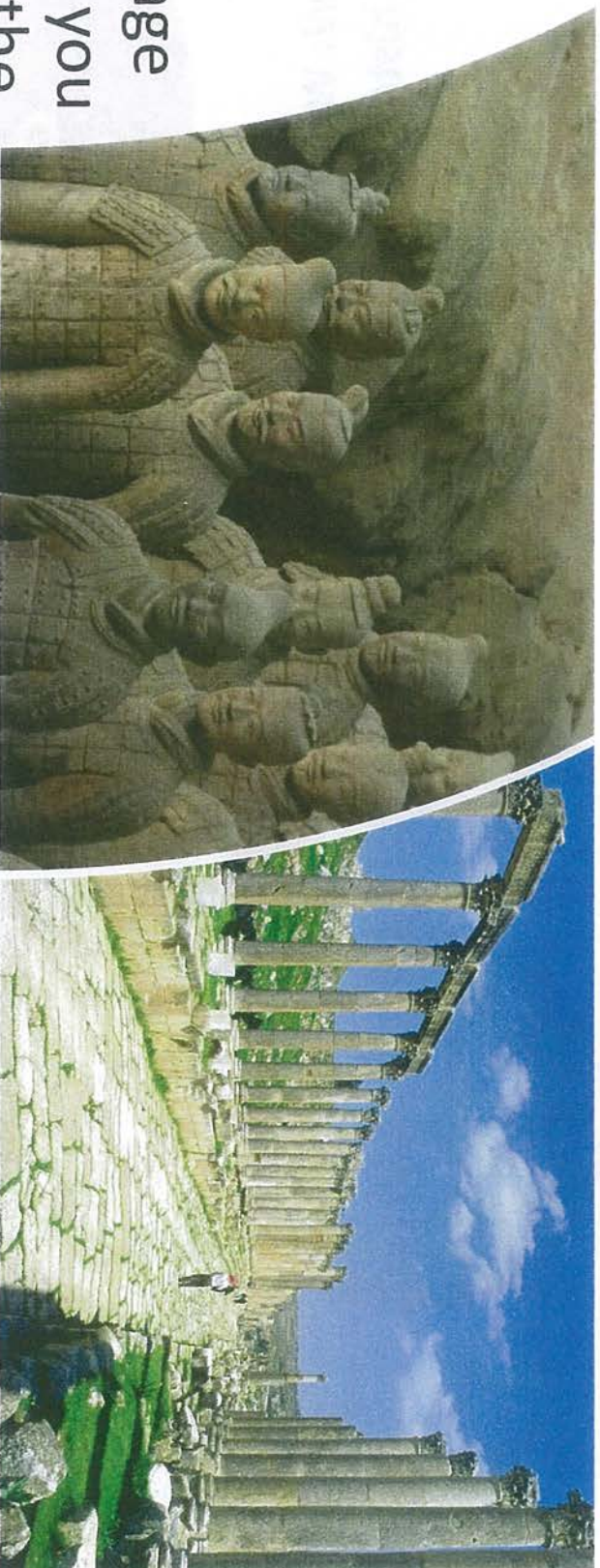


Success Criteria:

I can define
History in a short
summary

Title page - HISTORY

Create a title page
for “**History**” in you
workbook. Use the
following images
for inspiration or
your own concepts.



What is
history
about?

1) DO NOW: Write down 3 things about what
you think history is about.



History is about: People...

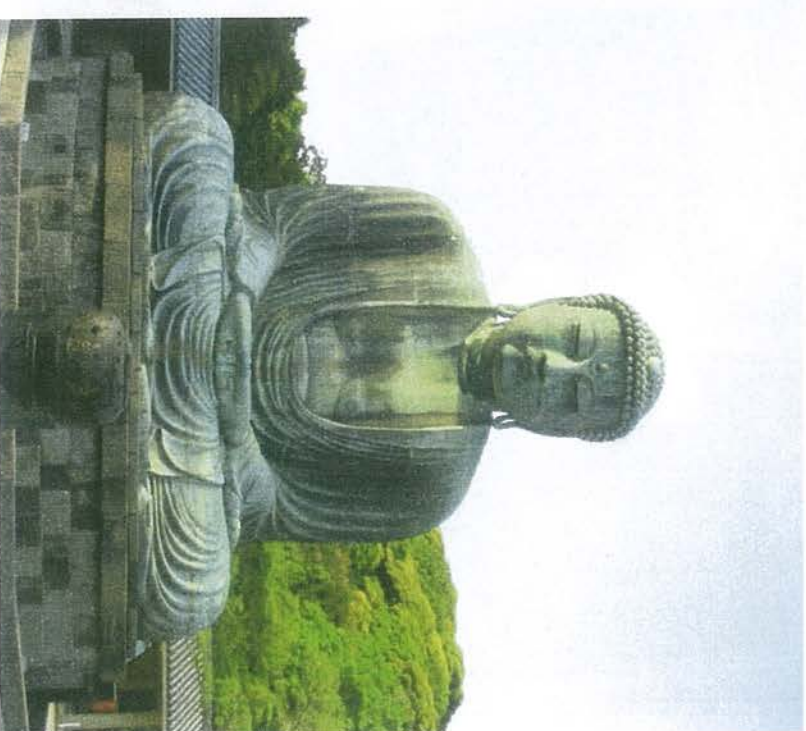
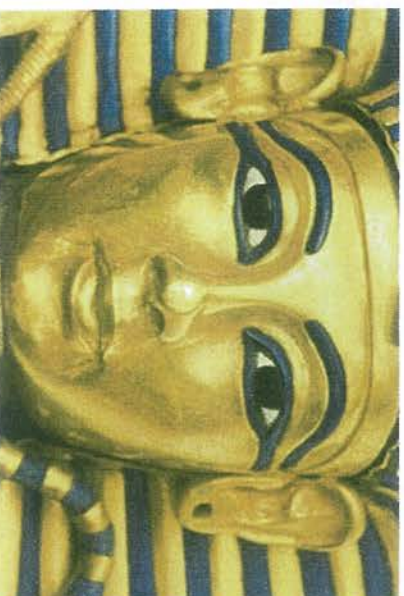
Can you name these
people?

Or

What are they known
for?

2) **DO NOW:** Using google image
research three of the image to find
their name and what they are
known for.

<https://www.google.com/imghp?hl=en>



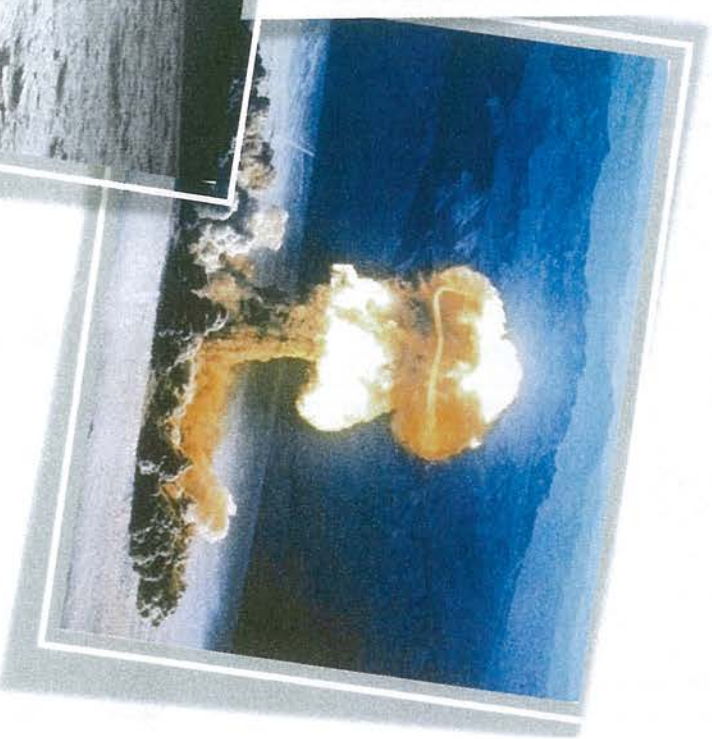
History is about: Events...

Do you recognise the events?

3) DO NOW: If you do recognise an image, write a two to three sentence description of the event.

If not research **one** of these images by completing a google image search using this link:

<https://www.google.com/imghp?hl=en> and write a description.



History is about: Motives...



The 4000 year old Stonehenge in England - why did they build it?

This was an amazing achievement when we consider the distances, they had to travel to transport the heavy building materials and the skill with which they put the monument together - all without the benefits of modern technology.

There are many theories about how and why Stonehenge was built.

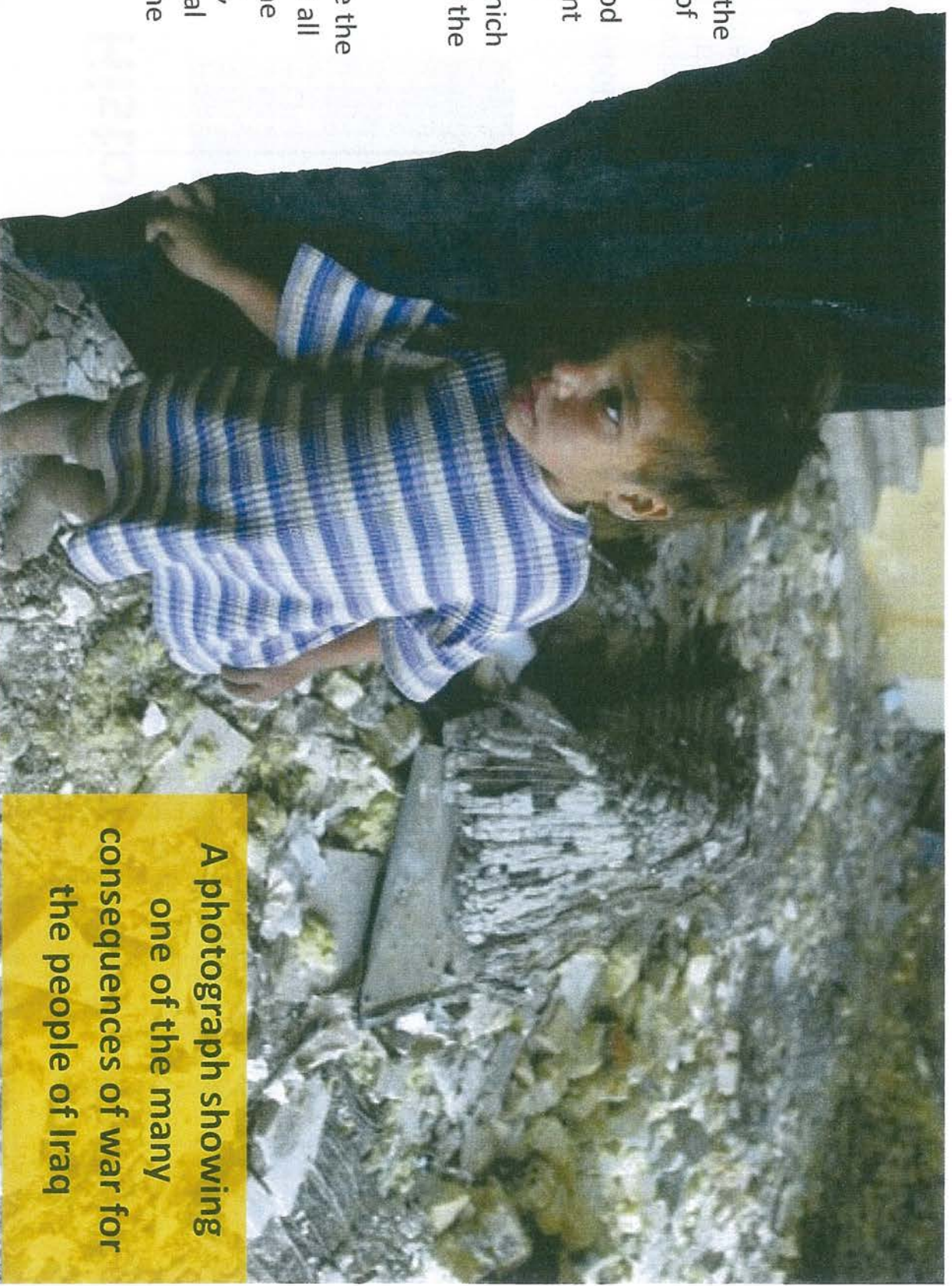
For Example: Stonehenge was a Druid temple, built by those ancient Celtic pagans as a center for their religious worship.

4) Do now: Research one other theory of why Stonehenge was built and write a short statement (two to three sentences) in your workbook.

History is about: Consequences...

Read: Historians need to consider people's actions in the past and the consequences of those actions. For example, historians have written a good deal about war. It is important for historians to understand which side gained victory, which side experienced defeat and the reasons for this result.

What is just as important are the *experiences of the people on all sides of a conflict* who are the victims of war - the physical, emotional, economic, cultural and political costs that are the consequences of war.



**A photograph showing
one of the many
consequences of war for
the people of Iraq**

What is history?

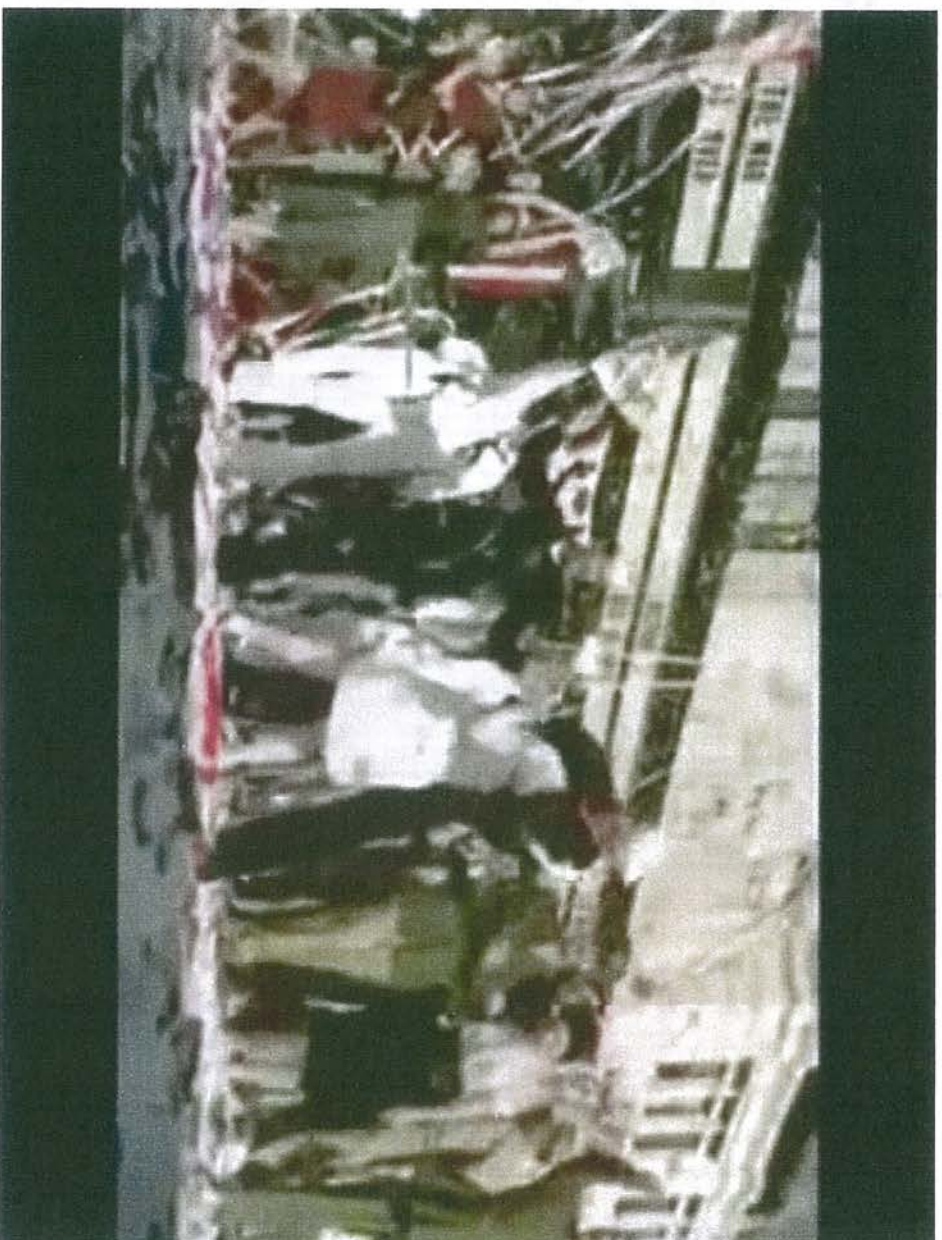
5) DO NOW - Copy down these notes under the heading above:

History is the story of people on the planet. The story of everything that people have ever done since humans like us first appeared between 150,000 and 200,000 years ago. It is the story of changing human cultures, lifestyles, beliefs and creativity.

Why study history?

Activity: Watch clip twice. The first time around, write 5 reasons the creator gives for studying history.

On the second time, pay attention to the images – how many historical events, people and places can you name? Aim for at least 10!



Name: _____

An Introduction to the Ancient World – video clip

After watching the clip, answer the following questions

1. What are Homo sapiens?

2. According to scientists, which continent did humans first appear on?

3. How many years did it take for humans to spread throughout the world?

4. 2.5 million years ago (or even 3 million years ago), The Stone Age began. It lasted until around 3300 BCE. Why is this period called 'The Stone Age'?

5. How do we know this?

6. How many years ago did humans first discover farming?

7. The first major settlements existed around what natural feature?

8. Using the map below, circle the location of the first ever civilisation. Label this region as Sumer (hint: it's in modern day Iraq)



Name: _____

9. Name a characteristic of Ancient Egyptian Society.

10. What was the Ancient Greek's greatest legacy?

11. Name a characteristic of Ancient China.

12. Name a characteristic of Ancient Rome.

13. What did you find most interesting about the clip?

14. Using the space below, draw some of the images you saw:



An ancient Egyptian wall painting in a warm, golden-yellow palette. On the left, a man with reddish-brown skin is seated on a blue chair, wearing a blue headcloth and a broad, ornate collar. He is looking towards the right. On the right, a woman with reddish-brown skin stands, wearing a blue headcloth and a long, pleated dress with a wide, ornate collar. She is looking towards the man. The background features stylized architectural elements like columns and hieroglyphs. The overall style is characteristic of ancient Egyptian art, with bold outlines and a limited color palette.

Year 7

The Ancient World

Investigating the Ancient Past

Macaulay



The Ancient to the Modern World

Depth Study 1 (Incorporating The Ancient to the Modern World Overview)

Investigating the Ancient Past

1. Why study history?
2. Glossary
3. What is an historian?
4. Historians are like detectives
5. Sources
6. Fact opinion bias
7. Anachronism
8. Dividing time
9. Timelines
10. Archaeology
11. Howard Carter
12. Working on a dig
13. The Tell
14. How old is that?
15. Historical Cold Case
16. Out of Africa
17. Evidence of the Ancients
18. Ancient Technology
19. Ancient Farming
20. Ancient Societies
21. Ancient Australia
22. Megafauna
23. Dreamtime
24. Aboriginal archaeology tools
25. Aboriginal remains
26. Aboriginal Heritage
27. World Heritage – Pompeii
28. Australian site – Lake Mungo

1. Why Study History?

The word history comes from the Greek word **historia**, meaning inquiry, and knowledge acquired by investigation. It is the study of human past since evidence of civilisation began.



History is everything, and is all around us! What happened to you yesterday, when you were born, your grandparents' house, the first Australian Prime Minister, Captain Cook sailing around the East coast of Australia, the building of the Great Wall of China, the Roman Colosseum, the Greeks inventing **Democracy**, the Great Pyramids of Egypt, the Aboriginal **Dreamtime**, are ALL a part of history. But History isn't just a list of things that have happened in the past. History also helps to explain why things happened and, understanding History, helps you to understand the world we live in today.

Studying History gives you **valuable** skills that you can use every day. By studying History you will be able to explain how people, events and forces from the **past** have shaped our world. It will help you to understand the different **perspectives** people have: the struggles people such as **migrants**, women and Aboriginal people have had, and continue to go through.



History will help you understand your place in the world, and how you can better **appreciate** what it is to be a **citizen** of Australia. It will also help you to become a better thinker, to look at the world **critically**, and to solve problems.

But History is so much more than that. It's also about exciting stories and adventures, and **gross** things that we can only try to understand today. It's about knowing why Egyptians scraped brains out of dead people, and why doctors put blood sucking leeches on people to try to cure them, and about why the Vikings believed the first man and first woman came from the sweat of a giant's armpits!



History is valuable and important, but it is also a great deal of fun.

We can divide history into time periods called **ages** or **eras**. The main periods we study are: Ancient History from around 3500BC to 500AD, the Middle Ages from the end of the Roman **Empire** to around 1400AD, the Renaissance after that until around 1800AD, and the **Modern** World leading up to today.

Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What is history?
2. Give some examples of what history can be about.
3. What skills can the study of history give you?
4. How do historians divide the time periods of history?
5. When was
 - a. Ancient History?
 - b. The Middle Ages?
 - c. The Renaissance?

