Year 6 – Home Booklet 11

Monday

<table>
<tr><td>Spelling</td><td>Write your spelling words in your book and discuss the meaning of the words with someone.
Spelling pattern: the digraph /sc/ making the sound 's' as in scissors
prefixes 'macro' (large) and 'micro' (small)
prefix 'un' meaning 'not' or 'opposite'
the graph /c/ making the sound 's'
the prefix 'inter' meaning 'between'

<table><tr><th>Red</th><th>Orange</th><th>Green</th></tr><tr><td>science</td><td>muscle</td><td>disciplinarian</td></tr><tr><td>macroscopic</td><td>microbiology</td><td>microwave</td></tr><tr><td>unarmed</td><td>unevenly</td><td>microcosm</td></tr><tr><td>centimetre</td><td>circumference</td><td>unaffordable</td></tr><tr><td>interwoven</td><td>interaction</td><td>unacceptable</td></tr><tr><td>intercom</td><td>interruption</td><td>participation</td></tr><tr><td></td><td></td><td>accessible</td></tr><tr><td></td><td></td><td>intermediate</td></tr></table></td></tr>
<tr><td>Sentence of the day</td><td>Learning Intention: correctly write a paragraph for a range of purposes.

Remember that a correct paragraph has: 3-4 full sentences, Capital letters and full stops, A topic sentence and A range of simple, compound and complex sentences.

Prompt:
If I could be an animal, I would be...</td></tr>
<tr><td>Writing</td><td>Finishing Your Pebble, Rock and Boulder

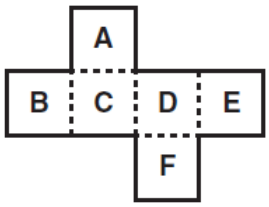
Today you have the opportunity to finish writing your pebble, rock and boulder. If you have done this already, spend 15-20 minutes editing your work. Focus on your punctuation, e.g. full stops, capital letters, ? , " " and commas.

You are so close to finishing your story and publishing it! Keep up the hard work!</td></tr>
<tr><td>Reading</td><td>Read for at least 20 mins a book of your choice.
After reading:</td></tr>
</table>

	Complete <u>one</u> of the following sentences about what you have just read: **<u>Question:</u>** "I wonder if…" or "what if…" **<u>Connection:</u>** "This reminds me of…" **<u>Reaction:</u>** "WOW, I didn't know that…"
Comprehension	Watch your favourite movie or tv show and write 5 questions you might ask one of the characters.
Problem Solving (show your working out)	How many times could you say the alphabet in; a) 1 minute? b) 10 minutes? c) 1 hour? d) 24 hours?
Maths	Write the heading "Geometric Patterns" in your workbook and complete the Math Task page at the back of the booklet.
Other	Have a picnic in your backyard. Make a meal to take outside. OR Set up a scavenger hunt for your family. Make a list of things they need to find. You could hide certain objects in places they wouldn't normally be found. Eg. wooden spoon in the fridge.

Tuesday

Spelling	Cut letters out of a magazine or newspaper to make all your words. Glue them down to make a spelling collage.
Sentence of the day	**Learning Intention:** correctly write a paragraph for a range of purposes. Remember that a correct paragraph has: 3-4 full sentences, Capital letters and full stops, A topic sentence and A range of simple, compound and complex sentences. Prompt: **If I could talk to anyone in the world, I would talk to……. and I would ask them.....**
Writing	**Exciting Ending and Character Resolution** Today you are writing your exciting ending for your story. REMEMBER BAN THE BORING so no "They lived happily ever after", "The End" or "Then they woke up, it was a dream" endings PLEASE!!! **A great conclusion ends with a powerful punch!**

	Because we are in Stage 3 we should also be doing a Character Resolution. That is when the character reveals something they have learnt from the events/their experiences in the story.
Reading	Read for at least 20 mins a book of your choice
Comprehension	Read the article "Microorganisms - Bacteria" and answer the questions for Tuesday.
Problem Solving (show your working out)	Hannah folds this net to make a cube.  Which face is opposite face C?
Maths	Write the heading "Number Patterns" in your workbook and complete the Math Task page at the back of the booklet.
Other	Take some time out and do some colouring. Or Help clean the bathroom. Clean the mirror and wipe the sink.

