MINISTRY OF EDUCATION
Te Tāhuhu o te Mātauranga

English Language Intensive Programme Unit

Stage 2

Microbes

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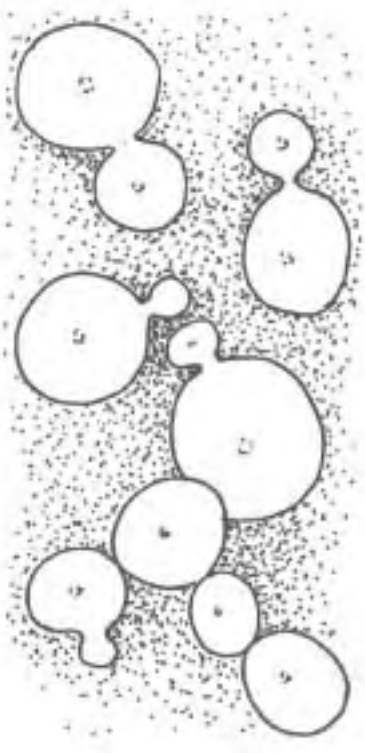
MICROBES

Fungi -

A topic based language learning programme for students learning English at **E**nglish **L**anguage **I**ntensive **P**rogramme (ELIP) Stage 2

Age: Secondary

mushrooms



yeast

mould

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This unit has been written for the English Language Intensive Programme by Shirley Smith 2004.

INTRODUCTION

MICROBES
Fungi-mushrooms, yeast, mould

The purpose of this unit is to teach some of the basic skills of English using a scaffolded learning approach. The topic fungi is linked to the Year 11 Science curriculum. The theme is microbes and there are three topics - fungi, bacteria and viruses. This unit is on the topic of **fungi**. The unit begins with a look at the **parts of a microscope** and an introduction to the general theme of **microbes**.

Possible things to do:

- Allow students to use a microscope. It may be possible to borrow some slides from the Science Department or students may be able to have a lesson in a science laboratory.

Mushrooms

- Obtain some large field mushrooms, break some in half and arrange the mushrooms in clusters for students to study and sketch.
- Many types of dried mushrooms can be purchased from supermarkets.

Yeast

- Show students a variety of breads - those with yeast and those without.
- Put some dried yeast in a glass with sugar to demonstrate the chemical reaction.
- Arrange a visit to a local bakery to watch bread being made. This is an opportunity for procedural and recount writing.

Mould:

- As you begin teaching the *Microbes* unit, start growing some bread and fruit mould in a dark place. The tiny threads are visible and your students can see how mould grows. Show students blue vein cheese.

Teacher notes – Objectives and activity guide

Overall objectives.

At the end of this unit students will be able to :

- Identify technical words related to parts of the microscope, microbes and fungi.
- Know the forms of some singular and plural nouns.
- Distinguish between simple and compound sentences.
- Identify prepositional phrases and phrasal verbs.
- Identify verb phrases.
- Understand synonyms.
- Write a description and a scientific explanation using simple and compound sentences.

ACTIVITY 1-6 ~ Reading and word focus

TOPIC A: The parts of a microscope

Diagram: a. eyepiece b. barrel c. high powered lens d. low powered lens e. clips f. stage g. mirror h. base i. arm

Activity 1

a) Write on the whiteboard the definition of a microscope such as:

> A microscope is an instrument used to magnify very small things so that we can look at them and study them.

Erase a word one at a time and get students to read the definition until most or all the words are erased. Leave a line the length of each word as a clue. Students then write out the definition.

b) Label the parts of the microscope. Use the OHT to assist students.

c) Demonstrate how a crossword works. Complete the crossword using the diagram to find the information. ANSWERS.

Across. 1. arm 3. barrel 5. stage 6. low 8. clips

Down. 2. mirror 3. base 4. eyepiece 6. lens 7. high

TOPIC B: Microbes – An overview

KEY WORDS: *microbes float air water soil tiny microscope disease harmful harmless necessary people animals survive fungi bacteria viruses*

Activity 2

Teacher to sketch the pictures on the whiteboard or students draw their own pictures to illustrate the words.