Thinking Questions

1. Why do you think we should study history?
2. Write a paragraph describing something that has happened within your lifetime that might be considered historically important 100 years from now.



Creativity



1. Draw any event, person, or object from History. Explain your choice.

Research and Extension

1. Visit the link below.
2. Describe the reasons the website gives for why History is important.



<http://www.knowswwhy.com/why-is-history-important/>



Ctrl+Click the link to visit the website

2. Glossary of important terms.



AD "Anno Domini" is a Latin phrase meaning "in the year of our Lord" it is used for our dating system starting from the proposed birth of Jesus. (Also known as CE – the Common Era.)

age is a period of time named for a common feature of that time e.g. Iron Age

anachronism an item, custom or event that is placed in the wrong period of time

archaeologist a person who studies ancient cultures by digging up objects from under the ground or under the sea

artefact an object made by humans such as pottery, clothing, tools, and weapons

bias a one-sided, prejudiced, or unbalanced point of view

BC means "Before Christ", the time before Jesus' birth. (Also known as BCE – Before the Common Era.)

century 100 years

chronological order events arranged in the order that they happened

civilisation a group of people who have a distinct culture or society

conservation preserving something or restoring it to its original state

document anything that is written, usually on paper

evidence something that provides information about the past

generation a body of people born in approximately the same ten-year time span

heritage all things that we have inherited from previous generations, including events, traditions, monuments or natural environments

perspective a particular point of view

prehistoric belonging to the time before people created written records (more than 5000 years ago)

primary source a source of evidence from the time being studied, e.g. diaries, eyewitness accounts

reliable trustworthy and of good quality

secondary source a source of evidence created after the period being investigated

sequence the order of time in which events occur

sources written and non-written items that help us understand past events and people

timeline a way to show events in their chronological order and how they relate to each other



Activities



Comprehension Questions

Answer each using full sentences.



1. Describe the difference between AD and BC.
2. Which of the glossary words describes a job?
3. When was prehistoric time?
4. Which 6 words describe a period of time?
5. Which 6 words describe the evidence an historian might use?
6. Which 4 words would an historian use to put things in the right time and order?
7. Which 3 words are about how much you can trust evidence?

Thinking Questions

1. For each of the following words, describe why you think they are important to historians.
 - a. Artefact
 - b. Conservation
 - c. Heritage
 - d. Evidence



Creativity



1. Create a History poster using words and meanings from the Glossary. Illustrate it with appropriate pictures.

Research and Extension

1. Visit the link below.
2. Describe who Dionysius Exiguus is, and what he has to do with "Anno Domini".



<http://historymedren.about.com/od/dwho/p/Dionysius-Exiguus.htm>



Ctrl+Click the link to visit the website

3. What is an historian?



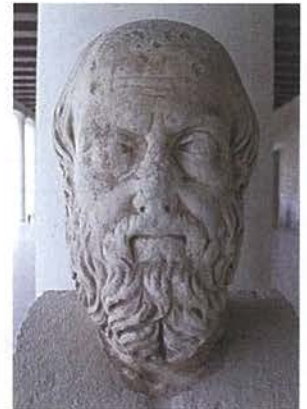
An historian is someone who studies the past, and you are about to become one! Historians look at evidence from the past and try to work out what happened and why. Historians help us learn from the past so that we can become more **informed** about the world we live in and become better citizens.

The evidence an historian uses is called a source. Historians look for sources in the **remains** of the past, and also from the thoughts of others who have studied the past. They discover new evidence about what has happened and try to **interpret** the sources to better understand the **motives** of people and the events that shape our world. Historians look at these sources and make **conclusions** about what may have happened in the past, they also try to fill in the gaps we have in our historical records.

There are many professions that use their skills to investigate the past. These include **archaeologists, anthropologists, cryptographers, linguists, forensic scientists, paleontologists**.

Some famous historians of the ancient world include:

- Herodotus, who was born in the 5th Century BC in Turkey. He wrote about Greek History, and especially about the wars between the Greeks and the Persians. He has two nicknames: "The Father of History" – because he is the first writer we know of to try to write down the past for future generations, and he is also known as "The Father of Lies" – because he often filled in gaps in his knowledge with folk-tales and strange stories that probably weren't true.
- Thucydides, another Greek historian, who lived from 460BC to 395BC. He was stricter in his evidence gathering than Herodotus and is nicknamed "The Father of Scientific History". He wrote about the wars between Athens and Sparta.
- Chen Shou, who was a Chinese historian. He lived from 233-297 and wrote about a time in China known as the "Three Kingdoms Period".



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What is an historian?
2. What do historians do?
3. Where does an historian look for sources?
4. What do historians do with the sources they find?
5. What other professions use skills to interpret the past?
6. What two nicknames does Herodotus have and why?
7. Write a sentence about
 - a. Thucydides
 - b. Chen Shou

Paragraph Writing – PEEL

The PEEL method is a way of writing a paragraph that has the following structure

P- Point (your first sentence should state the main point of the paragraph)
E – Explanation (your next sentence should explain the main point)
E- Example (give an example to support your main point)
L – Link this sentence with the point you are making in a long piece of writing.

Paragraph 2 is an example of a PEEL paragraph about sources.

Try writing a paragraph about the different professions that investigate the past using the PEEL method.



Creativity



1. Build (or draw) a time capsule for an historian of the future to find that would give evidence about life in the world today.

Research and Extension

1. Visit the link below.
2. Describe what Thucydides is famous for.

<http://www.ancientgreece.com/s/People/Thucydides/>



Ctrl+Click the link to visit the website

4. Historians are like detectives.



Being an historian is very much like being a detective. Detectives look for clues to solve crimes and **mysteries**. The clues they use are called **evidence**.

Historians use clues in the same way to solve mysteries of the past. The clues historians use are called **sources**.



Detectives look at crime **scenes** or mysteries and try to piece together a **puzzle**. In the same way, historians often look for mysteries from the past, and try to work out how and why things happened. Detectives use clues such as fingerprints, bloodstains, and bullet casings. Historians use evidence from people's experiences from the past such as diary entries, **ruins** of ancient buildings, **tomb** engravings, or even the stomach contents of a frozen ice age traveller.

The evidence an historian collects, their sources, gives them clues about the way people lived in ancient times, about how and why societies **developed**, and about the **motives** people had for doing the things they did. Being an historian

is about asking the right questions and working out how the world has changed.

Sherlock Holmes – The World's Greatest Detective

Of course, the most **famous** detective in the world was Sherlock Holmes. He is so famous, in fact, that this **fictional** detective is often believed to be real. He is featured in a number of books and stories by the author Arthur

Conan Doyle. Sherlock Holmes used his detective skills to solve crimes and mysteries the way an historian uses sources. Holmes had amazing powers of **observation**, carefully looking at the world around him to gather clues. He also had a great **breadth** of knowledge which allowed him to understand his clues better and **enabled** him to find the reasons for why events may have happened – historians use their knowledge of a wide range of areas such as language, maths, science, and psychology to do this as well.

In the stories, he lived at 221b Baker Street and solved crimes with his partner Dr Watson.

You can read about Holmes' adventures in such stories as *The Hound of the Baskervilles* and *The Speckled Band*.



Activities....



Comprehension Questions

Before you start, define the terms in **bold**.



1. What do detectives look for?
2. How do historians use clues?
3. What are the clues an historian uses called?
4. Describe the clues detectives use.
5. Describe the evidence historians use.
6. What kinds of things do the sources an historian uses tell us about the past?
7. Who is Sherlock Holmes?
8. What skills did Sherlock Holmes have?
9. How does breadth of knowledge help detectives and Historians?

Thinking Questions

1. Explain, in your own words, why an historian is like a detective.
2. Write a paragraph describing Sherlock Holmes' skills and how they would help him be a great detective.



Creativity



1. Write your own detective story. Have your detective use observational skills to solve a mystery.

Research and Extension

1. Visit the link below.
2. See if you can solve the mystery there!



<http://kids.mysterynet.com/solveit/>



Ctrl+Click the link to visit the website

5. Sources.



Sources are what historians call the evidence of the past. There are many different kinds of sources that an historian looks at to discover the people and events in history. Some examples include:

- Newspapers
- Photographs
- Coins
- Skeletons
- Shipwrecks
- Statues
- Buildings
- Pottery
- Weapons
- Witness accounts
- Diary entries
- Books
- Mummies
- Jewellery



Anything that can help you learn about the past is a source.

Primary and Secondary Sources

Historians **classify** their sources into two groups – Primary Sources and Secondary Sources.

A primary source is one which was created *during the time period* you are studying, or by someone who was present at the time. This could be an Ancient Egyptian **statue**, a photograph of a World War One soldier, an Aboriginal cave painting, or a diary entry of someone who survived the sinking of the Titanic.

A secondary source is one which was created *after the time period* you are studying. Examples include a school textbook, wikipedia articles, a documentary film using re-enactments.

Primary sources are useful because they contain first hand information about history, although we must be careful because sometimes witnesses from the past are **unreliable**.

Secondary sources are useful because they usually come from someone who has **investigated** many primary sources and are giving us some **conclusions** about what may have occurred. Again we must be careful because some secondary sources may be **biased**.

Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What are sources?
2. Name 5 examples of sources.
3. What is a primary source?
4. What is a secondary source?
5. Give 2 examples each of primary and secondary sources.
6. Why are primary and secondary sources useful?
7. Why must historians be careful when using either primary or secondary sources?

Thinking Questions

1. State whether each of the following sources is primary or secondary.
 - a. A diary entry
 - b. A coin
 - c. A movie about Tutankhamun
 - d. A statue
 - e. A newspaper
 - f. A photograph
 - g. A school history textbook
 - h. The shipwreck of Titanic
 - i. The movie "Titanic"
 - j. An eyewitness account

Creativity



1. Draw some examples of sources, and label whether they are primary or secondary,

Research and Extension

1. Visit the school library
2. Borrow a book from the history section, bring it to class and describe what the book is about.



6. Fact, opinion, bias.



When we study the past it is important to know whether a source we are looking at can be trusted. How much we can **trust** a source is called its **reliability**. There are many **factors** that help us to **determine** whether a source is reliable, and to do this we must understand the difference between fact and opinion, and understand what bias is.

A fact is something that really happened; it is the truth about an event or person.

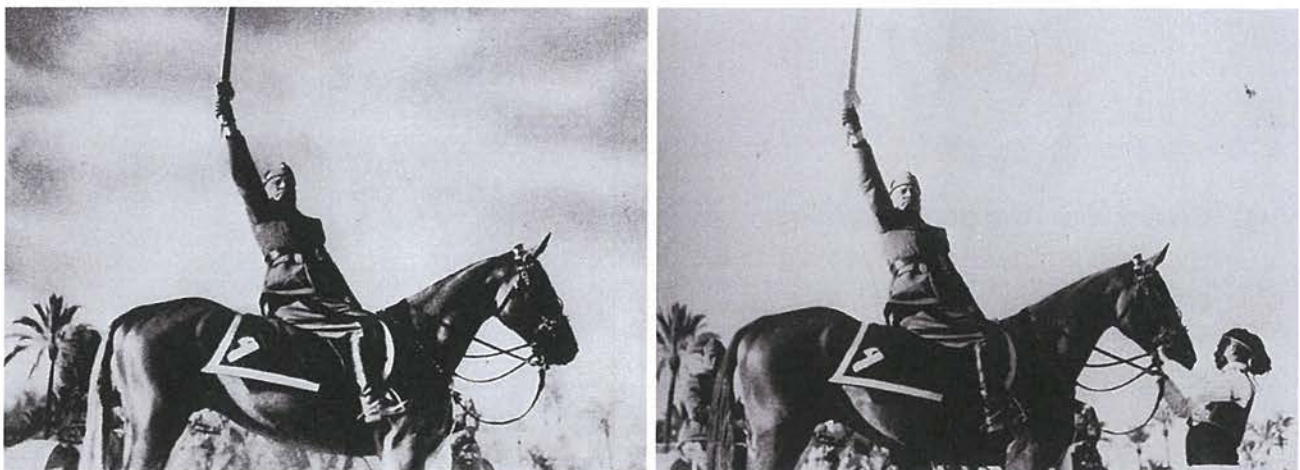
An opinion is someone's point of view about what has happened.

An example of a fact could be *The Ancient Olympic Games were held in 776 BC*. This is a fact because **historical** records show us that it is true.

An example of an opinion could be *The Ancient Olympic Games was the best sporting event in history*. This is an opinion because it is only a point of view.

Knowing that something is an opinion is important because sometimes sources contain bias. Bias occurs when someone has a **prejudice**, or is trying to present information that is **favourable** to one point of view. You may harmlessly do this yourself when describing your favourite sporting team. Sometimes people lie, other times they leave out important facts that might be useful. This happens in a courtroom, or with police witness statements, and it happens with historical witnesses as well.

Sometimes photographs are **altered** – today we would say “photo shopped” - to present a **distorted** view of history. Below is a picture of Italian dictator Mussolini. Can you spot the changes?



Knowing when something is biased helps us to work out how reliable a source is. The source may still be useful in telling us about the past, but historians need to know when something is a fact, or an opinion.



Activities

Comprehension Questions

Before you start, define the terms in **bold**.



1. What is important to know about a source?
2. What word do we use for how much we can trust a source?
3. What is a fact?
4. What is an opinion?
5. Why is knowing something is an opinion important?
6. When does bias occur?
7. How can photos be misleading?
8. Why is it important to know when something is biased?

Thinking Questions

1. Look at the two photos. Each is of Italian WW2 dictator, Mussolini.
2. What are the differences?
3. Why do you think the changes were made?
4. How useful are these photos to an historian?



Creativity



1. Create your own photo shopped historical image. Add something to a photo that wasn't there. Or take something out so the picture tells a different story.

Research and Extension

1. Visit the link below.
2. Complete the activity on historical bias.



<http://www.dur.ac.uk/4schools/History/Bias3.htm>



Ctrl+Click the link to visit the website

7. Anachronism.



Anachronism occurs when something is put in the wrong time and place. Imagine a **carving** on an ancient **tomb** that showed someone using a telephone, or a photo from World War 2 showing someone using the internet. The mobile phone and the internet would be anachronisms because they hadn't been **invented** at the time the image was made.

When historians are looking at sources and they spot something that shouldn't be there they question its **reliability**. If something contains anachronisms then it can't be trusted.

Usually anachronisms happen by mistake, or when someone creating a secondary

source is **ignorant** of the time they are studying.

Often we can see anachronisms in films about history.

One famous example is in the film Titanic when Jack (Leo Di Caprio) says he went ice fishing on Lake Wissota. The anachronism is that Lake Wissota is a real lake that was man made five years after the Titanic sank.

The legendary Scottish Film Braveheart shows its characters wearing **kilts**. Kilts weren't worn until 400 years after the events of the film took place!

Other films that you can watch and discover anachronisms in include:

- Apollo 13
- The Untouchables
- The Green Mile
- Forrest Gump

See if you can find others!





Activities

Comprehension Questions

Before you start, define the terms in **bold**.



1. When do anachronisms occur?
2. Name 4 examples of anachronisms from the text.
3. What anachronisms can you see in the 2 pictures?
4. Why is spotting anachronisms important to historians?
5. Why do anachronisms occur?

Thinking Questions

1. Write a paragraph explaining why historians need to be careful about anachronisms. Use the PEEL method to write the paragraph.



Creativity



1. Draw a picture containing at least 5 anachronisms, e.g. a pyramid building scene with a bulldozer.

Research and Extension

1. Visit the link below.
2. See if you can find 5 movie anachronisms, look for historical or period films such as 'The Lone Ranger'.



<http://www.moviemistakes.com/>



Ctrl+Click the link to visit the website

8. Dividing Time.



Historians are Time Travellers, **venturing** through the past, to uncover the mysteries that make up our **culture** and **society**, and ancient cultures and societies so that we can learn from them. To travel through the past we need an understanding of how time is measured and described.

The most important way historians, and our society, divide up time is into the periods known as A.D. and B.C. The calendar we use today is divided into these two sections and the year you live in is the number of years counted from the beginning of A.D.

The Western World has a long **Christian** tradition, and our calendar is based on dates that come from that **tradition**. A.D. is actually a **Latin** term, Anno Domini, meaning *In the Year of Our Lord* and indicates the years since Christians believe Jesus was born. B.C. means *Before Christ* and marks the years, counting backwards, from that time. Because not everyone is comfortable using Christian terms, we also use C.E. (which means *Common Era*) instead of A.D. and B.C.E. (which means *Before the Common Era*) instead of B.C.

We use a number of words to define common time periods

- **Year** 365 days, or 366 every leap year
- **Decade** 10 years
- **Century** 100 years
- **Millennium** 1000 years
- **Era** A long time period usually associated with an important person e.g. The Victorian Era.
- **Age** A long time period usually associated with a level of technology e.g. Iron Age.



When we talk about the past, we refer to centuries. To work out which century you are referring to, always do the following:

- for all numbers under 1000 and over 100, look at the first number only. (Example: 9 is the first number in 903). For all numbers over 1000, look at the first two numbers. (Example: 1 and 9 are the first two numbers in 1988.) Anything under 100 is in the first century.
- to calculate the century, count up one.

Examples: $9+1 = 10$, so the year 903 is in the tenth century.

$19+1 = 20$, so the year 1988 is in the twentieth century.

AD and BC are exactly the same.

Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. Why are historians like time travellers?
2. What do we need to understand before we travel through the past?
3. What are the most important ways we divide time?
4. What tradition does the Western World have?
5. What do A.D. and B.C. mean?
6. What do C.E. and B.C.E mean?
7. Why do we use the different terms A.D. and C.E.?
8. Name six other ways we divide time.

Time Questions

1. What century are the following dates in?
 - a. 903
 - b. 903 BC
 - c. 2012
 - d. 4054BC
 - e. 1971
 - f. 5 AD
 - g. 3BC
 - h. 33



Creativity



1. Create an A4 time poster, using images of clocks and time pieces, and using as many words about time as you can think of.

Research and Extension

1. Visit the link below.
2. Describe what decimal time is.



<http://io9.com/5886129/the-short-strange-history-of-decimal-time>



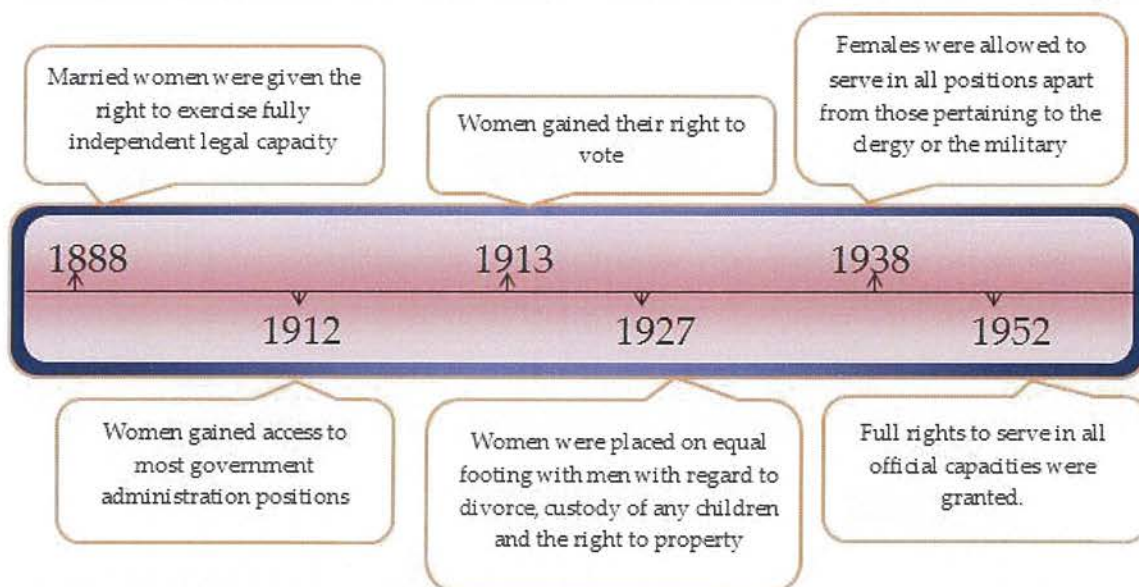
Ctrl+Click the link to visit the website

9. Timelines



A timeline is a way we can show the **chronological** order in which things happen. A timeline is a sequence of events which also shows the **relationship** one event has to another in time.

Timelines can be used to show any time period. Scientists use them to show **fractions** of a second, historians use them to show days, weeks, or even thousands of years.



Timelines should have **equally** spaced sections, e.g. 10cm = 1 year. They can be **horizontal** like the one above, **vertical** like the one to the right, or take any shape you, wavy, circular, or jagged. The important thing to remember about timelines is that they should be in chronological order and the spaces between time periods should be equal.



Buffy's Timeline

1997	Arrives in Sunnydale
1998	16 th Birthday, Kills Angel
1999	Defeats the Mayor
2000	Attends UC Sunnydale
2001	Defeats Glory, Dies
2002	Comes back from the dead
2003	Defeats Willow
2004	Destroys Sunnydale



Usually a timeline has the smallest numbers on the left, and we count up as we go forward. BC works in the opposite way, the numbers get bigger the more we go back in time. When we put dates and events in chronological order the biggest BC numbers come first, then after 1AD the smallest AD numbers come before the biggest. Sometimes we leave off the "AD" when writing dates, but we must never leave off the BC.