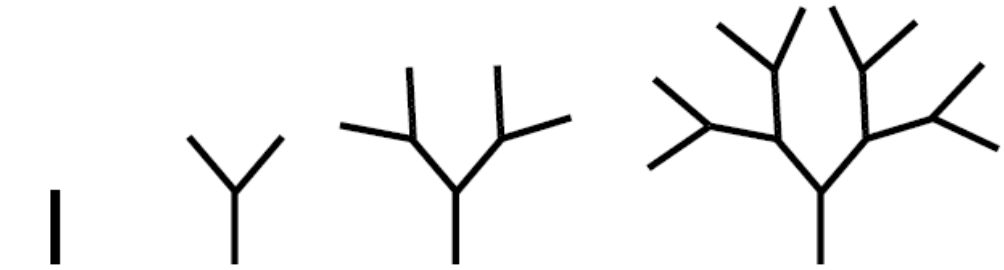
Wednesday

Spelling	Write your words and break them up into sounds and syllables.
Sentence of the day	**Learning Intention:** correctly write a paragraph for a range of purposes. Remember that a correct paragraph has: 3-4 full sentences, Capital letters and full stops, A topic sentence and A range of simple, compound and complex sentences. Prompt: **The best movie I ever saw was...**
Writing	**Publishing** - in your writing book publish a good copy of your story. **Only IF you have access to a computer** publish your good copy using either Word or Google Docs and send it as an attachment to your teacher. You will be given more time to finish your publishing tomorrow so you don't have to do it all today!
Reading	Read for at least 20 mins a book of your choice. After reading:

	Complete one of the following sentences about what you have just read: **Question:** "I wonder if…" or "what if…" **Connection:** "This reminds me of…" **Opinion:** "I think…." **Reaction:** "WOW, I didn't know that…"
Comprehension	Read the article "Microorganisms - Algae" and answer the questions for Wednesday.
Problem Solving (show your working out)	 How many sticks are needed to make the **6th** shape in this pattern? You could use pencils or forks to make the pattern and extend your pattern. Try to show more than one problem solving strategy.
Maths	Write the heading "Decimal/Fraction Number Patterns" in your workbook and complete the Math Task page at the back of the booklet.
Other	Make sure you get outside and move around. Find some rope and start skipping. How many jumps can you get to without making a mistake. OR Make a poster thanking our emergency services personnel. Display it in your front window.

Thursday

Spelling	Write the word and 'hide' it in a picture. Do this for 3 of your words.
Sentence of the day	**Learning Intention:** correctly write a paragraph for a range of purposes. Remember that a correct paragraph has: 3-4 full sentences, Capital letters and full stops, A topic sentence and A range of simple, compound and complex sentences. Prompt: **What I like doing on my birthday is...**
Writing	Finish your publishing. OPTIONAL: draw a picture to go along with your story or (if using a computer) draw one/cut and paste one from the internet.
Reading	Read for at least 20 mins a book of your choice

Comprehension	Read the article "Microorganisms - Fungi" and "Microorganisms - Viruses" and answer the questions for Thursday.
Problem Solving (show your working out)	Lucy made 4 tree designs using sticks. There is a pattern in the way the trees grow.  Tree 1 1 stick Tree 2 3 sticks Tree 3 7 sticks Tree 4 15 sticks Lucy continues the pattern in the same way. How many sticks will Tree 5 have?
Maths	Write the heading "Timelines" in your workbook and complete the Math Task page at the back of the booklet.
Other	Learn to make gummy bear straws. Online you will find recipes (they are called Jolly Rancher Straws. An american product) OR Play a game of Hopscotch.