Activity 3

Match the words with the pictures.

Activity 4 (photocopy the word list twice)

a) Students find the definitions using their dictionaries.
b) Students cut, match and paste the definitions next to the words.

Activity 5

a) Use the OHT of the text to read the passage. Discuss any difficult words and draw attention to syllabification, word stress and tonal grouping of phrases as the text is read.
b) Use the OHT of fungi, a bacterium and viruses. Students copy the pictures onto their workpage.

Activity 6

a) Complete the crossword puzzle.

Across. 4. air 5. animals 7. viruses 9. microbes 10. people

Down 1. fungi 2. microscope 3. bacteria 6. disease 8. soil

b) Use the words from the puzzle to complete the text **Microbes**.

Activity 7

Nouns – singular and plural

ACTIVITY 8 ~ Listening and writing focus

Activity 8

Disappearing text (Completion Dictation : Nation 1955)

More and more words are deleted until the students write every word. Make sure that students fold each section so that they can only see one section at a time. Pens down at all times other than when writing the dictation.

ACTIVITY 9 ~ Grammar and writing focus

Activity 9

Teach simple and compound sentences. (page 25)

a) Cut out the sentence parts and combine to make simple sentences. Write in workbooks. Underline the verb phrases.

b) Combine the simple sentences to make compound sentences.

Sentences:
1. A microscope magnifies very small things.
2. Most bacteria are very helpful.
3. Mould grows on soft fruit and bread.
4. A mushroom has a cap, a stalk and gills.
5. Microbes live in air, water and soil.
6. Viruses can cause serious diseases.

ACTIVITY 10 ~ Reading, writing, speaking and listening focus

Activity 10

Partnership dictation. Each student has a partner. They dictate to each other in turn. If you give the dictation on Monday, then students can prepare one dictation for 4 nights of the week. For homework the dictation is written out three times each with attention to spelling of the more difficult words. Teachers may prepare more partnership dictation for each of the topic headings. Change partners each week.

ACTIVITY 11 ~ Word focus

TOPIC C Fungi – An overview

KEY WORDS: *absorb surroundings nutrients a particle ripe drift enzymes food spores food supply*

Activity 11

Match the words with the definitions.

ACTIVITY 12 ~ Reading and grammar focus

Activity 12

Use the OHT texts *Fungi, How fungi feed, How fungi reproduce* for whole class reading. Identify verb phrases.

ACTIVITY 13 - 14 ~ Word focus

TOPIC D: Mushrooms

KEY WORDS: *web fresh dried cultivate scale reproduce surface preserved dehydrated*

Activity 13

Read the text and label the parts of a mushroom.

Activity 14

Use dictionaries to complete the word list.

ACTIVITY 15 – 17 ~ Reading, word and writing focus

Activity 15

a) Read the text and complete the chart.

b) Tick the boxes and use the information to write **simple sentences** such as – "A plant has leaves". and **compound sentences** using *but* such as "Plants need light to grow **but** mushrooms can grow in the dark".

Activity 16

a) Students work individually.

b) Find and underline the puzzle words in the **Mushroom** text.

c) Complete the puzzle.

Activity 17

Teacher reads the sentences and students sequence and match with the pictures.

Activity 18

a) Draw students' attention to the language features of an explanation text.

b) Students cut out the sentences and reconstruct a paragraph and then write the paragraph in their workbooks. Underline the verb phrases.

ACTIVITY 19 ~ Listening and writing focus

Activity 19

Disappearing Text. Same as Activity 8.

ACTIVITY 20 - 21 ~ Word and reading focus

TOPIC E: Yeast

KEY WORDS: a cell evaporate moisture warmth dough alcohol a bud rise bake carbon dioxide bread

Activity 20

Match the words with the definitions.