Activities

Comprehension Questions

Before you start, define the terms in **bold**.



1. Name 3 ways timelines are used.
2. Which amounts of time can timelines be used for?
3. What length of time does the first example timeline cover?
4. What is the rule for spacing a timeline?
5. What shape should a timeline be?
6. What are the rules when working with A.D. and B.C.?

Chronological Order

1. Put the following numbers in chronological order
 - a.2000BC
 - b.150BC
 - c.600
 - d.200
 - e.450BC

Timelines



1. Draw a 13 cm horizontal line in your book, mark off every cm, and number each mark from 0 to 13
2. Each number is a year of your life; write down at least 6 important things that have happened in your life.
3. Now make a timeline for what you did yesterday, 24 hours, 12 cm long, 2 hours every cm.
4. Create a timeline for the following years
 - a.200BC
 - b.50BC
 - c.25
 - d.150
 - e.170BC

10. Archaeology.



Archaeology is the study of the human past by **examining** the **remains** and evidence of what people have left behind. Often the evidence has been buried underground and so archaeologists are said to “dig up the past”. Much of what we

know about history comes from the evidence uncovered by archaeologists.



Archaeologists complete careful **research** to discover where they should look for remains of the past. They search ancient **legends**, look at **aerial** photography, use underwater **scanners**, or even just listen to the stories of people who might have been **witnesses** to past events. Satellite photography from Google Earth has shown possible Egyptian pyramids that have remained undiscovered for thousands of years.

Sometimes Archaeologists are just lucky. An excavation at a building site might uncover an ancient wall, or the **tide** moving may show an old shipwreck previously unseen.



There are many reasons for the past being buried. A famous example is the **volcanic** ash that covered Pompeii when Mt Vesuvius erupted 2000 years ago. A **landslide** may cover a town. A ship, like the Titanic in 1912, may sink and be buried beneath the ocean. Archaeologists search these sites and look for **artefacts** that can help us learn about the past.

Almost anything uncovered by archaeology can be useful – buildings, statues, coins, even bodies from the past and the clothes they are wearing can be sources for an historian.

Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What is archaeology?
2. Why do we need archaeologists?
3. Where do archaeologists do their research?
4. How has Google Earth helped archaeologists?
5. How might luck help an archaeologist?
6. Why might the past have become buried?
7. What artefacts do archaeologists find useful?

Thinking Questions

1. If you were an archaeologist where would you look for clues about where to search about the past?
2. What new technology do you think could help archaeologists?



Creativity



1. Write a job advertisement looking for an archaeologist. Describe what they will be expected to do.

Research and Extension

1. Visit the link below.
2. Choose one of the top ten archaeology stories of the past decade and describe why it was important.



http://archaeology.about.com/od/archaeology101/ss/top_ten_of_decade.htm



Ctrl+Click the link to visit the website

11. Howard Carter.



The most famous archaeologist in the world is **probably** Howard Carter. He is famous because of his discovery and **excavation** of the lost tomb of the Egyptian Pharaoh, Tutankhamen.

In 1922, Howard Carter was on an **expedition** to Egypt. He had worked for many years in the desert without finding anything that would make him world famous. Most of the Egyptian tombs had long ago been robbed of all their treasures, even the Great Pyramids had long since been emptied of their gold, jewels, and important artefacts.



Almost by accident he uncovered some steps that led to a small door. It didn't seem important, but soon he would discover that he had found what would become the most famous archaeological find of all time.

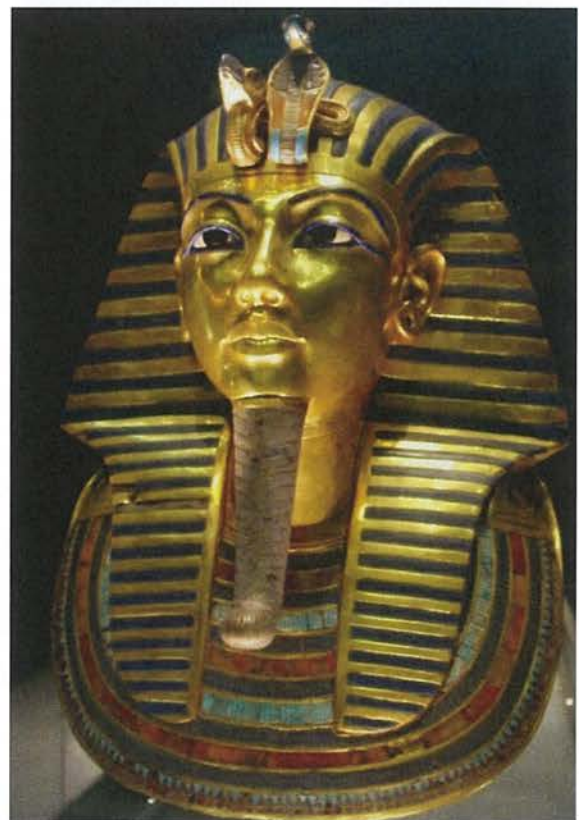
As he **peered** through a small opening into the tomb he was asked what he could see. "Wonderful things..." he replied.

Howard Carter had found an **undiscovered** tomb, undiscovered even

by **grave** robbers thousands of years ago. The treasures in the tomb have become world famous, and the boy king, who was unimportant in his lifetime, would become the most famous pharaoh of all.

Tutankhamen was not an important pharaoh, and he died young, so his tomb was not as big or as **elaborate** as many other, now empty, tombs. Tutankhamen's **insignificance** at the time may have helped to hide his tomb. The **vast** majority of the Ancient Egyptians' treasures are lost forever.

From the **hieroglyphics** on the wall of the tomb we have learned Tutankhamen's name, and a little about his burial. From the objects in the tomb we can see the technology and art that the Ancient Egyptians created and wonder at the beauty of the artefacts now in museums.



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. Who is probably the world's most famous archaeologist?
2. Why had Howard Carter not found treasures before 1922?
3. How did he discover Tutankhamen's tomb?
4. What did he say when he looked inside?
5. Why wasn't Tutankhamen's tomb elaborate?
6. How do we know Tutankhamen's name?

Thinking Questions

1. What are the ethical questions that need to be considered by archaeologists when digging up tombs, or sacred sites?



Creativity



1. Draw a cartoon or illustration of Howard Carter's discovery of Tutankhamen's tomb.

Research and Extension

1. Visit the link below or research the discovery of Tutankhamen's tomb.
2. Describe how the tomb was discovered and what Howard Carter said when he first looked inside.



<http://www.eyewitnesstohistory.com/tut.htm>



Ctrl+Click the link to visit the website

12. Working on a dig.



A dig is the name given to a place where archaeologists are working. It can also be known as a site. The job of an archaeologist is a **meticulous**, painstaking one. Archaeologists in real life are less like the action heroes of movies, and more like scientists, working **patiently** to uncover the past.

Once an archaeologist has found a **suitable** site they mark out a grid and often remove the **topsoil** using machines like bulldozers. They use metal detectors and other tools to make sure nothing important is in the modern top layer. Once they have dug their way down to where the archaeologically interesting items are they must be careful not to damage any important finds.



They may dig quickly at first but once important items are found they work much more slowly, and **methodically**, taking care to photograph and draw anything they find. The further down an archaeologist digs, the further back in time they are travelling.

The tools an archaeologist uses include

- Brushes
- Trowels
- Pegs
- Mesh screens
- Cameras
- Dental picks
- Wheelbarrows
- Spoons



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What are the 2 names given to a place where archaeologists work?
2. Find 3 words that suggest an archaeologist works slowly and carefully.
3. Make a list of at least 6 steps an archaeologist takes once they have found a suitable site.
4. What are the tools of an archaeologist?

Thinking Questions

1. Explain why you think an archaeologist must work carefully.
2. Choose 3 archaeologist's tools. Describe how you think they would be used.



Creativity



1. Draw a set of archaeologist's tools.

Research and Extension

1. Visit the link below.
2. Describe 3 famous archaeological sites.

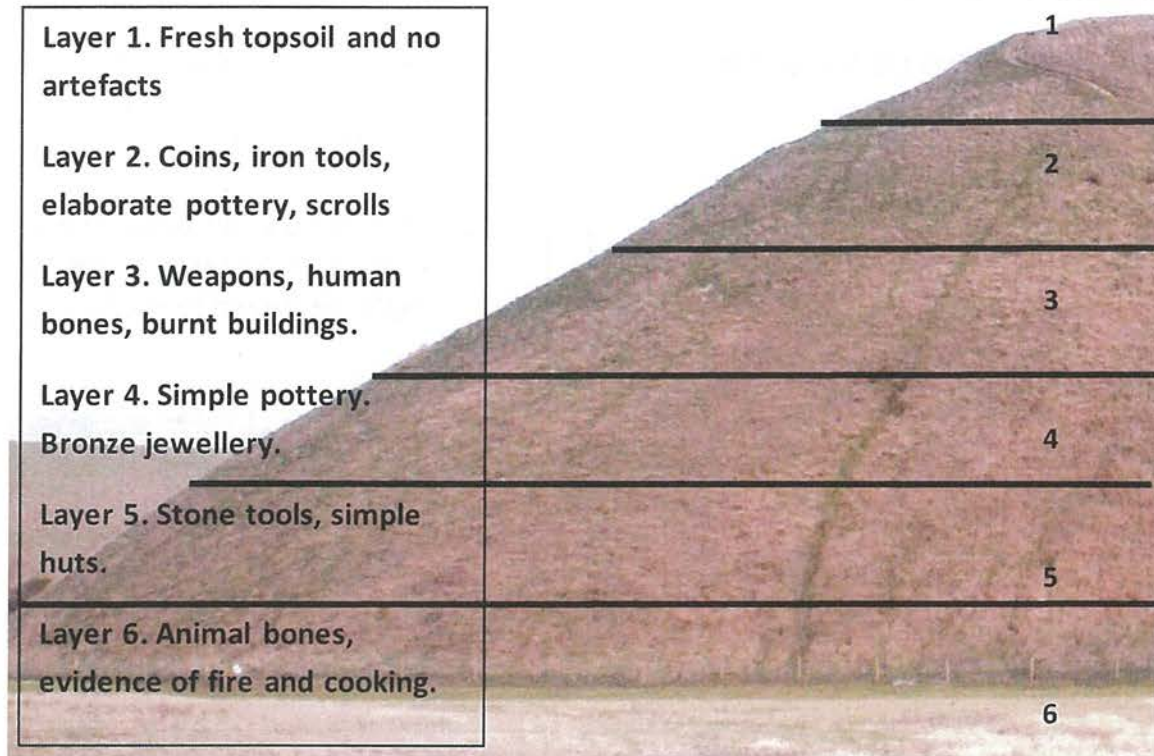


<http://kids.nationalgeographic.com.au/kids/stories/history/ten-cool-sites/>



Ctrl+Click the link to visit the website

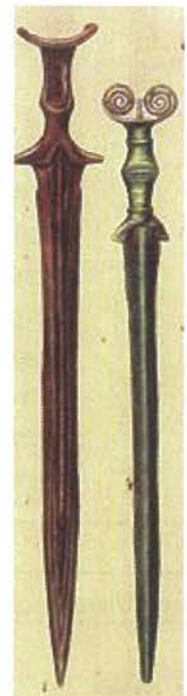
13. The Tell.



A Tell is a **mound** of earth, like a small hill, which has **layers** of civilisations buried beneath it. As archaeologists dig down through the Tell they go further back in time. The deeper the objects are found, the older they are. The layers of a tell can be built over hundreds of years as each new group of people build and live over the **remnants** of a previous group.

Each layer in the Tell above shows a different type of civilisation. The most modern layer with evidence is at layer 2, the coins might suggest they are traders, and the iron tools and scrolls show their level of technology. The further down we go the civilisations become simpler, with Bronze Age technology in layer 4, Stone Age tools at layer 5, and evidence of a **hunter gatherer** society in the bottom layer. The evidence of weapons and human bones in layer 3 might suggest to an archaeologist that the people here suffered through a war or an **invasion**.

Archaeologists will examine all of the evidence carefully to work out how the people of the past might have lived. They will look at the artefacts such as pottery and weapons, examine any building remains, and, if they are lucky, are able to uncover written evidence that might tell us even more about the people who lived there.



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What is a tell?
2. What happens as archaeologists dig down through a tell?
3. How is a tell built?
4. What does each layer in the diagram of the tell show?
5. Describe what is found in each layer.
6. What might the coins in layer 2 and the weapons in layer 3 tell us?
7. Why do archaeologists examine the evidence?

Thinking Questions

1. Describe what you think are the differences between the civilisations of layer 5 and layer 2.
2. If you were to dig down in a Sydney street what evidence of the past might we expect to find?



Creativity



1. An archaeologist digging through a tell will need to record their findings. Imagine you are the archaeologist digging at the tell on the previous page. Sketch the objects you find. Label each one with a description of what it is, what it looks like, and where it was found.

Research and Extension

1. Visit the link below. It is a website showing the Tell es-Safi/Gath dig in Israel.
2. Describe the pottery found at the dig.



<http://www.mnemotrix.com/arch/gath/>



Ctrl+Click the link to visit the website

14. How old is that?



For historians to correctly understand their sources, they must be able to **accurately** tell when, in time, a source was created. Sometimes it is easy. Books and diaries have dates written into them, **tomb** walls may name a Pharaoh allowing us to place them in **context**, and the technology used can help us to determine when something was made. At other times working out the age of a source is not so easy. How do we tell how old a piece of wood from a table is, or human bones, or a broken piece of pottery? Historians use a number of **scientific** tools to help determine how old something is.

Dendrochronology

Dendrochronology is the process of working out how old something is by using tree rings. As trees grow, each year they produce rings in their wood. When a tree is cut down to make things out of the wood the rings become visible, and are **distinct** like a fingerprint. If we have a sample of a piece of wood that historians can date, then a panel from a ship or a board from a building can be matched allowing accurate dating.



Radiocarbon dating

All living things **absorb** radiation for as long as they are alive. When something dies, an animal, or a plant, it slowly loses the radiation. Scientists know exactly how fast the radiation disappears, and can calculate how old something is up to around 62000 years ago within an accuracy of 30-40 years. This process is called Radiocarbon dating, or simply Carbon dating.

Thermoluminescence



Some **minerals** absorb radiation from **cosmic** rays. Most minerals are millions of years old and have absorbed a great deal of radiation. When an object is heated in its creation, such as pottery, it resets the radiation levels within it back to zero. Scientists can reheat the minerals and **analyse** how much radiation it has absorbed since it was originally made. This tells us how long ago the artefact was first created.

Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What must an historian be able to do to correctly understand a source?
2. Name some ways in which we can easily tell how old something is.
3. What is dendrochronology?
4. What is radiocarbon dating?
5. What is thermoluminescence?

Thinking Questions

1. What difficulties do you think face historians as they try to uncover the truth about the past?
2. Aboriginal history has no written records prior to 1788, how do you think an historian could discover Australia's Indigenous past?



Creativity



1. Create a pamphlet for historians showing the different methods of dating. Use pictures of artefacts that are appropriate, such as wood from a ship or pottery.

Research and Extension

1. Visit the link below.
2. Find out what radiocarbon dating has discovered about:
 - a. The Ancient footprints of Acahualinca
 - b. The Haraldskær Woman
 - c. The Shroud of Turin



http://en.wikipedia.org/wiki/Radiocarbon_dating



Ctrl+Click the link to visit the website

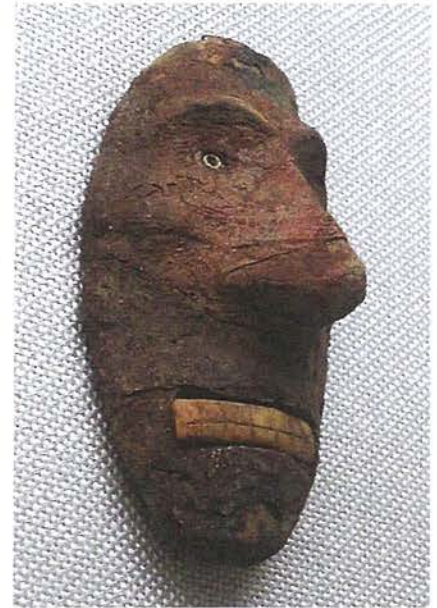
15. Historical Cold Cases.



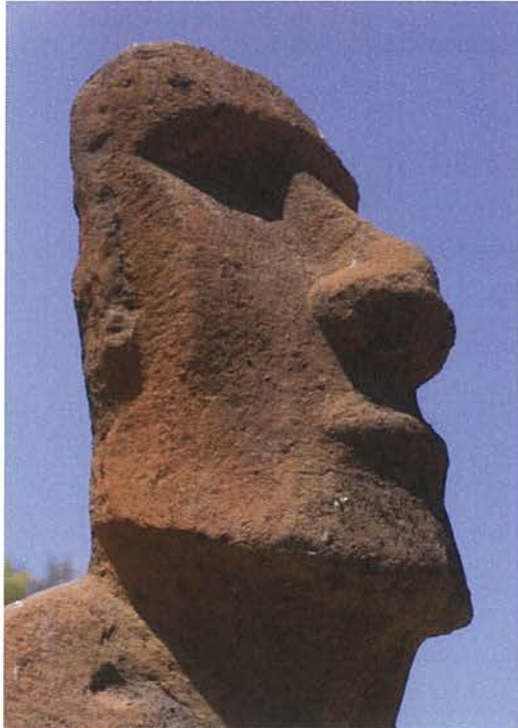
History is filled with unsolved mysteries. Historians are always searching for answers to events, people and places that contain **puzzles** about why they happened, who they are, or what they mean. Knowing everything is not possible. The **mysteries** that the past contains are always interesting, and solving these mysteries is the job of historians.

The Tarim Mummies

In the early 20th century, a group of European explorers was searching for treasures in Central Asia in an area that is part of **modern** day China. They discovered mummies in their searches, but these mummies contained a mystery. Unlike the **local** Chinese population with dark hair and short stature, these mummies were tall red heads with long noses more **associated** with European people. These mummies were not the remains of recent European travellers, but were over 3000 years old. Historians today still **argue** about the origin of these strangely European looking bodies in the heart of Asia.



Rongorongo



Easter Island is a **Polynesian** island in the south eastern Pacific Ocean and is one of the **remotest** inhabited places in the world. It is famous for its large statues called Moai, which stand guard across the Island. The statues were constructed by the **ancestors** of the Rapa Nui people who still live there today. The statues seem mysterious but the people who live on the island have an oral history that explains them. The real mystery of Easter Island is the examples of carved writing.



24 carved wooden tablets have been found on

Easter Island. They contain a form of writing known as **glyphs**. To this day no-one knows what they say. The language is known as Rongorongo and remains a mystery.

Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What is history filled with?
2. What are historians always searching for?
3. Where were the Tarim mummies found?
4. What is the mystery that surrounds them?
5. Where is Easter Island?
6. What is Easter Island most famous for?
7. What is the real mystery of Easter Island?

Thinking Questions

1. How do you think the people who became the Tarim mummies got to China, and why?
2. How do you think linguists and historians translate ancient texts?
3. Why are mysteries so interesting to historians?



Creativity



1. Create your own secret alphabet with a partner using glyphs and write each other a message.
2. Draw a picture of a Moai.