Friday

Spelling	Get someone to quiz you on your spelling words or do a look cover write check with them.
Sentence of the day	**Learning Intention:** correctly write a paragraph for a range of purposes. Remember that a correct paragraph has: 3-4 full sentences, Capital letters and full stops, A topic sentence and A range of simple, compound and complex sentences. Prompt: **When I relax, I like to...**
Reading	Read for at least 20 mins a book of your choice. ***After reading***: Complete one of the following sentences about what you have just read: **Question:** "I wonder if…" or "what if…" **Connection:** "This reminds me of…" **Opinion:** "I think…." **Reaction:** "WOW, I didn't know that…"

Other	Take a book outside and read on your own. OR Complete any unfinished work.

UNIT 22

Geometric patterns

8 Making a pattern of hexagons

a Complete and extend the table to record the number of sides needed to make the pattern of hexagons.

Hexagons	1	2	3	4	5	6	7
Sides							

b Write a rule to describe the pattern.

c How many sides would there be on 9 hexagons? _____

9 Making a pattern of octagons

a Complete and extend the table to record the number of sides needed to make the pattern of octagons.

Octagons	1	2	3	4	5	6	7
Sides							

b Write a rule to describe the pattern.

c How many sides would there be on 11 octagons? _____

10 Making a pattern of decagons

a Complete and extend the table to record the number of sides needed to make the pattern of decagons.

Decagons	1	2	3	4	5	6	7
Sides							

b Write a rule to describe the pattern.

c How many sides would there be on 15 decagons? _____

11 Making a pattern of dodecagons

a Complete and extend the table to record the number of sides needed to make the pattern of dodecagons.

Dodecagons	1	2	3	4	5	6	7
Sides							

b Write a rule to describe the pattern.

c How many sides would there be on 10 dodecagons? _____

12 Make up a table of your own based on any shape below.

heptagon

pentagon

nonagon

Shape	1	2	3	4	5	6	7
Sides							

UNIT 34

Number patterns

1 Apply the rule to complete the sequences.

a ■ + 17 = ●

■	1	2	3	4	5	6	7	8
●								

b ▲ × 7 = ●

▲	1	3	5	7	9	11	13	15
●								

c ▲ − 13 = ■

▲	90	80	70	60	50	40	30	20
■								

d 3 × ■ + 4 = ●

■	2	4	6	8	10	12	14	16
●								

e ■ × 5 − 3 = ●

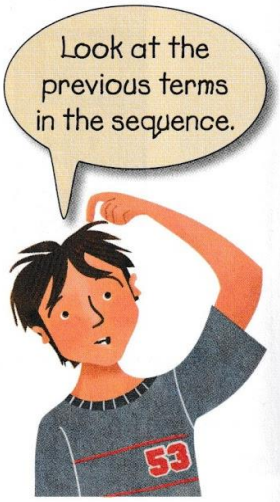
■	1	2	3	4	5	6	7	8
●								

f ■ × 7 − 5 = ●

■	1	3	5	7	9	11	13	15
●								

2 Write a rule to describe each number sequence.

a	13	27	41	55	69	83	
b	129	114	99	84	69	54	
c	3	6	12	24	48	96	
d	2	6	18	54	162	486	
e	1.2	1.7	2.2	2.7	3.2	3.7	
f	98	97.4	96.8	96.2	95.6	95	