Activity 21

Use the OHT for whole class reading. Identify the verb phrases and nouns.

Activity 22

Synonyms. Students complete the table with the synonyms.

1. warmth 2.moisture 3. is mixed 4. feed on 5. produces 6. dough 7. expands 8. is placed 9. stops 10. kills

ACTIVITY 23 ~ Grammar focus

Activity 23

a) Underline the phrasal verbs.

b) Underline the prepositional phrases.

ACTIVITY 24 ~ Reading focus

Activity 24

Cut out the pictures and sentences. Match, sequence and paste onto the worksheet.

ACTIVITY 25 ~ Word focus

TOPIC F: Mould

KEY WORDS: threads tangled secrete moist moisture ripe

Activity 25

Complete the word list using dictionaries.

ACTIVITY 26 ~ Reading and writing focus

Activity 26

Use the OHT for whole class reading. Identify the verb phrases and nouns. Match the sentence parts and write out the sentences.

ACTIVITY 27 ~ Reading, speaking, listening and writing focus

Activity 27

Cut and stick in places at one end of the classroom. Divide the class into pairs. One student reads a sentence and runs to tell their partner who is seated at a desk at the opposite end of the room. They listen and write the sentence down. When all the sentences have been dictated, the students swap tasks.

ACTIVTY 28 ~ Grammar focus

Activity 28

Identify and underline the verb phrases.

ACTIVITY 29 - 31 ~ Word focus

Activity 29

Vocabulary assessment worksheets. These can be given at the end of the unit.

Activity 30

Writing assessment

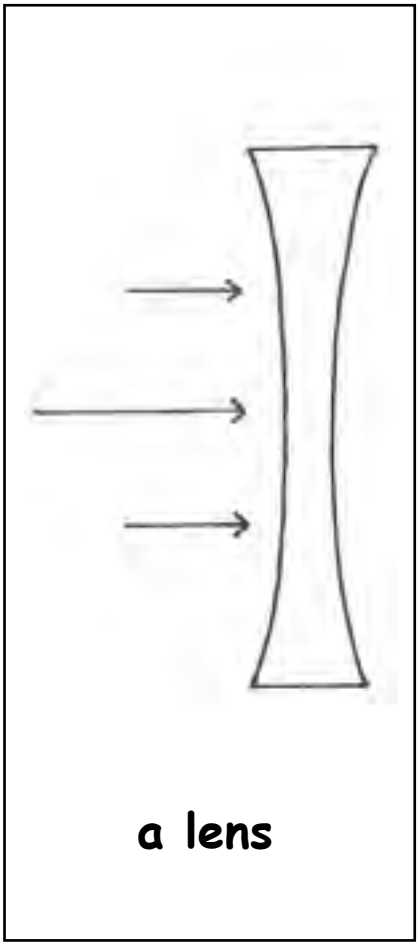
a) Introduce the topic of cheese. Show students different kinds of cheese and discuss the process of cheese-making. Use a mind map to record students' background knowledge of cheese. They may use this information in the written description. Teach the technical terms *fermentation, rennet, a starter culture, curds* and *whey*. Use the text (teacher copy) as a guide.

b) Show the students some 'blue cheese'. Explain how mould is used in cheese-making and how cheese becomes blue. Use the text (teacher copy) and illustrations as a guide. Students then write a description of cheese and an explanation of how cheese becomes blue.

Activity 31

Bingo. Use the word lists to play Bingo. Students draw a grid for 9 words and students select 9 words from the list of 12. This game can be played periodically throughout the unit. This game promotes listening and spelling skills.