Research and Extension

1. Visit the link below.
2. Describe what Linear A and Linear B are.



<http://www.britannica.com/EBchecked/topic/342055/Linear-A-and-Linear-B>

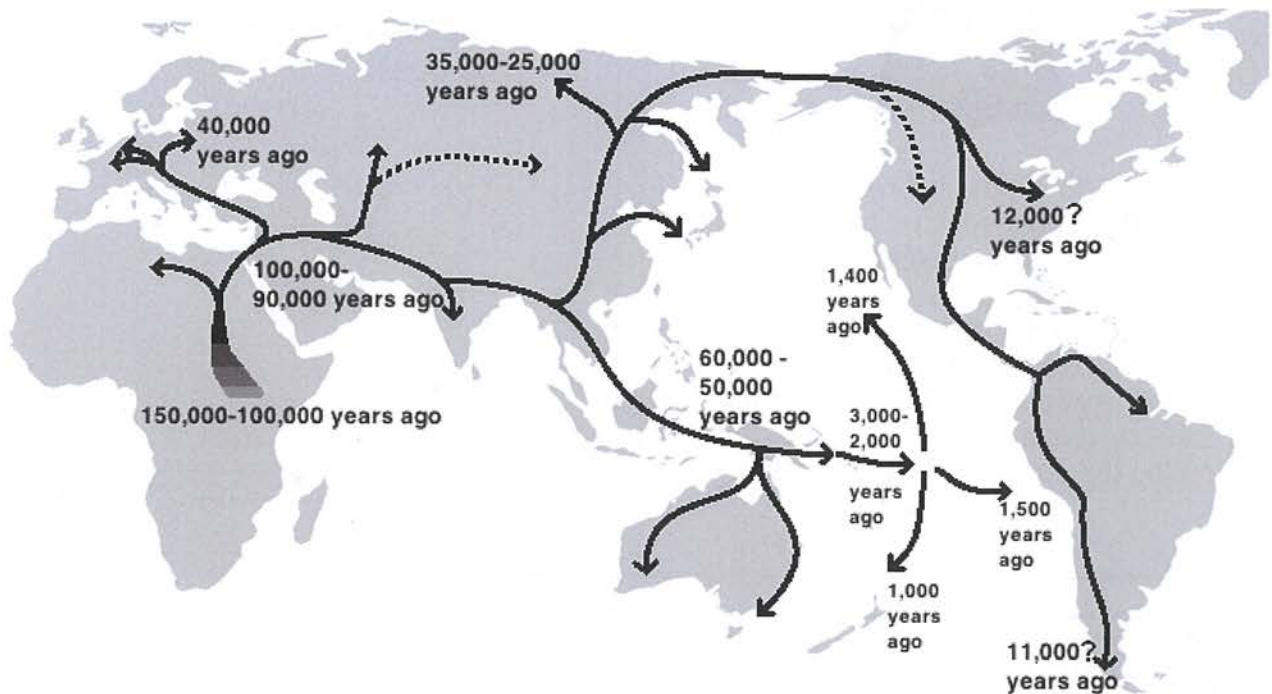


Ctrl+Click the link to visit the website

16. Out of Africa.



The **entire** world is covered with people, more than 6 **Billion** of us. People live everywhere that the Earth can support human life, and even in some places where it doesn't want to (like Antarctica!). But we didn't all just appear on all of the continents; we travelled from somewhere. People travelled to Europe, to Asia, to the Americas, to Australia, New Zealand, and all the Islands in between that we live on today. Our ancestors came from somewhere else, and one well **respected theory** is that our human ancestors originally came from Africa.



Palaeoanthropology is the study of **ancient** humans. These scientists use **fossil** records and **DNA** study to work out where our **ancestors** came from. Their findings support the idea that modern people evolved from **archaic** *Homo sapiens* between 150 000 and 200 000 years ago in the heart of Africa. Our ancestors started to **migrate** from Africa through the Middle East and Asia, replacing earlier human populations such as ***Neanderthals*** and ***Homo erectus*** shortly after that.



Activities



Comprehension Questions

Before you start, define the terms in **bold**.
(Because the Out of Africa Theory is a scientific theory, use the definition of theory that scientists use.)



1. Where do people live on Earth?
2. What is one respected theory about where people came from?
3. Describe the travels of people since 150 000 years ago.
4. What is Palaeoanthropology?
5. What evidence for the "Out of Africa" theory exists?
6. Who did our ancestors replace?

Thinking Questions

1. Why do you think people have travelled everywhere inhabitable on the planet?
2. What difficulties do you think people have faced on their travels around the world?



Creativity



1. Draw a map of human migration.
2. Create a timeline showing where people have travelled from since 150 000 years ago.

Research and Extension

1. Visit the link below.
2. Explain the evidence scientists have used to confirm the Out of Africa theory.



<http://www.sciencedaily.com/releases/2007/05/070509161829.htm>



Ctrl+Click the link to visit the website

17. Evidence of the Ancients.



The culture and societies of **prehistoric** people may seem difficult to find evidence for. There are few buildings, there are few statues or **monuments**, and there are no written records of these times. But evidence exists, and archaeologists and **anthropologists** have been able to find a great deal which tells us about the societies in the distant past.

Tools

A great many tools from prehistoric people have survived to today. Stone knives, arrowheads, axes, and spearheads, have easily lasted the tens of thousands of years since they were used. They can tell us about the technology available to these people, as well as their hunting and living **habits**.

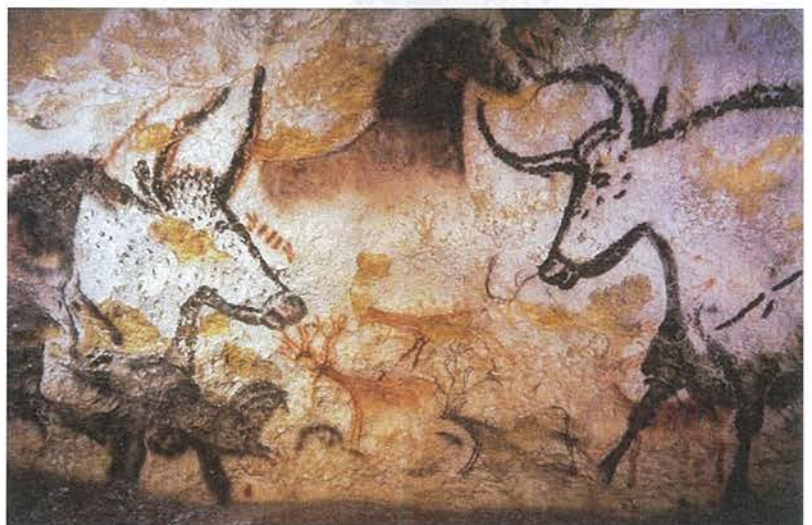
Buildings

Very few buildings survive modern times, houses built 50 or even 10 years ago are regularly destroyed to make way for new ones. Australia's **colonial** past, just over 200 years ago, would be mostly lost if it wasn't for **preservation** and **heritage** laws that protect places like The Rocks in Sydney. Finding prehistoric buildings is a rare thing, but an entire **settlement** of homes and buildings has survived in Scotland in a place called Skara Brae. This settlement gives us great **insight** into this prehistoric community.



Paintings.

People of the past were just as creative as people are today, and they have left behind a treasure **trove** of cave paintings. All over the world, from Europe to Australia, prehistoric people recorded their lives and thoughts in paintings on stone walls. Many of the paintings have survived **millennia** and tell us about their hopes and ideas, the animals they hunted, and their everyday life.



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. Why is it difficult to find evidence for prehistoric cultures and societies?
2. Which tools have survived to the present day and why?
3. What can we learn from ancient tools?
4. Why do few buildings survive very long?
5. What has saved Australia's colonial past?
6. Where has a prehistoric settlement survived?
7. Where have cave paintings been found?
8. What do cave paintings tell us?

Thinking Questions

1. Which artefacts from today's world do you think will survive thousands of years? Give reasons for your answer.
2. Which artefacts from the past do you think are the most important?



Creativity



1. Imagine you have the responsibility of telling the future what your life was like. Sketch the cave painting that you would like to be remembered for.

Research and Extension

1. Visit the link below.
2. Write a description of Skara Brae.

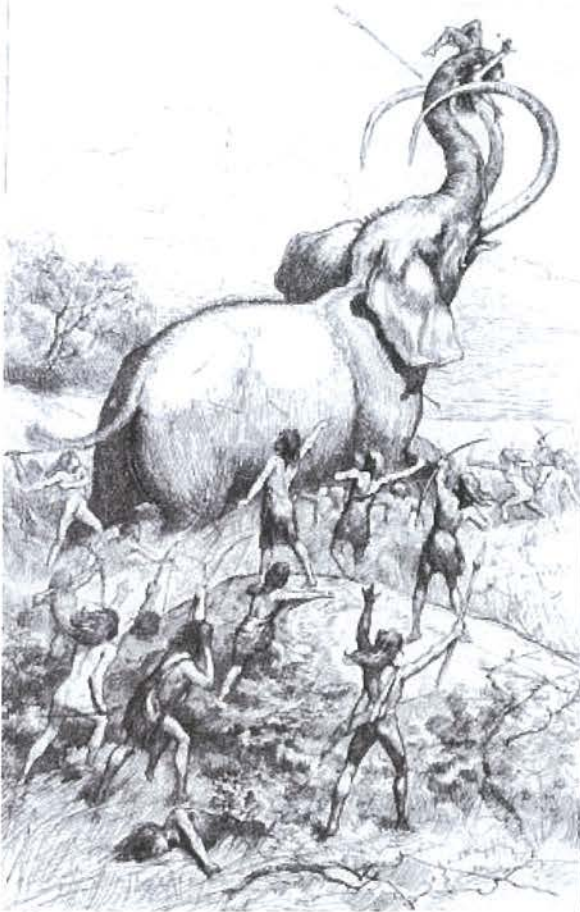


<http://www.orkneyjar.com/history/skarabrae/>



Ctrl+Click the link to visit the website

18. Ancient Technology.



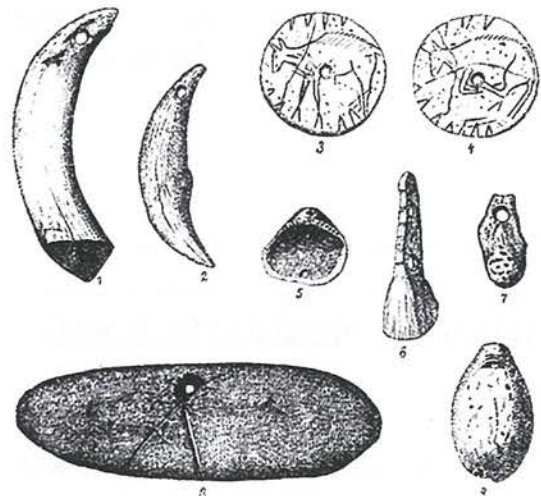
Our ancient prehistoric ancestors developed the **skills** to make tools and developed technology to help them survive. The first tools were made from simple found items such as bones and stone. These people made weapons, jewellery, and other artefacts which survive today.



Over long periods Stone Age people **refined** their tools. They made needles from bone to sew together animal skins for clothing, allowing them to live in colder **climates**. They made smaller **blades** from stone to create knives for cutting. They began to place stone arrow heads and spear points on the end of sticks to create better hunting tools. There is even evidence of Stone Age "**blacksmiths**" using fire to heat stone to make it easier to shape and use.

All of these technologies allowed for greater **survival** skills for our early ancestors. Their abilities allowed them to hunt for better food, and to protect themselves against dangerous animals in the environment.

Surviving the wild allowed them to spread from **continent** to continent, and eventually to find environments that allowed some to settle down and develop the **communities** and societies that would lead to civilisations with buildings, farming skills, and writing.



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What did our ancient ancestors develop?
2. What were the first tools made from?
3. How did Stone Age people refine their tools?
4. What did Stone Age "blacksmiths" do?
5. Name 7 things these technologies allowed Stone Age people to do.

Thinking Questions

1. What tools would you know how to make to survive in the wild?
2. What makes the use of tools so important in surviving the natural environment?



Creativity



1. Draw some of the Stone Age artefacts from the previous page.
2. Write a narrative from a Stone Age man describing how he made his tools.

Research and Extension

1. Visit the link below.
2. Sketch 5 ancient tools and write a description of each.



<http://etc.usf.edu/clipart/galleries/227-ancient-tools>



Ctrl+Click the link to visit the website

19. Ancient Farming.



The development of farming, or agriculture, is the most important factor in allowing a society to change from hunter-gatherer **nomadic** lifestyle to a society where the **abundance** of food allowed for the creation of societies with permanent buildings, specialisation of skills, and writing. Agriculture is the **cultivation** of plants and animals to produce useful things for society such as food, clothing, and medicines. When a society could **rely** on farmers to produce food, other people had free time to develop technologies that could advance their civilisation such as building techniques, technological advancement, religion and, of course, the development of writing. Without farming, we would not have the pyramids of Egypt, the development of codified (written) law, towns, cities, and every modern advance you see around you from medicine and mobile phones, to television and the internet.

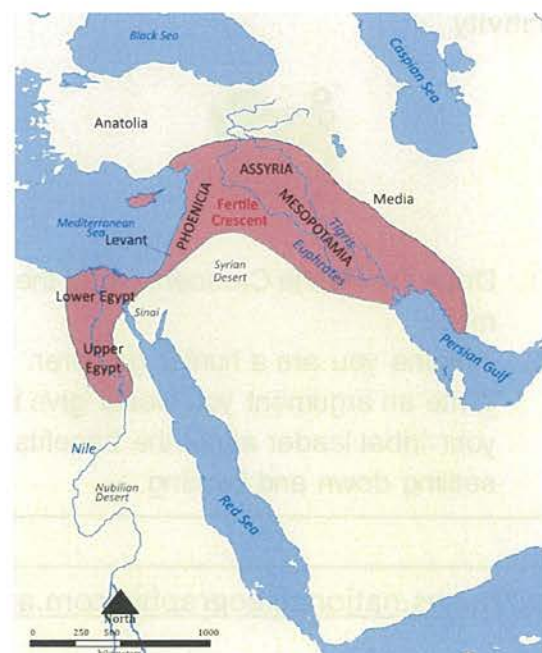
Ancient farming developed in a number of places and in a number of ways.

Forest farming.

Early societies collected plants and created gardens along riverbeds, or in **fertile** areas of a forest. The plants they would grow there could be harvested to provide a steady supply of food or medicines. **Desirable** plants could be selected, and weeds gotten rid of so that the gardens they had were useful to a small community in providing some of the **necessities** of life, without having to hunt or **forage** for them. Some plants were found to be more useful than others and this knowledge would spread from **generation** to generation allowing for the beginning of a stable **sedentary** society.

The Fertile Crescent.

This was an area in the near East where **fertile** land and steady rivers allowed people to begin planting a wide variety of crops and also begin to **domesticate** animals for food. The Fertile Crescent is also known as the “cradle of civilisation” because the societies that developed there are the origins of civilisation today. The farming in this region allowed for large stable societies such as the Egyptians and the Mesopotamian societies. The societies here were the first to develop such things as writing and glass, both powerful tools which allowed humanity to develop and progress.



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What is the most important factor in allowing a society to develop?
2. What is agriculture?
3. Why was agriculture important to a society? (give 6 reasons)
4. Describe what forest farming was.
5. Where is the Fertile Crescent?
6. What made the Fertile Crescent good for farming?
7. Why is the Fertile Crescent known as the cradle of civilisation?
8. Which societies developed there?
9. What new technologies were developed in the Fertile Crescent?

Thinking Questions

1. What difficulties do you think faced the early farming societies?
2. What is the single most important benefit of agriculture?
(Give reasons for your answer.)



Creativity



1. Draw the Fertile Crescent using the map.
2. Imagine you are a hunter gatherer. Write an argument you would give to your tribal leader about the benefits of settling down and farming.

Research and Extension

1. Visit the link below.
2. What has happened to the Fertile Crescent?



http://news.nationalgeographic.com.au/news/2001/05/0518_crescent.html



Ctrl+Click the link to visit the website

20. Ancient Societies.



With the development of farming, ancient societies began to settle down and build civilisations of many thousands, even millions, of people. Much of the human **race** had changed from being small **nomadic** tribes of a few dozen or hundred people to **sprawling** towns and cities with temples, schools, and governments. Some of the earliest farming societies began in Mesopotamia, the Indus Valley, China, and the Americas.

Mesopotamia

This area is known as the “cradle of civilisation” because so many **aspects** of Western Culture and beliefs can be traced back to the cultures of this region. A number of societies developed farming and began civilisations in the area around the Tigris and Euphrates Rivers. One of the largest and most **influential** was the Sumerian civilisation which may have been the first **empire** in history. The civilisations here lasted from around 5300BC to 1700BC and were the first people to use the wheel and begin large scale agriculture.



China

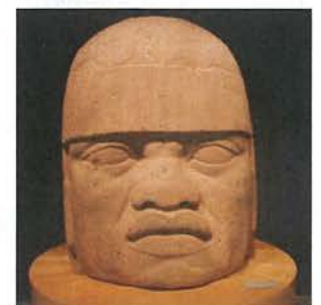
China is one of the oldest **continuous** civilisations in the world. Evidence exists for rice farming from 7000BC but the **dynastic** China as we know it today can be traced back to around 2000BC. The people in this area have given the world silk, paper, pottery, gunpowder and ideas such as Confucianism.

Indus Valley

The Indus Valley civilisation existed from around 3300BC to 1300BC. This civilisation built large cities with **sewerage** and drainage systems and may have had a population of over 5 million people. It is also known as the Harappan Culture named after an ancient city which would be in what is now South East Pakistan. The Harappans are noted for their development of new metalworking techniques, engineering skills and their skill in dentistry.

The Americas

The Olmec and Mayan civilisations developed in the Americas with the Olmecs beginning around 1600BC and being **surpassed** by the Mayans around 400BC. Their legacy is still seen throughout Central and South America. From these civilisations, we have the **domestication** of maize (or corn) and a rich cultural tradition with temples and buildings still standing today.



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What did the development of farming allow to happen?
2. What had much of the human race changed from?
3. Where were some of the earliest farming societies?
4. Describe Mesopotamia, the people who lived there and when.
5. How long has civilisation been in China?
6. What inventions have the Chinese given the world?
7. Describe the Indus Valley civilisations.
8. When did civilisations first exist in the Americas?
9. What did these civilisations give the world?

Thinking Questions

1. Which ancient invention do you think is the most important?
(Give reasons for your answer.)
2. If you could live in one of the ancient civilisations, which one would it be?
(Give reasons for your answer.)



Creativity



1. Choose one of the ancient civilisations and sketch what their culture has given the world.

Research and Extension

1. Visit the link below.
2. Choose one aspect of the Harappan civilisation and write a half page description of it.



<http://www.harappa.com/har/har0.html>



Ctrl+Click the link to visit the website

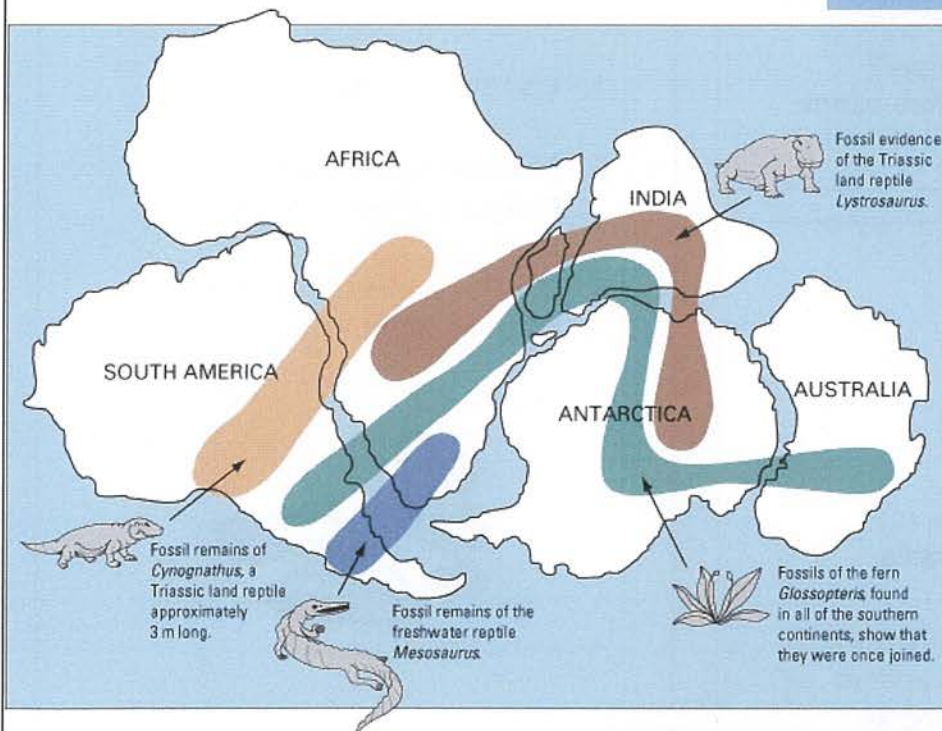
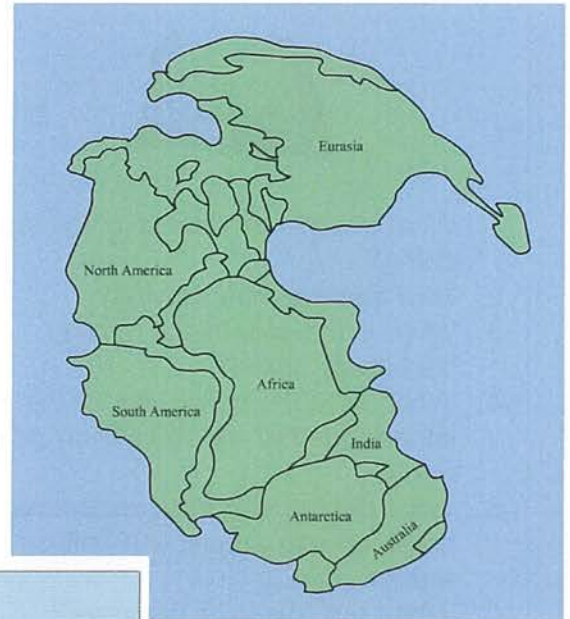
21. Ancient Australia.



The **continents** of the world, including Australia, are moving. They have always moved, so slowly, about 5-10cm a year, that you can't feel it happening. This process is called continental drift, which allows the continents to slide over the surface of the world, moving away, or crashing into each other.

About 300 million years ago all of the continents of the world were joined into one giant **supercontinent** called Pangeaea. We know this supercontinent existed because of **fossil** records. Gradually Pangeaea broke up into 2 supercontinents called Laurasia and Gondwanaland around 200 million years ago.