3 Create number sequences using the operations, then write a rule for each. The first one has been done for you.

a Multiplication and addition

▲	1	2	3	4	5	6	7
●	3	5	7	9	11	13	15

Rule ▲ × 2 + 1 = ●

b Multiplication

▲	1	2	3	4	5	6	7
●							

Rule ▲ × □ = ●

c Addition

▲	1	2	3	4	5	6	7
●							

Rule ▲ + □ = ●

d Multiplication and subtraction

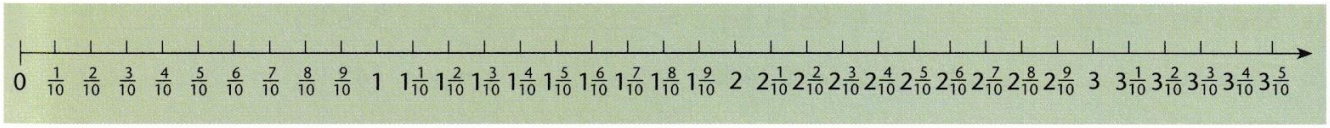
▲	1	2	3	4	5	6	7
●							

Rule ▲ × □ − □ = ●

UNIT 33

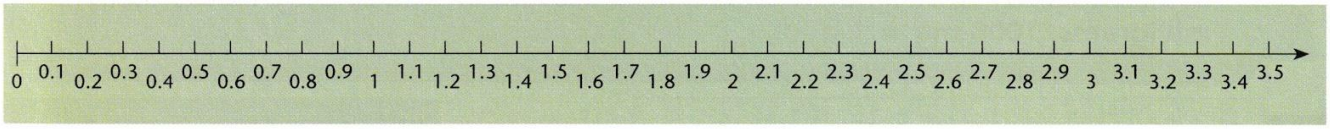
Decimal/fraction number pattern

1 Use the number line to help you continue these sequences.



a	0	$\frac{3}{10}$	$\frac{6}{10}$	$\frac{9}{10}$			
b	1	$1\frac{2}{10}$	$1\frac{4}{10}$	$1\frac{6}{10}$			
c	0	$\frac{4}{10}$	$\frac{8}{10}$	$1\frac{2}{10}$			
d	$1\frac{2}{10}$	$1\frac{4}{10}$	$1\frac{6}{10}$	$1\frac{8}{10}$			
e	$\frac{6}{10}$	1	$1\frac{4}{10}$	$1\frac{8}{10}$			
f	$3\frac{5}{10}$	$3\frac{2}{10}$	$2\frac{9}{10}$	$2\frac{6}{10}$			

2 Use the number line of decimals to help you continue these sequences.



a	0	0.3	0.6	0.9			
b	0	0.4	0.8	1.2			
c	0	0.06	0.12	0.18			
d	1.1	1.3	1.5	1.7			
e	3	2.5	2	1.5			
f	3.5	3.1	2.7	2.3			

3 Continue the sequences.

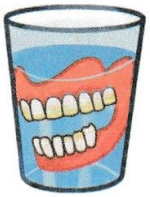
a	0.11	0.14	0.17	0.2			
b	0.31	0.35	0.39	0.43			
c	0.07	0.11	0.15	0.19			
d	6.37	6.42	6.47	6.52			
e	0.03	0.09	0.15	0.21			
f	$1\frac{1}{6}$	$1\frac{3}{6}$	$1\frac{5}{6}$	$2\frac{1}{6}$			
g	2	$2\frac{2}{3}$	$3\frac{1}{3}$	4			
h	3	$3\frac{3}{4}$	$4\frac{1}{2}$	$5\frac{1}{4}$			
i	4	$4\frac{3}{8}$	$4\frac{6}{8}$	$5\frac{1}{8}$			
j	5	$5\frac{5}{12}$	$5\frac{10}{12}$	$6\frac{3}{12}$			

Timelines

11 Draw a line to estimate a place on the timeline for each of these major inventions.

800 BC
600 BC
400 BC
200 BC
Birth of Christ
AD 200
AD 400
AD 600
AD 800
AD 1000
AD 1200
AD 1400
AD 1600
AD 1800
AD 2000

700 BC	False teeth
AD 600	Windmill
AD 1661	Paper money
AD 105	Paper
AD 1714	Typewriter
AD 1903	Aeroplane
AD 1876	Telephone
AD 1830	Sewing machine
AD 1946	Computer
AD 1960	Internet





12 Calculate the difference in time between these inventions.

a The invention of the typewriter and the telephone. _____

b The invention of paper and the typewriter. _____

c The invention of paper and paper money. _____

d How many years between 800 BC and 2000 AD? _____

13 Design a timeline starting at 1997 to record the events in Prani's life. Draw a line to match the events to a place on the timeline.