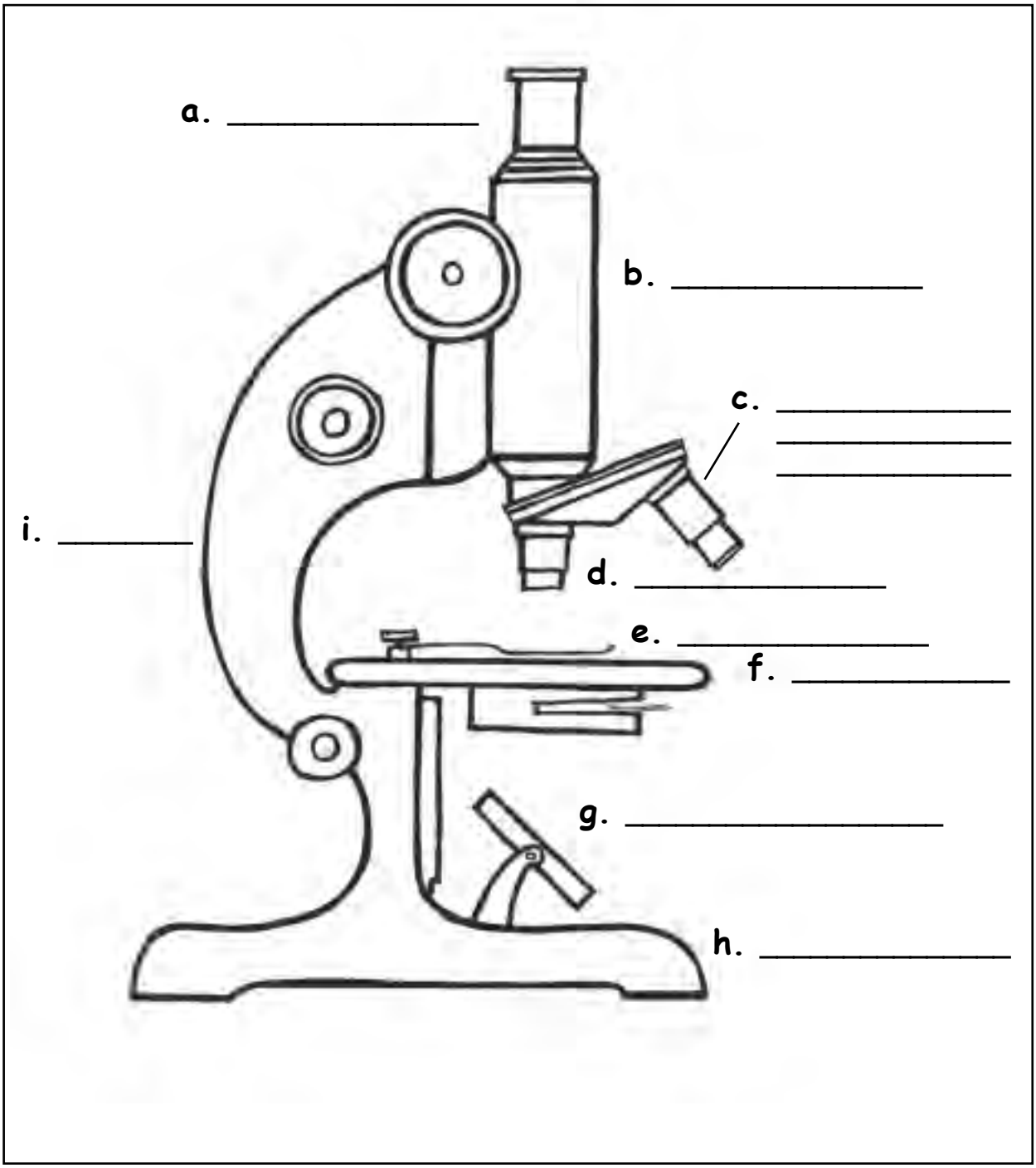
The parts of a microscope



a lens

OHT and student copy

The parts of a microscope

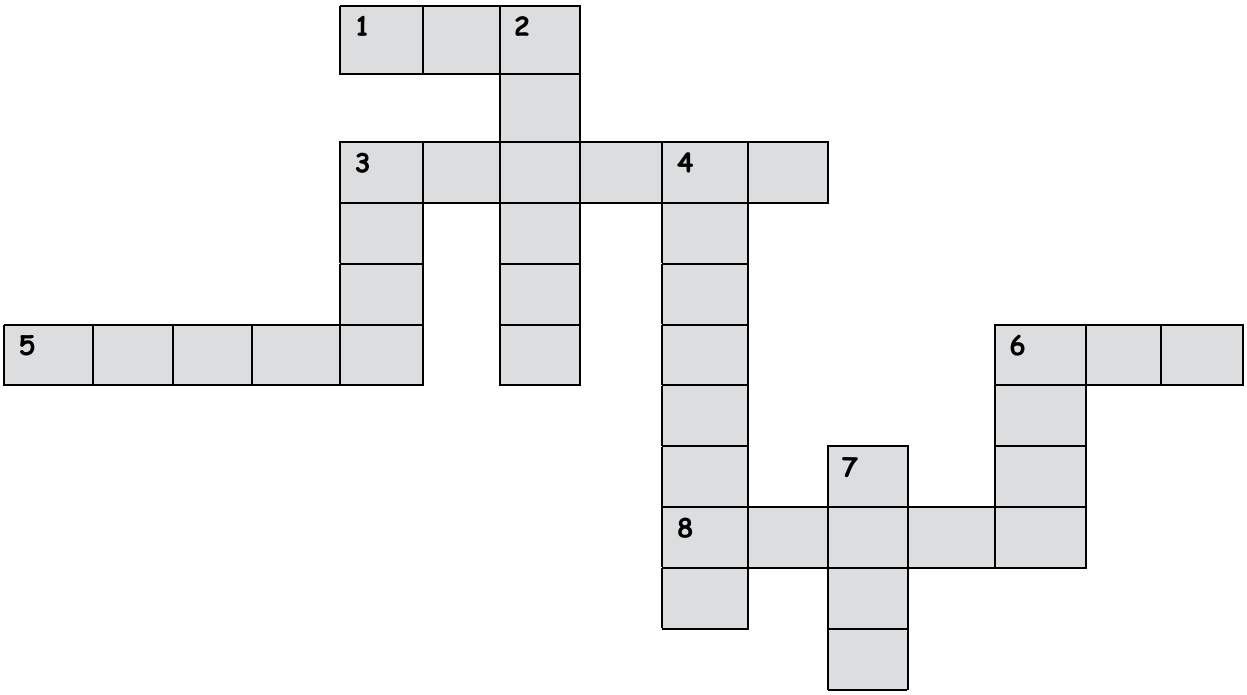


mirror	base	arm	stage	eyepiece	clips
high powered lens		low powered lens		barrel	

ACTIVITY 1

The parts of a microscope

- Look at the diagram of a microscope and complete the crossword puzzle.