From Gondwanaland, Australia began to separate and it became the continent we see today around 40 million years ago when it finally split from Antarctica.



This continent is Ancient Australia, and it would still be millions of years before people would walk upon it, but there would be a rich and **diverse ecology** thriving in Australia long before then.



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What are the continents of the world doing?
2. How fast are they moving?
3. What is the process of moving continents called?
4. What were the continents of the world joined together as 300 million years ago?
5. What did the single supercontinent break up into around 200 million years ago?
6. When did Australia separate?
7. How long would it be before people walked on Australia?

Thinking Questions

1. How do you think the movement of the continents affects the environment and ecosystems?



Research and Extension

1. Visit the link below.
2. Describe the process of Pangaea breaking apart.
3. Draw a timeline of Pangaea breaking apart.



Creativity



1. Draw maps of Pangaea, Gondwanaland and Laurasia.
2. Create a poster showing how the animals and plants were spread among the different continents.

<http://www.mun.ca/biology/scarr/Pangaea.html>



Ctrl+Click the link to visit the website

22. Megafauna.



The word Megafauna comes from two words, **mega**, meaning large, and **fauna**, meaning animals. Australia has a few large **Indigenous** animals, not large like elephants or moose, but still pretty big. The Red Kangaroo can grow up to 1.8 metres tall, and the emu can grow up to 2 metres. But these animals are the last surviving remnants of Australia's past when much larger animals roamed the countryside and rivers. The Megafauna of Australia's past were truly large animals.

The diprotodon was the giant wombat. It could grow 2 metres high, 3 metres long, and weigh almost 3 **tons**. That's larger than many cars.

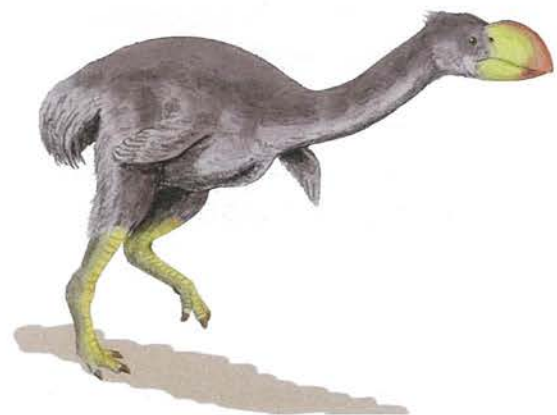


It became **extinct** around the time people first arrived in Australia approximately 50,000 years ago.



The procoptodon was the giant short faced kangaroo. It weighed about 230 kg and had paws with 2 extra-long fingers with claws. It disappeared around the same time as the diprotodon.

The dromornis was a giant **flightless** bird that grew up to 3 metres tall and weighed half a ton. This giant bird may have been a **carnivore**. Luckily for humans, it disappeared from Australia about 2 million years before we arrived.



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What does **Megafauna** mean?
2. How big are some Australian animals today?
3. Describe the following
 - a. **Diprotodon**
 - b. **Procoptodon**
 - c. **Dromornis**
4. When did these giant animals disappear?

Thinking Questions

1. What do you think life would be like for people if **Megafauna** still existed today?
2. Why do you think we no longer have giant animals in Australia?



Creativity



1. Create a pamphlet for an imaginary zoo which contains **Megafauna**. Sketch and describe the animals and explain what **Megafauna** is.

Research and Extension

1. Visit the link below.
2. Describe what scientists think happened to the **Megafauna**.



<http://www.australiangeographic.com.au/journal/did-humans-wipe-out-australias-megafauna.htm>



Ctrl+Click the link to visit the website

23. Dreamtime.



The Dreamtime is a **sacred** Aboriginal **mythological** era which describes the time when the world was created and Aboriginal people created **spiritual** links with the land.

One **aspect** of the Dreamtime is the **creation** story. The stories of the Dreamtime tell how the land was shaped, how fire was given to people, where rivers came from, and how mountains were created. There are many stories that attempt to explain how the land became the way it is.



Australian Aboriginal art: Namaroto spirits and the Rainbow Serpent Burlung (Borlung).

How the Murray River was made.

Long before the Murray River became a **torrent** of **refreshing**, life giving water, an earthquake shook the barren land and formed a long trench or **chasm**. Occasional rain swept across the land, and a tiny stream flowed down the newly formed chasm. Then came another **tremor**, which caused the hills to shake, and the land to dance as though a **corroboree** was being held far under the earth. Rocks and soil **heaved**, and from the **bowels** of the earth an enormous fish shouldered its way to the surface. It was borne on the crest of a wave of water. The sun sparkled on the river torrent, which boiled and **eddied** in the trench, following the trail of the fish, which swam down the stream. It was far too large for the narrow bed. It dug its head into the earth and scooped it up on either side, widening its path with the stroke of its powerful tail. The water filled the **hollows** made by the head and the tail of the fish, and behind it the **broad** stream flowed gently with many turns and bends as the **agitated** water subsided. So the bulldozer of ancient days excavated the bed of the Murray River and filled it with water as far as Lake Alexandrina.

Source: A. W. Reed, *'Aboriginal Fables and Legendary Tales'*. 1967. Halstead Press, Sydney

Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What is the Dreamtime?
2. What is one aspect of the Dreamtime?
3. What do these stories tell?
4. What is the story in the box about?
5. Make a list of the events which occurred that created the Murray River.

Thinking Questions

1. Why do you think Aborigines told the Dreamtime stories and passed them from generation to generation?
2. What is important about learning about the Aboriginal Dreamtime stories for non-Indigenous people?



Creativity



1. Choose a natural environmental feature of Australia, such as the Great Barrier Reef, the Blue Mountains, or a major river. Write your own creation story telling how this feature was made.
2. Illustrate your story.

Research and Extension

1. Visit the link below.
2. Watch one of the dust echoes stories and describe what it is about.



<http://www.abc.net.au/dustechoes/>



Ctrl+Click the link to visit the website

24. Aboriginal Archaeology.



Archaeology that studies Aboriginal heritage has changed its **focus** over the past century. Early archaeologists were mostly Europeans interested in finding artefacts and discovering the oldest sites in Australia. Modern Archaeology has strong **links** with the Aboriginal and Torres Strait Islander communities and is more interested in discovering the connections that **native** Australians have had with the country and discovering and **preserving cultural** information and history.

There is much evidence that gives Archaeologists insight into Aboriginal culture and heritage.

Lake Mungo

Lake Mungo is a dry lake in South-West NSW where evidence for the earliest human **inhabitants** of Australia has been found. The oldest human **remains** in Australia were found there and are known as Mungo Man and have been dated as between 68,000 and 40,000 years old. Also found there was Mungo Lady; she is the oldest **ritually cremated** human remains in the world.



Rock Art

Australia has many examples of Rock Art which dates back thousands of years. The paintings are found all over Australia and contain **depictions** of animal life, spiritual beliefs, and even relatively modern drawings of European ships and contact.



Tools.

Most wooden tools have long since **decayed** but examples of Aboriginal rock tools have been found which help to explain Aboriginal culture and technology of the past.

Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What were early archaeologists interested in finding?
2. What does modern archaeology have strong links with?
3. What are archaeologists more interested in learning about today?
4. What was found at Lake Mungo?
5. What can we learn from rock art?
6. Why have most Aboriginal tools been lost forever?
7. What tools can still be found?

Thinking Questions

1. Why do you think archaeologists have changed their focus over time?
2. Why do you think piecing together the history of Aboriginal inhabitation of Australia is difficult?



Creativity



1. Draw and describe 3 examples of Aboriginal tools.
2. Sketch your own rock art painting showing an aspect of your life.

Research and Extension

1. Visit the link below.
2. Using information from the site, describe what Aboriginal rock art is, and where it is found.



<http://www.aboriginalartonline.com/art/rock.php>



Ctrl+Click the link to visit the website

25. Aboriginal Remains.



There is much **controversy** surrounding the **excavation** and study of Aboriginal remains. Aboriginal beliefs about the remains of **deceased** are similar to most cultures around the world and hold that these human remains are sacred. Aboriginal people **contend** that human remains are “**ancestors**” not “**specimens**”.

In the past few years there has been much effort put into **repatriating** remains from around the world. Many bones were taken illegally from Australia and placed in museums, mostly in Britain, but also in other European countries and America.

Source 1

It is actually on record in the history of Mackay, Queensland, that one overseas collector made a request to the trooper that he shoot a native boy to **furnish** a complete exhibit of an Australian Aboriginal skeleton, skin and skull.

—The Sydney Morning Herald, 31 January 1955, page 2

Source 2

Jason, a character in John Danalis' book, 'Riding The Black Cockatoo', reveals his feelings when he was working as an **intern** in the Melbourne Museum.

“One day I tripped over this box, literally tripped over it. I opened it up, and inside were the remains of my people. Can you imagine that? They tried to keep it a secret from the dumb young blackfella. The more I looked the more I found. Well, I started making noise, asking questions: ‘Why do you need all these old ones, what use are they, why can’t they go back to country?’

‘What did they say?’

‘Research, they said, we need them for research.’ He spat the words out like pieces of rotten food.

‘Well, show me,’ I said, ‘show me the research.’ And you know what, they couldn’t show me one bit, not one paper. And after all these years – decades, man! – that my people have been jammed in boxes with little metal tags attached to them as if they weren’t even human beings.”

As recently as 2011, remains from the Smithsonian Institute in America were returned for burial.



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What surrounds the excavation of Aboriginal remains?
2. What are Aboriginal beliefs about remains of the deceased?
3. What has much effort been put into in the past few years?
4. Where have remains of Aboriginal people been placed?
5. What does source 1 describe?
6. Where does source 2 come from?
7. What did the character in Source 2 find?
8. What questions does he ask?

Thinking Questions

1. Why do you think museums in the past have been unconcerned with the feelings of Aboriginal people about their ancestors' remains?
2. What does Source 1 tell us about the attitudes of some collectors?
3. What are the feelings of the character in Source 2?
(Give evidence for your answer.)



Creativity



1. Write a letter to a museum which holds Aboriginal remains explaining why they should return them for burial.

Research and Extension

1. Visit the link below.
2. Describe what the author of the article is concerned about and why.



<http://www.creativespirits.info/aboriginalculture/people/aboriginal-remains-repatriation>



Ctrl+Click the link to visit the website

26. Aboriginal Heritage.



Aboriginal Heritage is anything from the past that represents Aboriginal culture and history. It can be sacred sites, rock carvings, bones, language, songs, dances, or artworks. Anything that comes from the historical study of Aboriginal people can be considered part of Aboriginal Heritage.

We study and preserve Aboriginal Heritage because it is part of Australia's past and present, and understanding Aboriginal Heritage helps us to understand ourselves, our society, and to become better **citizens**.

There are many groups and government **agencies** that attempt to protect and preserve Aboriginal Heritage, one of which is the Aboriginal Heritage Office.

The AHO has links with Local Councils, and State and Federal branches of the Government.



The AHO's projects and activities are based on three main areas: Site Management, Council Support and Education. Each area of **concern complements** the other areas.

Site Management

The AHO provides assistance to partner Councils and residents in efforts to protect Aboriginal sites in the area. Site management plans, **potential** area reports, site inspections, site conservation works and **monitoring** are some of the activities carried out by the AHO.

Council Support

In the field of Council Support the AHO provides assistance to partner Councils to help protect Aboriginal sites in the area. This includes **strategic** planning issues, development **referrals**, Council staff training, as well as other advice.

Education

The AHO has its own museum and keeping place in its office in Northbridge. The museum and keeping place is open to the public from Monday to Friday, from 9.00 am to 4.30 pm. Anyone is welcome to visit, including school groups. **Furthermore** the AHO provides free presentations, walks, talks and other activities for schools within a partner Council boundary, subject to staff **availability**. The program is designed to inform students about the Aboriginal history and heritage of the local area and how to view the local landscape from an Indigenous perspective.

From the AHO website www.aboriginalheritage.org

Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What is Aboriginal Heritage?
2. Give 7 examples of things which can be considered part of Aboriginal Heritage.
3. Why do we study and preserve Aboriginal Heritage?
4. Who protects Aboriginal Heritage?
5. Describe the work of the Aboriginal Heritage Office.

Thinking Questions

1. Describe the importance of heritage and how we protect and preserve it.



Creativity



1. Create an advertisement showing the work and importance of the AHO. Your advertisement can be for a newspaper, magazine, or a storyboard for a television ad.

Research and Extension

1. Visit the link below.
2. Describe how we identify, preserve, and protect Aboriginal Heritage.



<http://www.environment.gov.au/heritage/about/indigenous/>



Ctrl+Click the link to visit the website

27. World Heritage - Pompeii.



One of the world's most famous archaeological sites is the buried city of Pompeii. In 79AD the **volcano** Vesuvius **erupted** covering the city of Pompeii in volcanic ash and dust. The city remained buried and mostly untouched for almost 1700 years when in 1748 a group of explorers found the remarkably preserved heritage site.

Excavation of Pompeii, and the nearby city of Herculaneum has provided archaeologists with a great deal of Ancient artefacts, buildings, skeletons, paintings, even preserved food.

The eruption of Vesuvius killed thousands of people, but it also preserved the city. One of the roles of an archaeologist is to **ensure** the preservation of the heritage of places like this. Sadly, the excavation of sites around Pompeii have led to **degradation** and destruction of this important place.



Many factors contribute to the problems of the conservation of Pompeii.

The natural world will **erode** even mountains over a long enough period of time. Pompeii is suffering from natural events such as weather, rainfall, sunlight and wind. Plants have crept into the sites and slowly destroy wall and building foundations. **Feral** dogs lived in the city until the 1980s and pigeon poop is **acidic** and wears away at the walls and roofs.

People have also contributed to the conservation problems. Early archaeologists damaged buildings as they worked less carefully than they do now, thieves have stolen artefacts, **graffiti** is a constant problem, and the city was even bombed during World War 2.

Because of the massive cost of preservation, archaeology work is done slowly and in very few places until the heritage of Pompeii can be **ensured**.



Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. What is one of the world's most famous archaeological sites?
2. What happened in 79AD?
3. When was the city rediscovered?
4. What has excavation of Pompeii provided archaeologists with?
5. What is one of the roles of an archaeologist?
6. How has excavation harmed Pompeii?
7. What natural events have contributed to the problems of conserving Pompeii?
8. How have people contributed to conservation problems?
9. Why is work being done slowly in Pompeii?

Thinking Questions

1. Why is heritage of the past important?
2. What can governments of the world do to protect and preserve our heritage?



Creativity



1. Write a letter to the government of Italy arguing the case for preservation and excavation.

Research and Extension

1. Explore the link below.
2. Choose 3 things from the site you find interesting and explain what they tell you about Pompeii.



<http://www.history.com/topics/pompeii>



Ctrl+Click the link to visit the website

28. Australian Heritage Site – Lake Mungo.



Lake Mungo is a dry **lake bed** about 760 km west of Sydney in **remote** NSW.

It is famous because it is here that archaeologists have found the oldest human remains in Australia along with stone tools and many artefacts.

In 1968 human remains were found at Lake Mungo that changed the way we understood human history in Australia. Before these remains were found, it was believed that people had lived in Australia for only a few thousand years. These bones told us that Aborigines have lived here for at least 40,000 years, and possibly 68,000 years.



We have learned a great deal about Australia's past from the study of two sets of remains found at Lake Mungo - Mungo Man, and Mungo Lady.

Mungo Man was a **hunter-gatherer** who lived to about 50 years old. He had **arthritis** and bone wear, possibly from spear throwing. His teeth were worn down from eating **gritty** food, or stripping water reeds with his teeth. His family cared about him and buried him on his back, hands in his lap, and sprinkled with red **ochre**. His body was found in 1974.

Mungo Lady was found in 1968 and her body was cremated in a **ceremony** that is the oldest of its kind in the world. Mungo Lady would have lived off **bush-tucker** such as shellfish, seeds, and emu eggs.

The NSW National Parks and Wildlife Service is in charge of preserving the Mungo National Park and looks after weeds, fire management, feral animals, and protection of the cultural heritage of the site.



The Willandra lakes region, which includes Lake Mungo, was, in 1981, one of the first Australian places to be placed on a World Heritage list to protect its natural and cultural heritage.

Activities



Comprehension Questions

Before you start, define the terms in **bold**.



1. Where is Lake Mungo?
2. Why is it famous?
3. What was found in 1968?
4. Why were these finds important?
5. What are the two sets of remains found at Lake Mungo?
6. Who was Mungo Man?
7. What have we learned about him?
8. How do we know his family cared about him?
9. How was Mungo Lady buried?
10. What do we know about her?
11. Who is in charge of preserving Lake Mungo?

Thinking Questions

1. Describe in your own words why Lake Mungo is important.
2. What unique challenges do archaeologists face when trying to find evidence in a place like Australia?



Research and Extension

1. Visit the link below.
2. Write a page about Australia's heritage and how we preserve it. Use the PEEL method of paragraph writing.



Creativity



1. Create a poster showing a heritage site and explaining why heritage is important.

<http://www.environment.gov.au/heritage/index.html>



Ctrl+Click the link to visit the website

Egyptian Gods



AMMIT
ANPUT
ANUBIS
ANUKET
APOPHIS
ATEN
BABI
BAST
BASTET
BES
GEB
GENGEN-WER
HAPI
HATHOR

HEKET
HORUS
ISIS
KEBECHET
KHEPRI
KHNUM
KHONSU
MA'AT
MAFDET
MENHIT
NEKHBET
NEPHTHYS
NUT
OSIRIS

PTAH
RA
SEKHMET
SERQET
SESHAT
SETH
SHU
SOBEK
TAWARET
TEFNUT
THOTH
WADJET

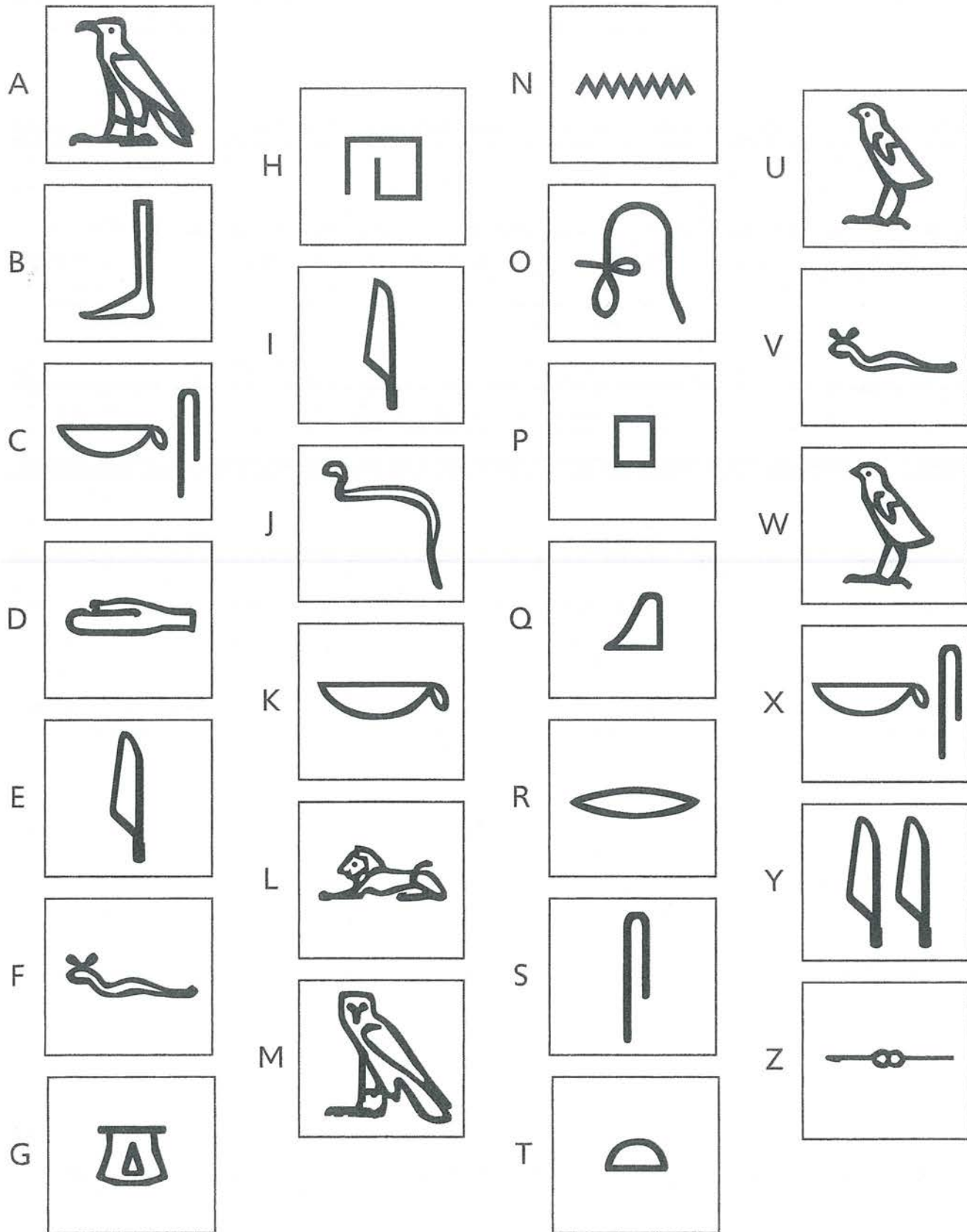
Egyptian Gods Worksheet

Use any of the books in the back of the room OR the Web site <http://www.ancientegypt.co.uk/gods/explore/main.html> to get information about these key Egyptian Gods:
















God/Goddess	Appearance (describe in words or draw)	God/Goddess of _____	Importance in Egyptian religion (how they worshipped this god, what it did, festivals, etc.)
Osiris			
Seth			
Isis			
Ra			

God	Appearance (describe in words or draw)	God of _____	Importance in Egyptian religion
Anubis			
Thoth			
Hathor			
Horus			
Bes			









Hieroglyphic alphabet



Count like an Egyptian

1	2	3	4	5	6	7	8	9	10	100	1000	10,000	100,000	1,000,000
														

Convert these Egyptian hieroglyphs into modern day numbers

1		<input type="text"/>
2		<input type="text"/>
3		<input type="text"/>
4		<input type="text"/>
5		<input type="text"/>
6		<input type="text"/>
7		<input type="text"/>
8		<input type="text"/>

Count like an Egyptian



1	2	3	4	5	6	7	8	9	10	100	1000	10,000	100,000	1,000,000

Convert these Egyptian hieroglyphs into modern day numbers

1		<input type="text"/>
2		<input type="text"/>
3		<input type="text"/>
4		<input type="text"/>
5		<input type="text"/>
6		<input type="text"/>
7		<input type="text"/>
8		<input type="text"/>

Count like an Egyptian


















1	2	3	4	5	6	7	8	9	10	100	1000	10,000	100,000	1,000,000

Convert these Egyptian hieroglyphs into modern day numbers

1		<input type="text"/>
2		<input type="text"/>
3		<input type="text"/>
4		<input type="text"/>
5		<input type="text"/>
6		<input type="text"/>
7		<input type="text"/>
8		<input type="text"/>

Count like an Egyptian

1	2	3	4	5	6	7	8	9	10	100	1000	10,000	100,000	1,000,000
														

Can you write these numbers as ancient Egyptian Hieroglyphs?