Scale: 1 cm = 1 year

I was born in 1997

Arrived in Australia in 2000

Started pre school in 2004

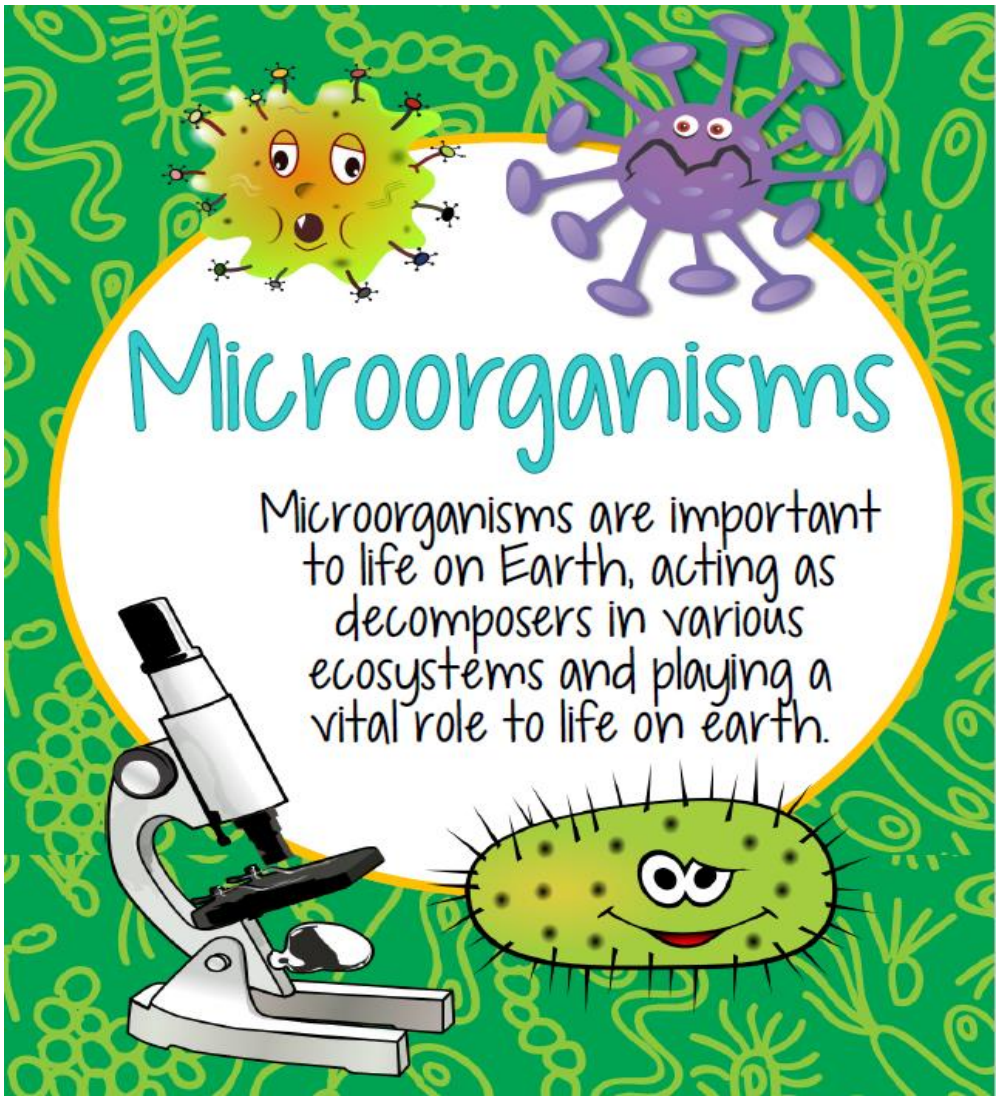
Started netball in 2007

Moved to Newcastle in 2010

Started Year 11 in 2013

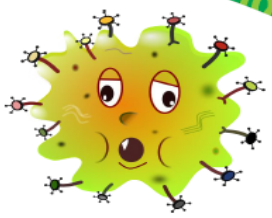
1997

14 On a separate piece of paper, design a timeline for events in your life. You will need to devise a scale first.



Viruses

Viruses are very small particles or germs that can infect animals and plants and make them sick. Viruses are made up of genetic materials like DNA and are protected by a layer of protein.