Across

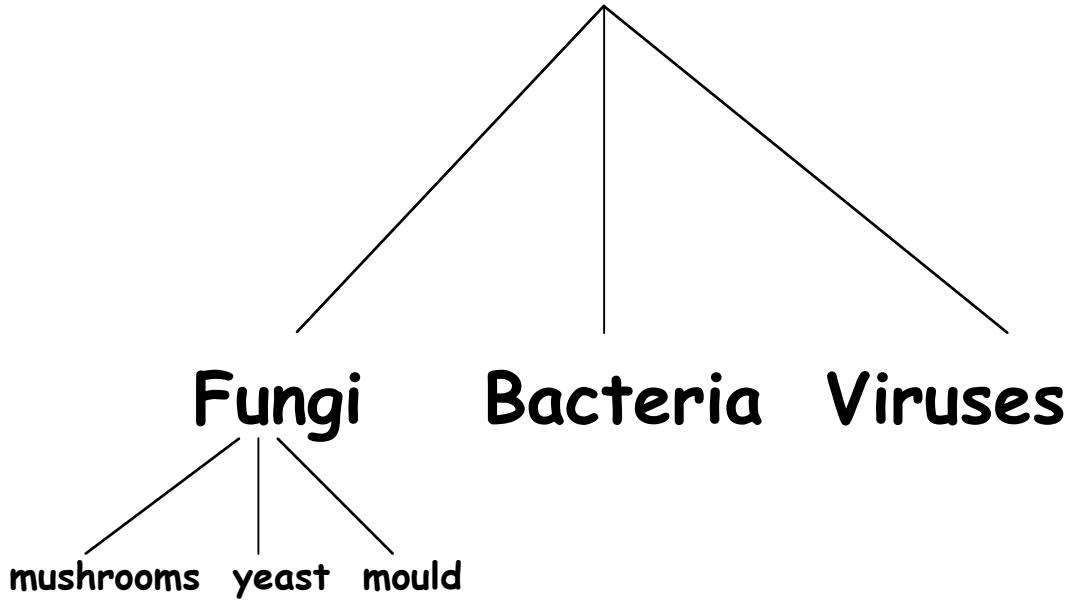
1. The _____ is the part you can hold onto when you move the microscope.
3. The tube you look down is called the _____.
5. The part where you put the slides is called the _____.
6. This lens gives _____ magnification. (shortest one)
8. The _____hold the slide on the stage.

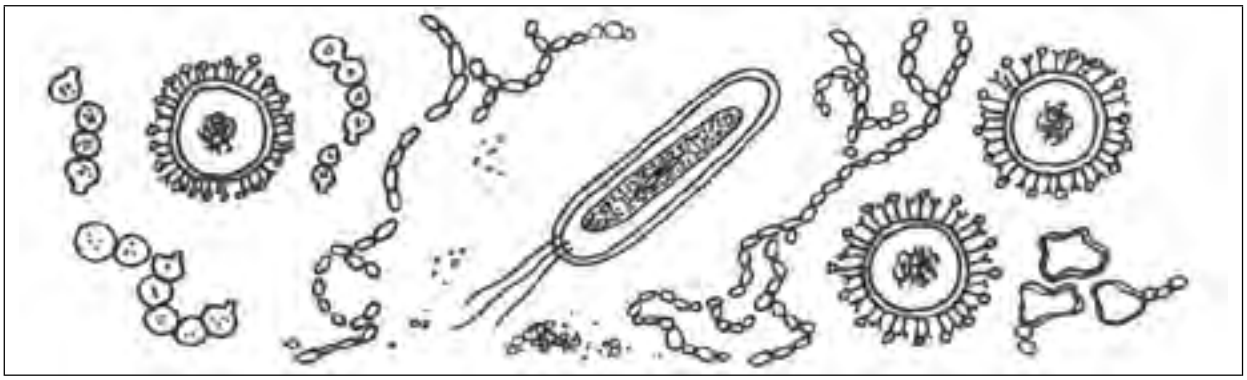
Down

2. The _____ reflects the light.
3. The _____ is the flat part at the bottom of the microscope.
4. The lens you look into is called the _____.
6. A _____ provides magnification.
7. This lens gives _____ magnification. (longest one)

INTRODUCTION

Microbes





Key words

Microbes

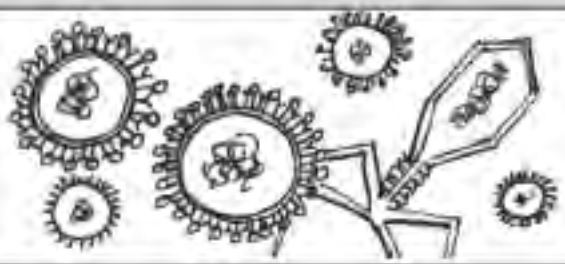
ACTIVITY 2

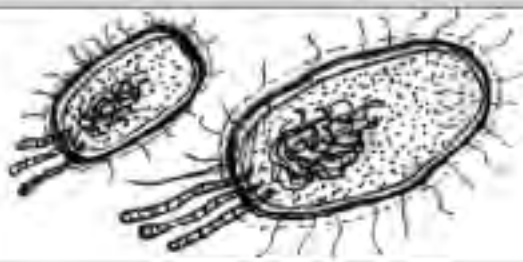
air **water** **soil** **microscope** **disease**
people **animals** **fungi** **bacteria** **viruses**