1		37
2		82
3		61
4		245
5		872

Count like an Egyptian



1	2	3	4	5	6	7	8	9	10	100	1000	10,000	100,000	1,000,000

Can you write these numbers as ancient Egyptian Hieroglyphs?

1		245
2		872
3		8582
4		4037
5		2561

Count like an Egyptian



1	2	3	4	5	6	7	8	9	10	100	1000	10,000	100,000	1,000,000

Can you write these numbers as ancient Egyptian Hieroglyphs?

1		8582
2		4037
3		2561
4		12763
5		41598



SCIENCE

Living Things

There are living things all around us. Look carefully at the picture. What living things can you see?



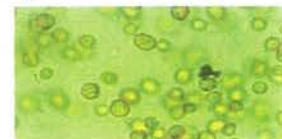
These **living things** are found at the Great Barrier Reef. Can you see any of them in the picture?

☐ fish ☐ coral ☐ marine algae ☐ seagrasses ☐ molluscs

☐ sea snake ☐ sea turtles ☐ humans ☐ dugongs ☐ whales or dolphins

There are also **living things** that can only be seen with a **microscope** such as:

- Zooxanthellae - (a single celled algae that lives in coral)
- Phytoplankton and zooplankton
- Bacteria, fungi and viruses



Zooxanthellae



Phytoplankton

There are also **non-living things** in the picture such as water, rocks and gases like oxygen.

What Are Living Things?

What makes something a living thing?

Living things are alive.

Non-living things are not alive or are dead.

Dead things were once living, but when they die they become non-living.



Water is not alive.
It is a non-living thing.



This star fish was once alive. It is
now dead and no longer living.
It is a non-living thing.



Activity 1

What makes something alive?

Tick the yes box if the thing is living and the no box if it is not living.

	Yes	No
Is a gum tree a living thing?		
Is a worm a living thing?		
Is a cloud a living thing?		
Is a fire a living thing?		
Is seaweed a living thing?		
Is a pencil a living thing?		
Is a flower a living thing?		
Is a piece of coal a living thing?		
Is a footprint a living thing?		

Characteristics

Characteristics are a feature or quality belonging to a person, place, or thing and used as a way to identify them.

We **classify** things into groups using characteristics to help us stay organised, keep track of things and to be able to compare different things.

For example, similar foods are grouped together on supermarket shelves to make it easier for customers to find them and to be able to compare differences between different brands.

Scientists use the characteristics of things to be able to:

- classify plants and animals into groups
- help explain their relationships to each other
- be able to learn about newly discovered things by investigating similarities and differences.



If we look at this picture we can see a dog and a cat.

Characteristics of the dog include:
2 ears, fur, tail, 2 eyes.

Characteristics of the cat include:
2 ears, fur, tail, 2 eyes.

The dog and cat have the some of the same characteristics.

Does this make them the same? Of course not. We just need to look a little more closely to see some differences.

If we compare the characteristics of a dog and a lizard, or a dog and a fish, there would still be some similarities because they are both living things.

So do all living things have the same characteristics?

Characteristics of Living Things

All living things share particular characteristics that allow them to be classified as a 'living thing'.

There are **seven characteristics** of living things and living things perform these characteristics in very different ways. A living thing must perform **all** of these processes in order to be classified as 'living'.

Characteristic	Description
Movement	All living things move in some way. This may be obvious, such as animals that are able to walk, or less obvious, such as plants that have parts that move to track the sun.
Respiration	Taking in oxygen for chemical reactions to release energy.
Nutrition	Taking in materials such as food and water. This occurs in different ways in different kinds of living things.
Growth	All living things grow.
Reproduction	The ability to reproduce and pass genetic information onto their offspring.
Excretion	Give out waste materials. Getting rid of waste products.
Sensitivity	Responding to stimulus and the ability to detect changes in the surrounding environment.



Activity 2

1. Why do we classify things? _____

2. The seven characteristics of living things are m_____,

r_____, n_____, g_____, r_____

e_____, and s_____.

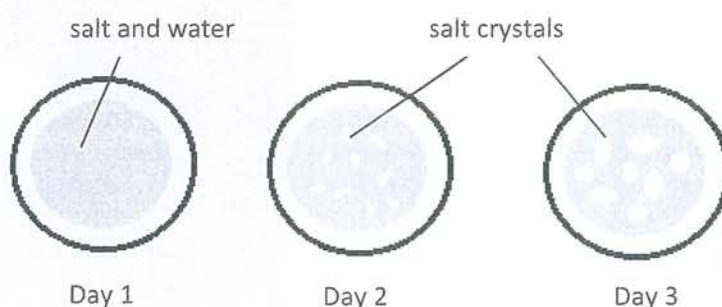
Growth

Growth means an increase in size.

People who have not seen you for a while might say, "You have grown!" because you have grown taller. You have increased in size.

If something grows is it always a living thing?

Look at the pictures below. It shows you an experiment that Steve set up to grow crystals.



Did you notice that the salt crystals increased in size?

To decide if something is a living thing it must show the other characteristics of life.



Activity 3

Use the tick boxes below to decide if salt shows other characteristics of life.

Characteristic	Tick if yes. Cross if no.
Can salt grow?	<input checked="" type="checkbox"/>
Can salt move?	<input type="checkbox"/>
Can salt take in oxygen?	<input type="checkbox"/>
Can salt eat?	<input type="checkbox"/>
Can salt reproduce?	<input type="checkbox"/>
Can salt excrete?	<input type="checkbox"/>
Is salt sensitive to its surroundings?	<input type="checkbox"/>

Because salt doesn't show other characteristics of life we can say that salt is **not** a living thing.

Sensitivity

A change in the environment is called a **stimulus**. If there is more than one stimulus, they are called **stimuli**.

When a living thing detects a **stimulus** and reacts, it is **responding** to the stimulus. Not all living things respond to a stimulus in the same way.

Examples of stimuli include:

- light
- temperature
- water pressure
- sound
- odour (smell)
- movement
- pain
- gravity
- chemicals (such as an acid)



This plant is responding to the stimulus of light. The plant moves towards the light.



Activity 4

Sit on the edge of a table with your feet dangling. Give yourself a sharp tap with the side of your hand just below the kneecap.

1. What happened to your leg when you gave it a tap? _____

2. What was the stimulus? _____

3. What was the response? _____

Exchanging Materials

Living things take materials in from the environment as well as give out materials. This includes respiration, nutrition and excretion.

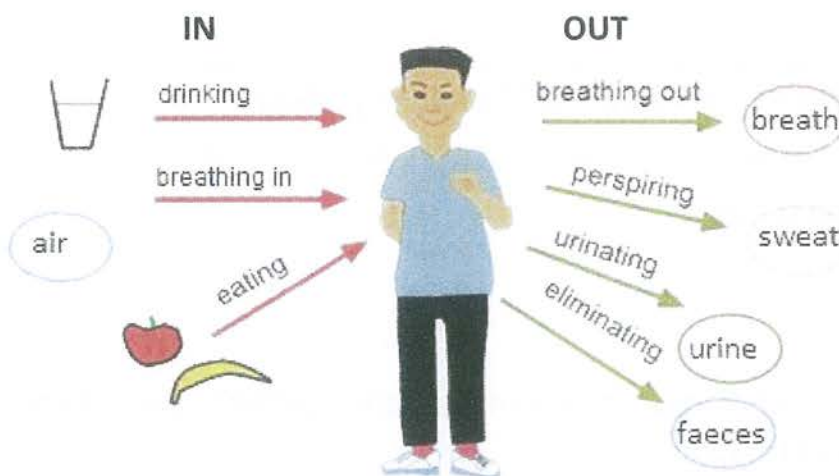
Living things need water, food and gases from the air to grow, move, reproduce and respond. Living things do not all take the same materials from the environment.

Some waste materials produced inside the body are harmful if they are not removed. Getting rid of these unwanted waste materials is called **excretion**.



Activity 5

Use the picture below to answer the questions.



Materials in and out of the human body

© State of NSW, Department of Education and Training, 2004

1. What things do you need to survive? _____

2. What materials are given out by your body? _____

Needs of Living Things

Not only do all living things have similar characteristics, they also all have similar needs.

A need is something that a living thing cannot live without.

- Energy (some living things make their own food, others feed on other organisms)
- Water – carries food, oxygen, wastes, can aid movement and reproduction
- Space – shelter, place to live and find food and water
- Stable internal conditions – maintained despite changes in surroundings (**homeostasis**)

Biologists

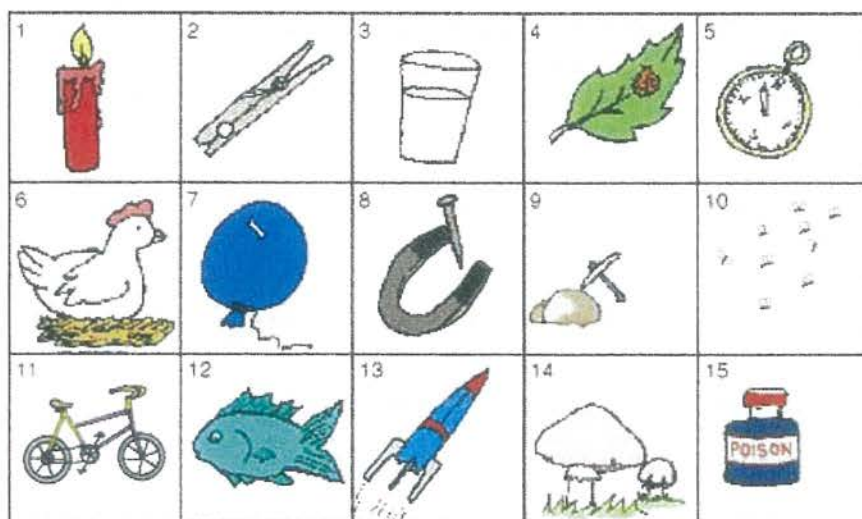
The investigation of living things is called Biology.

Biologists investigate living things.



Activity 6

The pictures below show some things that scientists study. Circle the pictures of the things that a **biologist** would study.





Experiment 1

Aim: To be a biologist and observe characteristics of living things.

Equipment

A living animal



Method

1. Choose a family pet or insect to observe.
2. Watch the animal for 5 minutes.
3. Record your observations in the results table.

Results

Living thing	Observations that showed it was living

Conclusion

Write the animal name here.

Write how many characteristics here.

The _____ was living because it showed _____ characteristics of a living thing.



Becoming a Marine Biologist

Susan Parks might not be able to communicate with marine animals but she still listens in on their conversations. The marine biologist is studying how the endangered North Atlantic right whale communicates when finding and selecting a mate. *"Marine mammals are exciting subjects to study in this area because most species produce distinctive sounds that may be used for communication,"* Susan explains online.



What She Does

Most of her time is spent in the lab (about nine to 10 hours a day, five days a week) analysing data that has been collected. When she does work in the field (about one to three months a year) everything depends on the weather. In good weather she works long hours, in bad weather she might even have to stop working for a few days.



Susan is currently a graduate student in the M.I.T - Woods Hole Oceanographic Institution Joint Program. Susan takes courses, collects and analyses her own data, helps advisors with research projects and applies for funding for her own research.



The Upside and Downside

"I like to be able to answer my own questions. It is particularly rewarding when other people are interested in the answers to the same questions or when the research can help with conservation and habitat improvement for the organisms I study."



It's not all fun and games. *"As a graduate student, sometimes the hours are long, the pay is low and the respect of colleagues is non-existent. But it is really what you make of it. Most of the time I just feel very privileged to study behavior in right whales and spend time on the water observing an endangered species."*





Activity 7

Use the information on page 15 about Susan Parks to answer the questions below.

1. What is Susan studying? _____

2. Where does Susan spend most of her time? _____

3. Why does she enjoy being a biologist? _____

Summary

Things can be living or non-living. Living things are different from non-living things.

Biologists investigate living things.

Living things share particular characteristics that allow them to be classified as a living thing.

Characteristics are a feature or quality that can be used for classification.

All living things share 7 characteristics:

- | | |
|-----------------|--------------|
| 1. Movement | 5. Nutrition |
| 2. Respiration | 6. Growth |
| 3. Reproduction | 7. Excretion |
| 4. Sensitivity | |

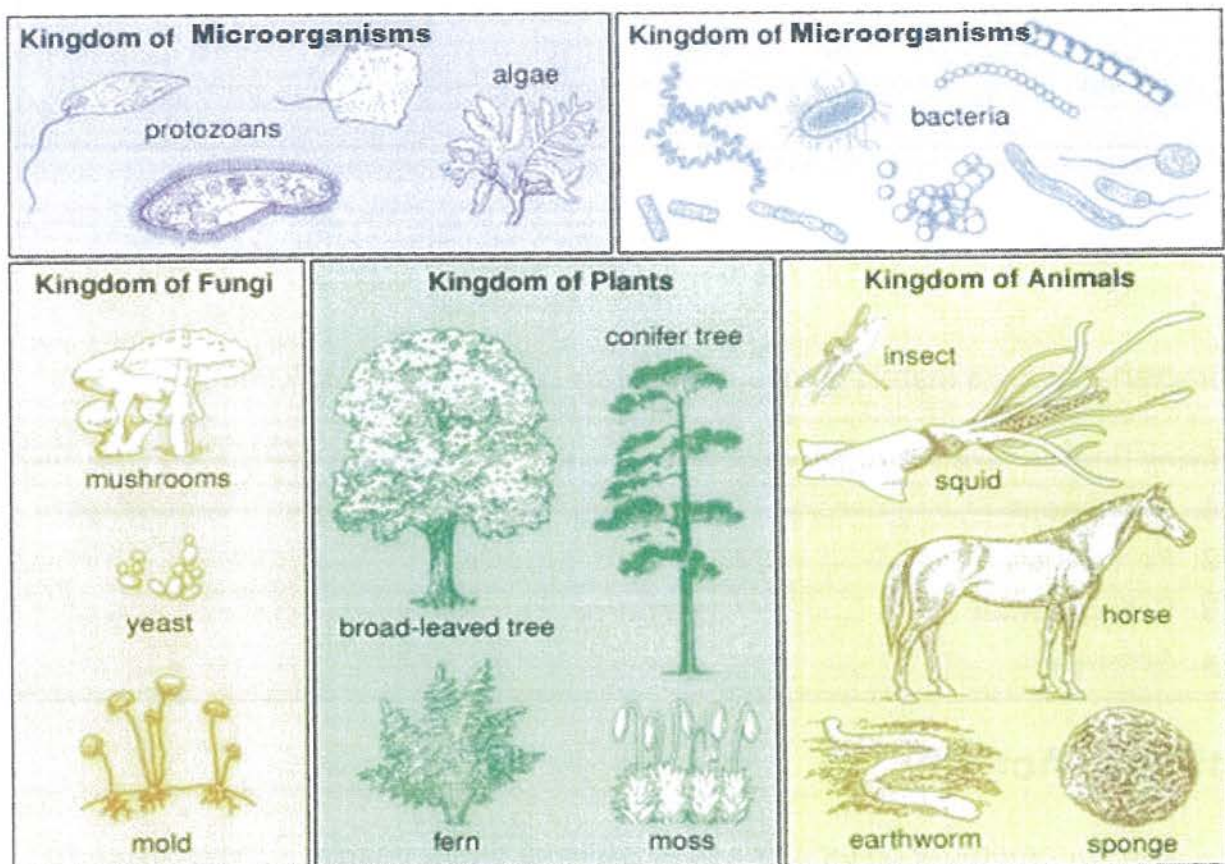
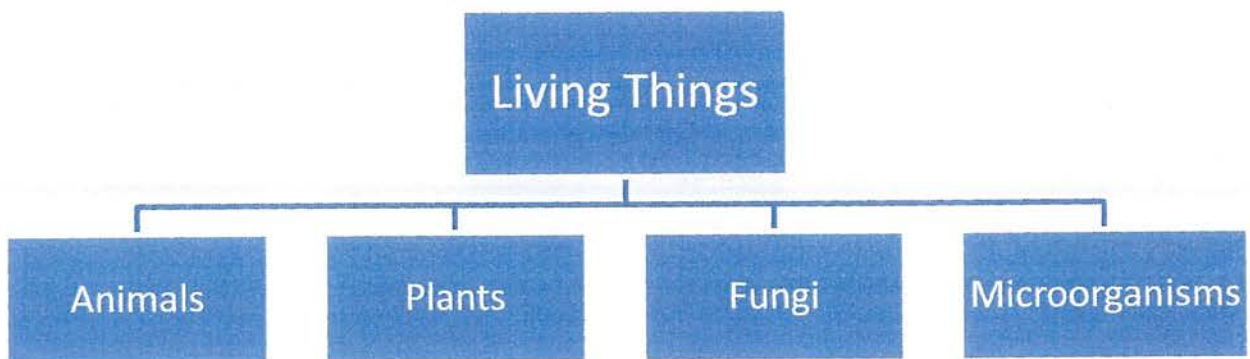
Optional Activity

To refresh your memory on Biology and what living things need to survive, listen to the song at <http://www.youtube.com/watch?v=aync1w6TXeE>

Kingdoms

We have learnt that there are 4 kingdoms of living things:

- Animals
- Plants
- Fungi
- Microorganisms



The Animal Kingdom

We can further classify the animal kingdom into **vertebrate animals** and **invertebrate animals**.

Vertebrate animals have a backbone and a skeleton inside their body.

Invertebrate animals do not have a backbone or skeleton inside their body.

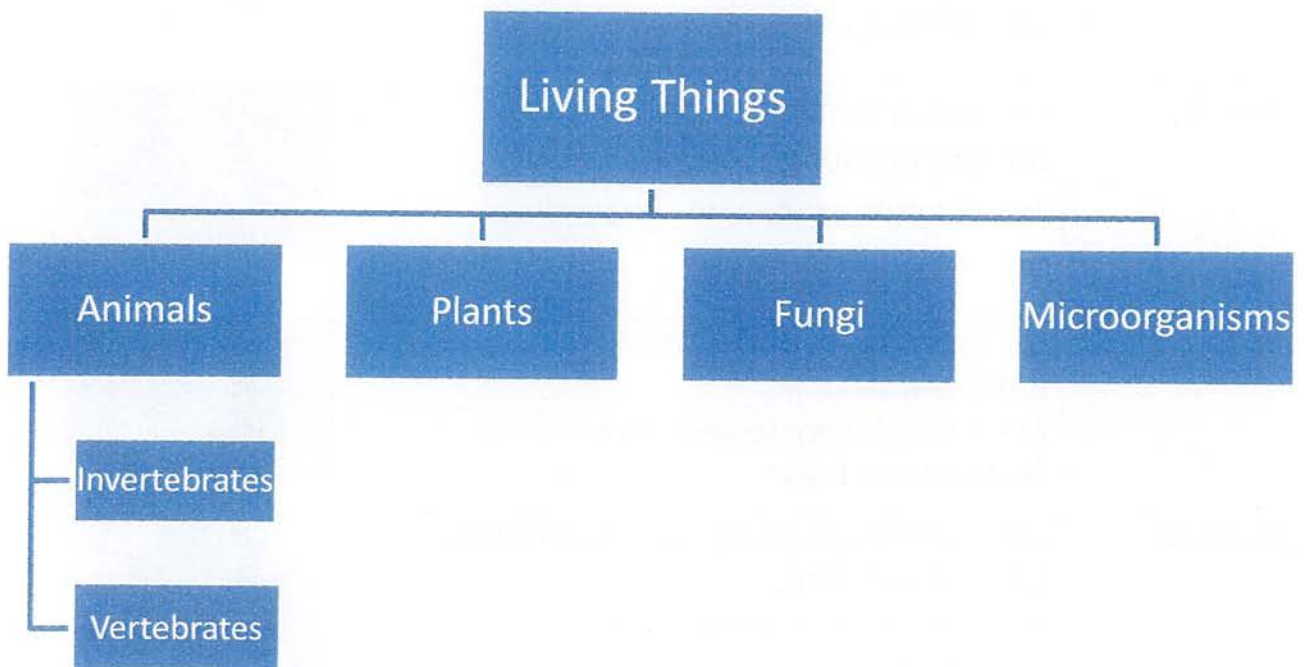


Vertebrate animal



Invertebrate animal

We will add vertebrates and invertebrates to our chart.