Viruses hijack the cells of **living organisms** by injecting their genetic material into the cell and taking it over. This cell can be used to make more viruses and take over more cells. Scientists differ on whether viruses are actually alive or not. They do not have organized cell structures and no nucleus, which are usually characteristics of living things.

Viruses are very small and lightweight. They can float through the air, survive in water, or even on the surface of your skin. Most viruses are so small they cannot be seen with an optical microscope. One of the most common is **influenza** which causes people to get the flu. Virus are mostly harmful to humans.

Helpful or Harmful?

Billions of good bacteria in our bodies live in our intestines more than 100 different kinds in fact. These bacteria help us digest our food to get nutrients. Other bacteria make vitamins to help keep us healthy and disease free. Some yoghurt has a bacteria in it called Bifidus Regularis that helps regulate our digestive systems.

Some bacteria float in the air and land on us. The helpful ones leave behind substances that keep harmful bacteria off of our skin. Harmful bacteria on our skin can cause sores or pimples. Harmful bacteria can transfer to food when we eat it, causing viruses that make us sick.

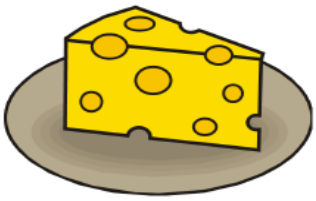
As part of the filtration process, water is exposed to living bacteria that eat or destroy any harmful substances that may still be found in the water.

Many bacteria and fungi are used to create medicines. E. coli is a bacteria that can be made into a medicine called insulin used by people with diabetes.

Penicillin is made from a fungus called 'Penicillium', which is used to make penicillin, a antibiotic that kills harmful bacteria.

Helpful or Harmful?

Yeast is a type of fungus and yeast in bread is what helps it to rise. Mould, another type of fungus, helps to flavour the different kinds of cheeses we eat. While some mould can be beneficial, some types of mould are also harmful and will make you sick if you eat them.



To help our bodies fight off viruses, we get injections called vaccinations. Interestingly, vaccines put a small amount of the germ into our bodies so our bodies get used to fighting it off.

Bad bacteria also lives in your mouth. They like to feed on old food stuck in your teeth. As they feed, they make an acid that makes teeth soft and decay. This causes cavities (holes in your teeth). This is why brushing your teeth is so important!

Some protozoa are helpful to humans by eating dangerous bacteria. Unfortunately, other protozoa are parasites and can be harmful to humans by transmitting disease.

Discoveries

An accidental discovery...

One of the most important medical advances in history began by accident. On the morning of September 3rd, 1928, Professor Alexander Fleming, a British scientist, noticed that mould had prevented the growth of bacteria in his lab.

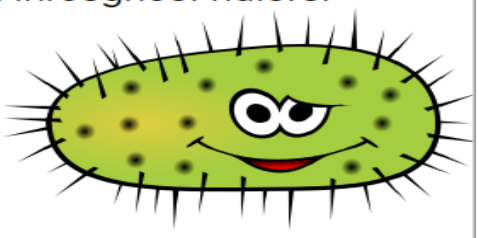
Further research on the mould found that it could kill other bacteria and that it could be given to small animals without any side effects. Fleming moved onto other medical issues and it was ten years later that Howard Florey and Ernst Chain, working at Oxford University, isolated the bacteria-killing substance found in the mould - penicillin.

Penicillin made a difference during the first half of the 20th century. The first patient was successfully treated in the United States in 1942. Penicillin helped reduce the number of deaths and amputations of troops during World War II. To date, penicillin has become the most widely used antibiotic in the world – an amazing accidental discovery!

Bacteria

Bacteria are tiny little organisms that are everywhere around us. They are so small, that we need a microscope to see them, but they are in the air, on our skin, in our bodies, in the ground and all throughout nature.

Bacteria are **single-celled microorganisms**. Their cell structure is unique as they don't have a nucleus and most have cell walls similar to plant cells.



They come in all sorts of shapes including rods, spirals, and spheres. Some bacteria move around using long tails called **flagella**. Others just hang out or glide along.

Most bacteria aren't dangerous, but some are and can make us sick. These bacteria are called **pathogens**. Not all bacteria are bad. Most are very helpful to us and play an important role in the planet's ecosystem and in human survival.

Tuesday Comprehension

Microorganisms – Bacteria

1. **What do you need to see bacteria?**

_____

2. Where can you find bacteria?

_____

_____

_____

3.What don't their cells have? _____

4. What shapes do bacteria come in?

_____

_____

5. Some have tails. What are they called? _____

6. What are bacteria called that can make us sick?

_____

7. Explain how bad bacteria causes cavities in your teeth?

_____

_____

_____

8. What do you think brushing does to stop it?

_____

_____

_____

9. How do you think bacteria could be helpful?

_____

_____

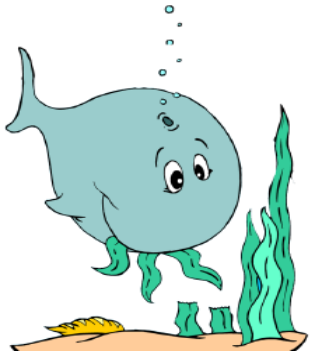
_____

Algae

The word **algae** comes from the Latin word for seaweeds. Algae have been on the earth for over two billion years! They can be giant in size, like the sea kelp found in the ocean, or so tiny they can only be seen through a microscope.

Like plants, most algae use the energy of sunlight to make their own food through **photosynthesis**. Unlike plants, algae do not have roots, leaves and other structures typical of true plants. Instead they belong to a group of living things called **protists**.

Algae are an important source of **food** and **oxygen** for plants and animals that live in the water. Having algae in a water system is healthy for the ecosystem. Algae also absorbs oxygen, so too much algae can use up the oxygen in the water and that's not good for the health of a waterway.



Wednesday Comprehension

Microorganisms – Algae

1. Algae is a Latin word meaning?_____

2. Name a giant-sized algae? _____

3. Explain how algae is like plants.

_____

_____

4. How are algae NOT like plants?

_____

_____

5. Where are algae usually found?

_____

6. What do algae supply for plants and animals that live in the water?

_____

7. Why do you think having too much algae is bad?

_____

_____

8. What are they cleaning off the fish tank?

_____

Why do they have to do it?

_____

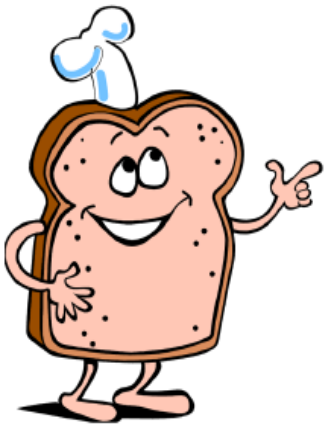
_____

_____

Fungi

Fungi are a group of living organisms which are not animals, plants, or bacteria. Unlike bacteria, which have a simple cell structure, fungi have more complex cells like animals and plants.

Fungi are found everywhere: on land, in the water, in the air, and even in plants and animals. There are more than 100,000 different species of fungi. They vary widely in size from microscopically small to the largest organisms on Earth at several square kilometres large. Scientists often divide fungi into **four groups**: club fungi, moulds, sac fungi, and imperfect fungi.



Some of the more common fungi that are used everyday include **mushrooms**, **mould** and **yeast,** which is used to make bread. Fungi play an important role in the decomposition of organic matter, which is necessary for many of the cycles of life such as the carbon, nitrogen and oxygen cycles.

Thursday Comprehension

Microorganisms - Fungi

1. How many different species of Fungi are there?_____

2. List 2 types of common fungi:

_____ _____

3.What type of fungi are used in making bread?

_____

4. List the 4 groups of fungi

_____ _____

_____ _____

Microorganisms -Viruses

1.What are viruses? _____

_____

2.Where can viruses survive? _____

_____

3.What is the most common virus? _____

Why do you think it is most common? (Use the information in the text)_____

_____

_____

4. Viruses hijack the cells of living organisms. What does this mean?

_____

_____

_____