Vertebrate Animals






Many animals, including humans, have skeletons and backbones.

Scientists use characteristics (or features) to separate vertebrate animals into groups.

These features include how the animal:

- breathes (takes in oxygen through lungs or gills)
- maintains its temperature (warm blooded or cold blooded)
- reproduces (lay eggs or give birth to live young)

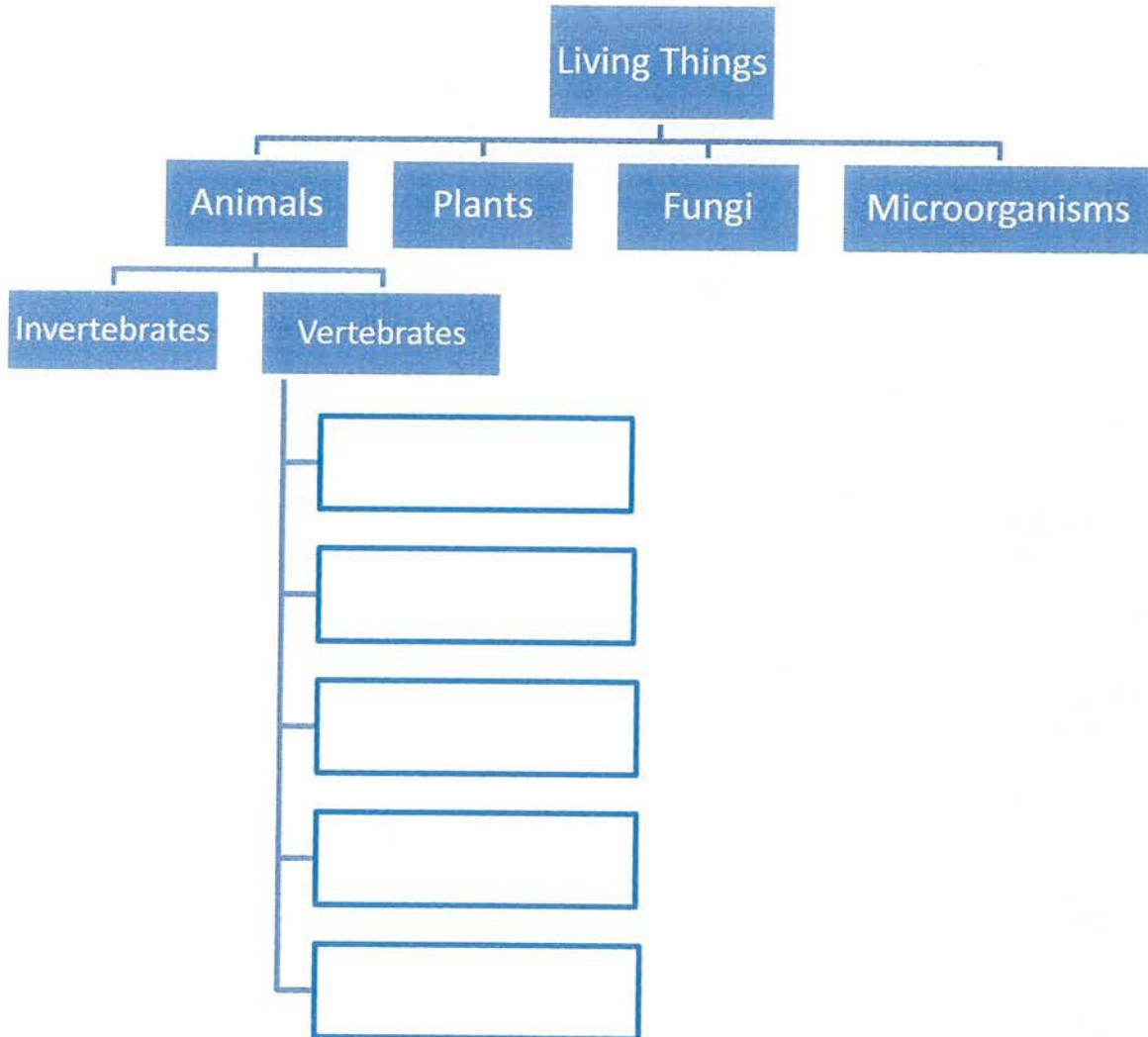
Let's look at some characteristics of the five different groups of vertebrate animals.

Group	Characteristics	Picture
Fish	Lay eggs, external fertilisation Breathe with gills Temperature varies with surroundings Scales and fins	
Amphibian	Lay eggs, external fertilisation Breathe with lungs or gills Temperature varies with surroundings Smooth moist skin	
Reptile	Lay eggs, internal fertilisation Breathe with lungs Temperature varies with surroundings Dry, scaly skin	
Bird	Lay eggs, internal fertilisation Breathe with lungs Maintains its own temperature Feathers and beak	
Mammal	Give birth to live young, internal fertilisation Breathe with lungs Maintains its own temperature Hair or fur	



Activity 1







1. Complete the chart below with the five groups of vertebrates.



2. Name the three main features scientists use to classify vertebrate animals.

3. Use the key to classify each of the pictured animals. The first one is done for you.



Picture	Name	Class
	Bilby	mammal
	Tuna	
	Magpie	
	Marsh frog	
	Black rat snake	
	Tortoise	

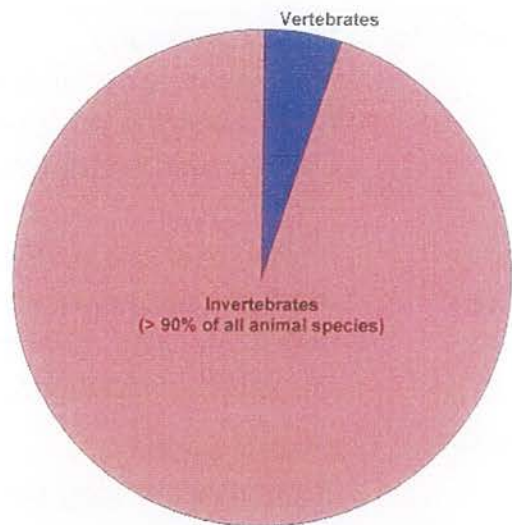
Invertebrate Animals

Invertebrate animals have no backbone or skeleton inside their body.

Invertebrate animals are the dominant life form on Earth. Scientists have found about 1.7 million invertebrate species on Earth, but they believe that the number is actually much higher.

Examples of invertebrates

Invertebrates include sponges, jellyfish, corals, sea anemones, tapeworms, liver flukes, snails, scallops, barnacles, oysters, octopuses, earthworms, leeches, crabs, spiders, ticks, scorpions, centipedes, lobsters, prawns, flies, lice, cicadas, beetles, weevils, moths, starfish and sea urchins.



Animal diversity pie chart



Earthworms are invertebrates.
They have no internal skeleton





The Wolf spider is an
invertebrate



Star fish and flies are invertebrates

Classifying Invertebrate Animals

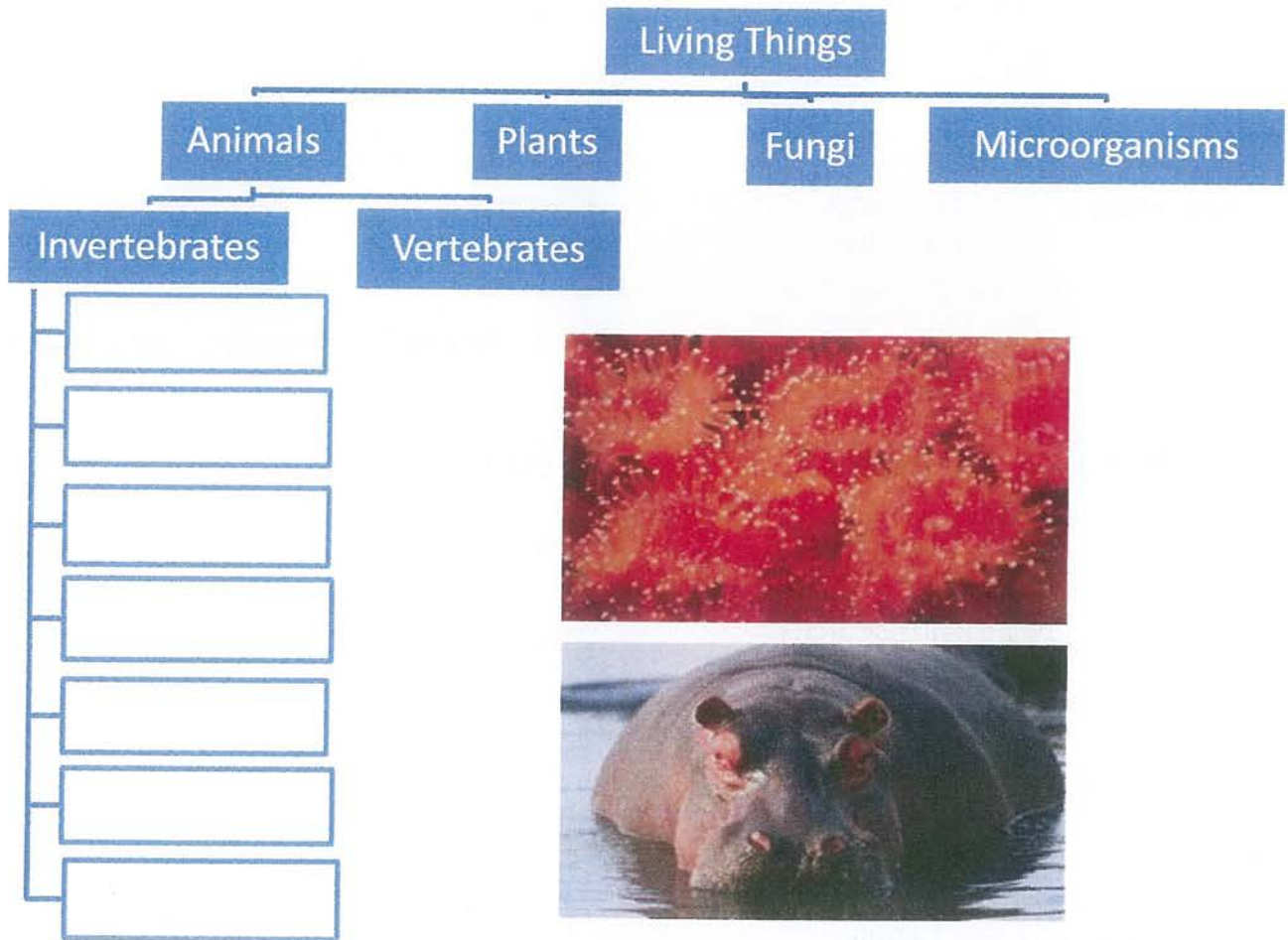
As with vertebrate animals, invertebrate animals can also be classified based on their features or characteristics.

Group (Class)	Characteristics	Picture
Echinoderms	Marine animals. Most have arms or spines. Body contains their organs and their mouth. Common echinoderms are starfish, sea urchins	
Annelids (Worms)	Bodies that are divided into segments. Well-developed internal organs. Soft body with no arms or legs. Common annelids are earthworms.	
Cnidarians	Live in water. May have stinging cells. Simple organism that is symmetrical. Common cnidarians include jellyfish and sea anemones.	
Molluscs	Soft, skin-like organ covered with a hard outside shell. No legs but may have flexible tentacles. Some live on land, eg. snail and slug. Some live in water, eg. oyster, mussell.	
Arachnids	Hard exoskeleton. Jointed legs. Most have 4 pairs of legs. Common arachnids are spiders, scorpions, ticks and mites.	
Crustaceans	Mostly live in the ocean or other waters. Hard external shell which protects their body. More than 3 pairs of legs. Antennae. Common crustaceans are crabs, lobsters and barnacles.	
Insects	Exoskeleton that covers their entire body. Body consists of head, thorax, wings and abdomen. Common insects include bees, flies, butterflies and ants.	



Activity 2

1. Complete the chart below with the seven groups of invertebrates.

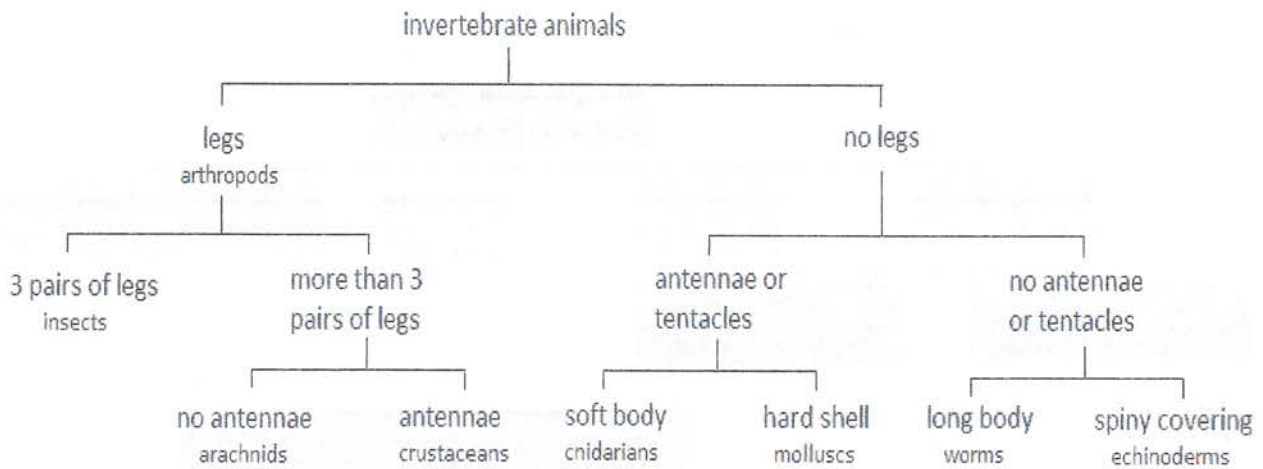










2. Describe the difference between an invertebrate and a vertebrate animal.

3. Circle the **group** of animals which is the largest and most dominant life form on Earth.

Vertebrates / Invertebrates

4. Use the key below to classify each of the pictured animals. The first one is done for you.



Picture	Name	Class
	prawn	crustacean
	earthworm	
	jellyfish	
	snail	
	fly	
	spider	
	starfish	
	sea urchin	

Fungi

Fungi are important organisms that belong to their own kingdom. The fungi kingdom includes mushrooms, yeast and mould.

Scientists have described about 100,000 species of fungi. But there could be up to 5 million species of fungi on Earth.

Plants and fungi often live side by side and can have a **helpful or harmful relationship**.



The white fungus in this picture is growing on the roots of a plant.

The fungus receives sugar from the plant and in return helps the plant take up water and nutrients from the soil.

Fungi facts:

- Mostly fungi are multicellular (have more than one cell), but some are unicellular (eg. yeast).
- Most fungi eat dead or decaying organisms.
- Fungi are found almost everywhere on land, only a few live in water.



Activity 3

1. Circle the pictures of organisms that are in the Fungi kingdom.



2. What do fungi eat? _____

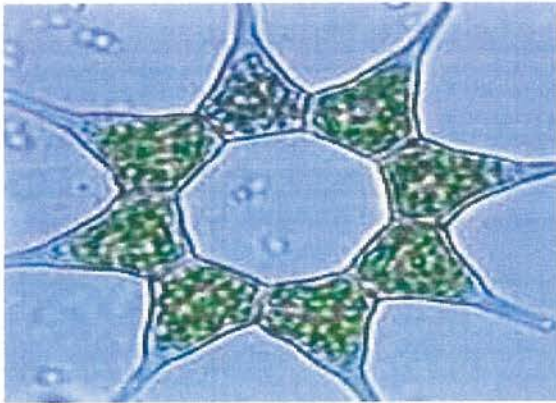
3. Are fungi harmful or beneficial (helpful) to plants? _____

Microorganisms

Microorganisms include all organisms that cannot be seen with the naked eye.

Because these living things are so small, a **microscope** is needed to see them.

There are lots of different types of microorganisms.



Some microorganisms appear to be both plant and animal. Like plants, they are green and can create their own food. However, like animals they have moving parts and are able to move around their environment.

Because of this, biologists believe that microorganisms were the ancestors of both plants and animals.

Some microorganisms:

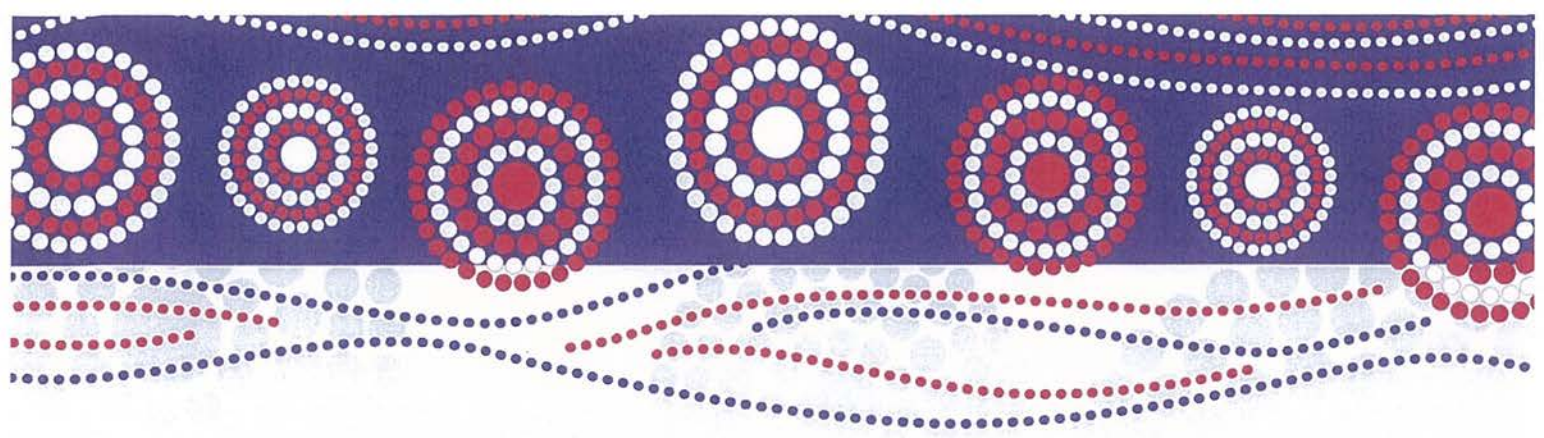
- need oxygen to survive; some do not.
- are harmful (cause illness); some are helpful.
- are unicellular (one cell only); some are multicellular (more than one cell).
- live in extreme environments – ocean floor, hot springs, intestines.



Activity 4

1. Why do biologists believe that microorganisms are the ancestors of both plants and animals? _____

2. Why do we need a microscope to see microorganisms? _____



PDHPE

Home Based Learning

Year 7: Personal Development, Health and Physical Education

Term 3: Invasion Games	Week: 2	Lesson Focus: Offensive Strategies
Learning Intention: <ul style="list-style-type: none"> To evaluate movement strategies that lead to successful outcomes in invasion games 	Success Criteria: <ul style="list-style-type: none"> <input type="checkbox"/> I can identify five invasion games or sports. <input type="checkbox"/> I can explain how offensive movement strategies lead to successful outcomes in invasion games. <input type="checkbox"/> I can select and describe successful offensive passages of play by watching videos of different invasion games. 	

Learning Tasks Summary

WHAT YOU NEED TO DO:	Recommended Time:	Completed By:
<ol style="list-style-type: none"> 1. Read the information regarding; movement strategies, invasion games and offensive strategies. 2. Complete all questions on the Google Doc worksheet; <ol style="list-style-type: none"> a. Identify 5 Invasion Games b. Select 2 offensive movement strategies for invasion games and explain how they lead to successful outcomes (e.g. scoring points and winning games). c. Select one offensive passage of play from each of the following videos that lead to a successful outcome and complete the tables (Google Doc); <ol style="list-style-type: none"> i. AFL – AFLW Grand Final 2019 ii. Basketball – Australia vs USA iii. Korfbal – Australia vs Poland 3. Complete a minimum of 20 minutes of physical activity, preferably in relation to one of the following sports; <ol style="list-style-type: none"> d. AFL – kicking, handball, etc. e. Basketball – dribbling, shooting, mini game, etc. f. Rugby 7's– passing, kicking, etc. <p>If it is not possible, 20 minutes of aerobic exercise; slow jog, fast walk, cycle, etc.</p> <p style="text-align: center;"><i>Turn all work in by Friday 2:30pm</i></p>	<p>40 MINS</p> <p>20 MINS</p>	<p>Friday 2:30pm 23rd July</p>



Movement Strategies – Invasion Games

LEARNING INTENTION

- To evaluate movement strategies that lead to successful outcomes in invasion games.

SUCCESS CRITERIA

- ☐ I can identify five invasion games or sports.
- ☐ I can explain how offensive movement strategies lead to successful outcomes in invasion games.
- ☐ I can select and describe successful offensive passages of play by watching videos of different invasion games.

Movement strategies refer to a variety of approaches that will help a player or team to successfully achieve a movement outcome or goal (e.g., kicking a goal in AFL).

Movement strategies include moving into space to receive a pass from a team-mate or hitting the ball away from opponents in order to make it difficult to retrieve or return the ball.

Different games and sports may require similar activities or goals and will therefore use



Invasion Games Aim is to invade an opponent's territory to score.

Offence

The movement strategies used in attempting to score.

The player or team in possession - attempting to score.

VS

Defence

The movement strategies used in trying to stop the opposition from scoring.

The player or team attempting to stop the opposition from scoring.





Offensive Strategies

INVASION GAMES

Offensive Strategies

Maintain possession of the ball and use a variety of passes.

Move to avoid defensive players.

Create space for team mates.

Create space for yourself and move into space to receive the ball.

Attack the goal and create scoring opportunities

Quick transition from defensive to offensive play.



LITERACY ACTIVITY

1. Identify five invasion games:

Invasion Games	
•	
•	
•	
•	
•	

2. Select two offensive movement strategies for invasion games and explain how they lead to successful outcomes (e.g., scoring points and winning games).

Type of Game	Offensive Strategies
--------------	----------------------

Invasion Games



3. Select one offensive passage of play from each of the following videos that lead to a successful outcome and complete the tables below:

- AFL - AFLW Grand Final 2019: <https://youtu.be/mjvNRdz3yFY>
- Basketball - Australia vs. USA: <https://youtu.be/Vq8WicBy4k4>
- Korfball - Australia vs. Poland: <https://youtu.be/9WzswqVQv68>

Offensive	AFL W	Basketball	Korfball
Timeframe in video (e.g., 2:30 - 3:20 minutes)			
Describe what happened in the offensive play and the outcome.			

Identify one offensive movement strategy that was used

Negative effects of social media

Consequential explanation

A consequential explanation explains consequences or effects or outcomes of something. This explanation is about the negative effects of social media



Read this consequential explanation about the negative effects of social media on young people.

Identify phenomenon to be explained.

Preview the consequences or effects

Recent research has highlighted a variety of negative effects of social media on young people. Consequences include anxiety, cyberbullying and loss of sleep.

Consequences

Consequence 1:
feelings of inadequacy and anxiety

Research shows that social media can result in feelings of inadequacy and anxiety for young people (McDool et al 2016). Use of Instagram, Snapchat, Facebook and Twitter has a negative impact because adolescents compare themselves with 'perfect' images online and they feel inadequate if they do not have enough online friends. As a result, social media can lead to feelings of depression, loneliness and poor self-esteem.

Consequence 2:
cyberbullying

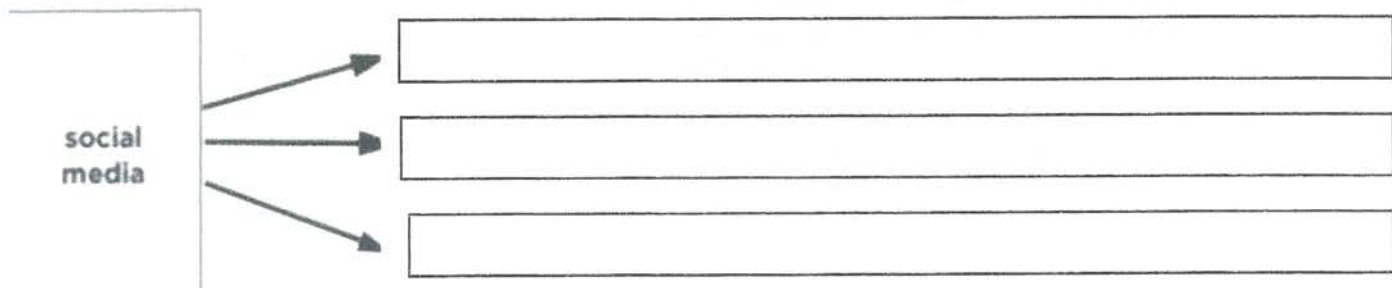
Cyberbullying has also become a pressing problem. Due to social media, between 6% - 40% of young people experience bullying online (Australian Government 2014). As social media is never turned off, targets of bullying cannot take a break from harassment, leading to lack of confidence, depression and anxiety.

Consequence 3:
loss of sleep

Another negative impact of social media involves lack of sleep. This is because many teenagers use social media in the evenings instead of going to sleep. Since teenagers need 9-10 hours of sleep per night (Victorian Government 2014), late-night use of social media reduces sleep time. This contributes to tiredness, lack of concentration and poor academic performance.

1. Highlight the CAUSE and EFFECT language used in the explanation above. Underline the topic sentence in each paragraph.

2. Fill in the diagram to show the consequences explained in the explanation.





Home Based Learning

Year 7: Personal Development, Health and Physical Education		
Term 3: 'Let's talk about sex'	Week: 2	Lesson Focus: Relationships
Learning Intention: - Investigate the features of inclusive and equal relationships	Success Criteria: <input type="checkbox"/> I can identify what trust and respect look like in a relationship <input type="checkbox"/> I know what consent means and understand the law around consent	

Learning Tasks Summary		
WHAT YOU NEED TO DO:	Recommended Time:	Completed By:
1. Open the PowerPoint attached to the post. On slide 3, you will need to complete the brainstorm activity: What is a relationship? Record your answer on the page below.	5 minutes	
2. On slide 5, students are to complete the answers in the table below. E.g. what does trust look like?	5 minutes	
3. On slide 6, complete the answers to the mind map: Why do sexual feelings increase throughout adolescence?	8-10 minutes	
4. On slide 7, research the answers to the questions on the page below: What is consent in a relationship? What is the law of consent in a relationship?	5 minutes	
5. On slide 8, watch the video for an analogy of consent in relationships https://www.youtube.com/watch?v=fGoWLWS4-kU	3 minutes	
6. On slide 10, watch the YouTube videos and complete the question: How does society create gender roles? https://www.youtube.com/watch?v=-VqsbvG40Ww https://www.youtube.com/watch?v=oEVX4zTZzo https://www.youtube.com/watch?v=aTvGSstKd5Y https://www.youtube.com/watch?v=A0vY7nRND3U	13-15 minutes	
7. Read and complete the scenarios on slides 11 and 12.	10-15 minutes	



Classwork to be completed and submitted

Question 1

What is a relationship?

Question 2

- What does trust look like?
- What does respect look like?
- What does honesty look like?

Question 3

- How does biology affect sexual feelings in adolescence?
- How does peer pressure affect choices we make in relationships?
- How do hormone changes affect sexual feelings in adolescence?



Question 4

What is consent in a relationship?

What is the law of consent in relationships?

Question 5

How does society create gender roles? (Watch Youtube clips)

List one way this has impacted on you personally

Scenarios on the slides

Scenario 1:

Scenario 2:

Scenario 3:

Scenario 4:



Scenario 5:

Relationships



LEARNING INTENTION

- Investigate the features of inclusive and equal relationships.

“



Let's revise - think/pair/share...

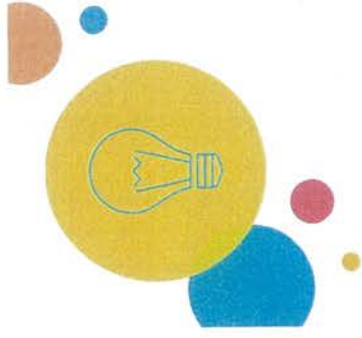
WHAT IS A RELATIONSHIP?



SPELLING LIST

- Rights
- Respect
- Trust
- Honesty
- Support

- Imbalance
- Subtle
- Condemn
- Digitally
- Genetically



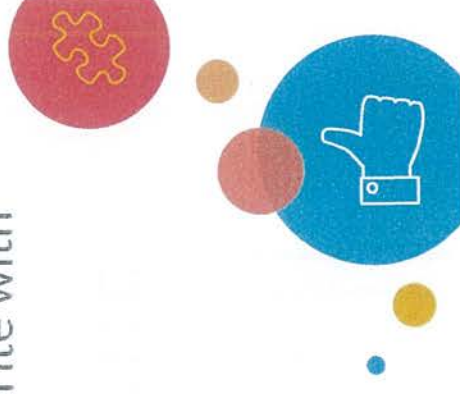
Break students up into 5 groups

Students are to go around to each butchers paper and write what comes to mind when they see or hear the work.

E.g. – what does trust look like, etc.

Each group will contribute to every word on the one piece of butchers paper

Each group will have a different coloured texta to write with
Share the results in a class discussion



WHY DO SEXUAL FEELINGS INCREASE THROUGHOUT ADOLESCENCE?

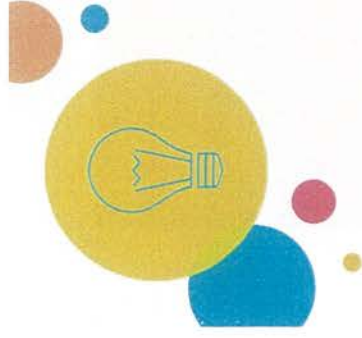
Biology



WHY?

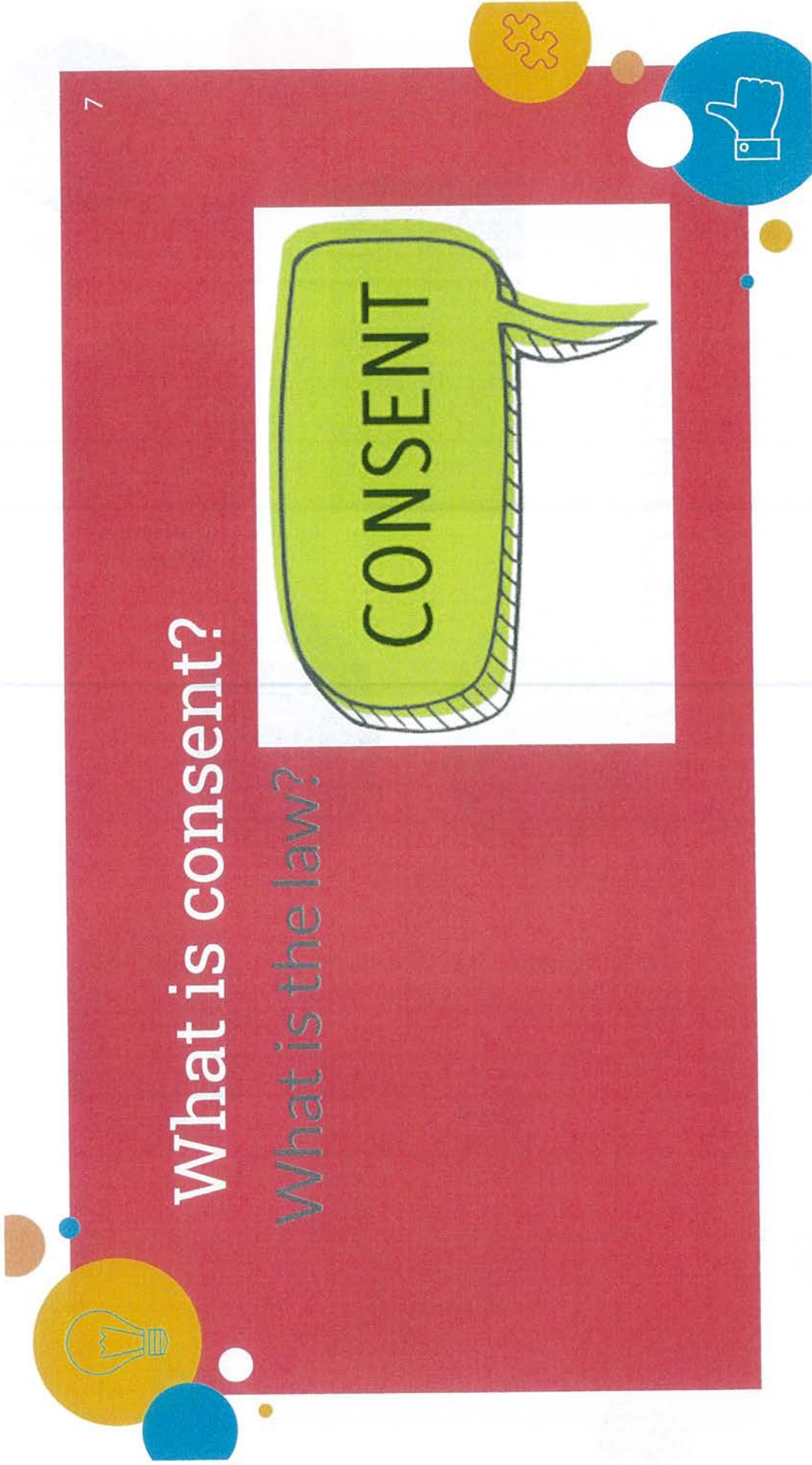
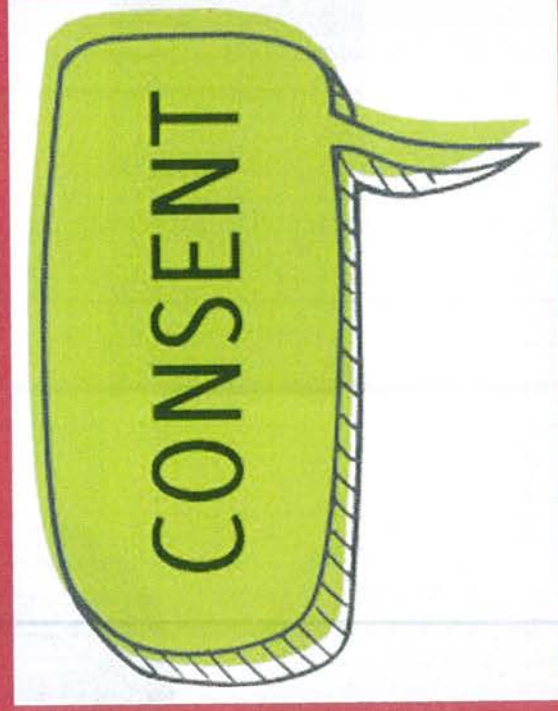
Peer
Pressure

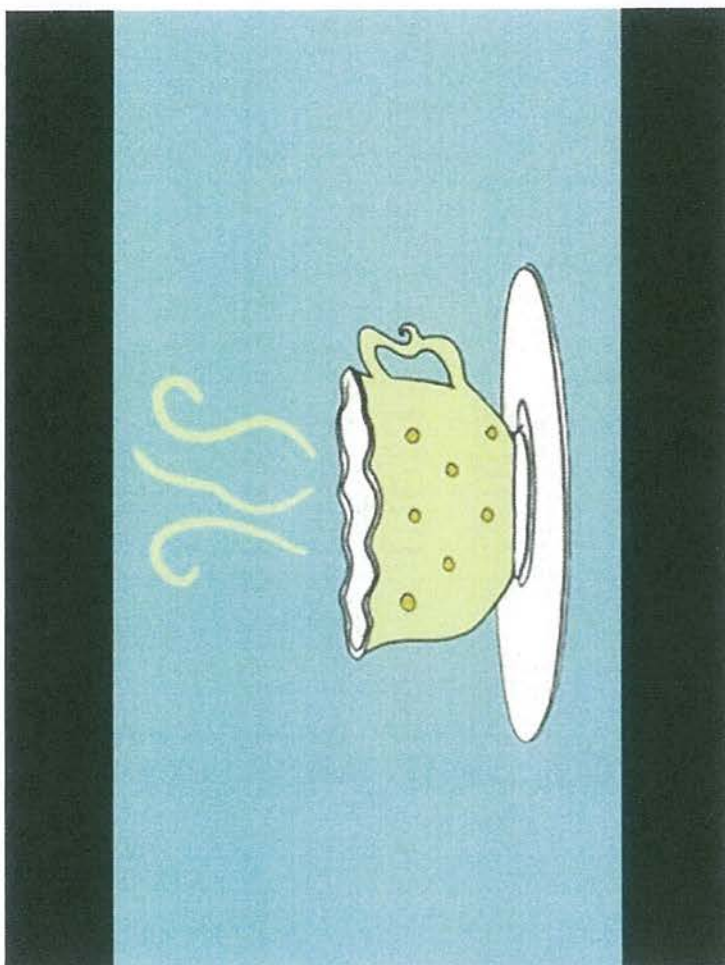
Hormone
Changes



What is consent?

What is the law?

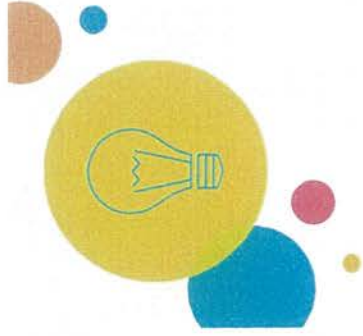




BOY OR GIRL - WHO HAS THE POWER?

- Gender stereotypes can influence the balance of power in relationships
- Boys sometimes think they should be in control in a relationship – can result in an imbalance of power leading to females not being respected





GENDER STEREOTYPES

10

<https://www.youtube.com/watch?v=-VqsbvG40Ww>

Instilled from a young age

<https://www.youtube.com/watch?v=-oEVX4zTZzo>

<https://www.youtube.com/watch?v=aTvGSstKd5Y>

Like a girl -

<https://www.youtube.com/watch?v=A0vY7nRND3U>

Discuss the roles society creates...

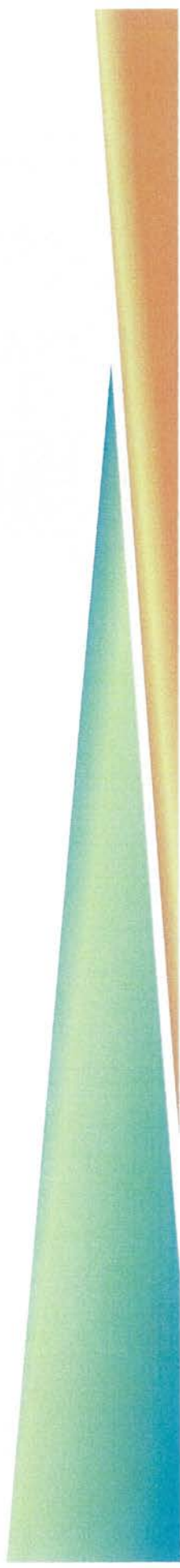


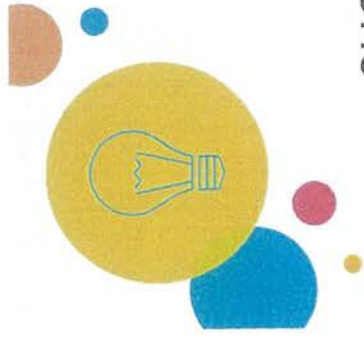
SCENARIOS (IF TIME)

1. Your friend visits your house and takes some money from your bedroom
2. Your parents won't let you go to your friends party because there will be no adults attending the party
3. Your best friend tells the other kids in your class a secret that you confided in them
4. Being pressured into kissing someone at a school or a party



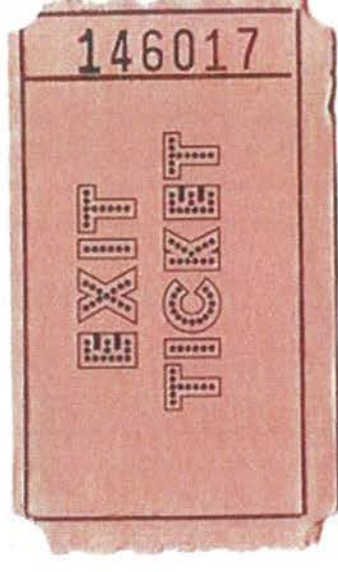
- Identify the problem in your scenario and discuss what each person might be feeling.
- Identify the steps you would take to resolve the problem.
- Role play anyone? How would you resolve it?
- As a class we will identify the positive strategies used in the role play to resolve the conflict.
- Why is conflict resolution an important skill for young people to have?





SUCCESS CRITERIA

Be able to negotiate safe intimate relationships



- List 5 characteristic of a safe intimate relationship
- Identify 3 ways you can keep yourself safe in an intimate relationship