ACTIVITY 3

Key words

Microbes





air	water	soil	microscope	disease
people	animals	fungi	bacteria	viruses

ACTIVITY 4

Microbes

- Use your dictionary to find the meaning of each word.

First language	English	Definition
	microbes noun	
	float verb	
	air noun	
	water noun	
	soil noun	
	tiny adjective	
	microscope noun	
	disease noun	
	harmful adjective	
	harmless adjective	
	necessary adjective	
	people noun	
	animals noun	
	survive verb	
	groups noun	

Key words - assessment **Microbes**

ACTIVITY

- **Give one list to each student. Paste next to the matching word.**

living things that are not plants, people or microbes	living things that are not plants, people or microbes
humans	humans
to stay alive	to stay alive
very important	very important
can hurt or harm you	can hurt or harm you
will not hurt or harm you	will not hurt or harm you
an instrument that magnifies small objects	an instrument that magnifies small objects
very, very small	very, very small
sickness	sickness
a liquid	a liquid
a mixture of gases that we breathe	a mixture of gases that we breathe
the top layer of the earth's surface - plants grow in it	the top layer of the earth's surface - plants grow in it
very tiny living things	very tiny living things
drift	drift
things or people linked together in some way	things or people linked together in some way

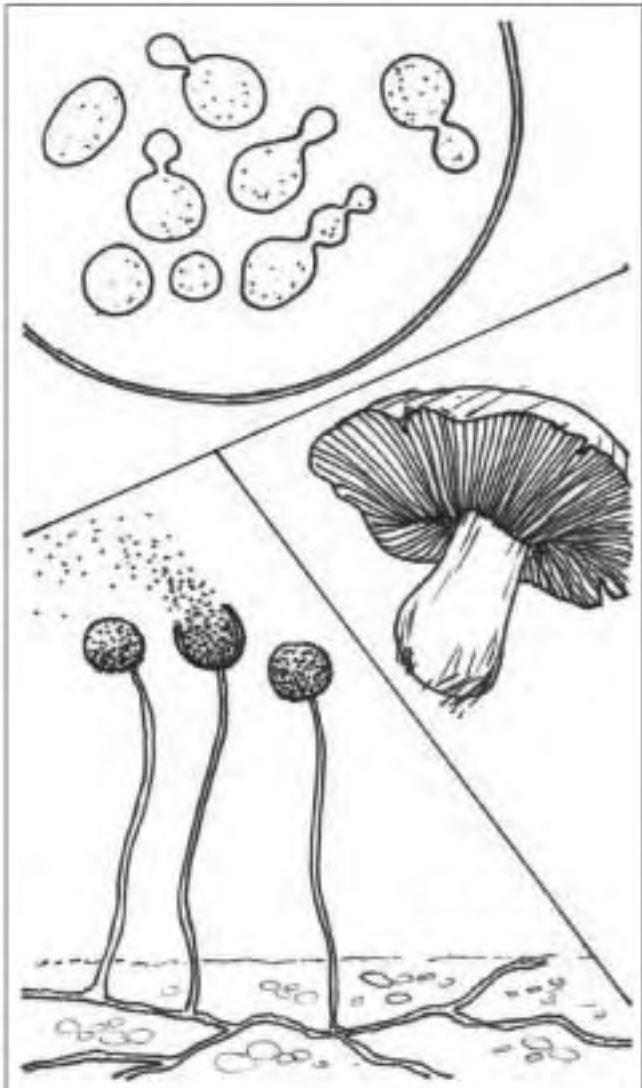
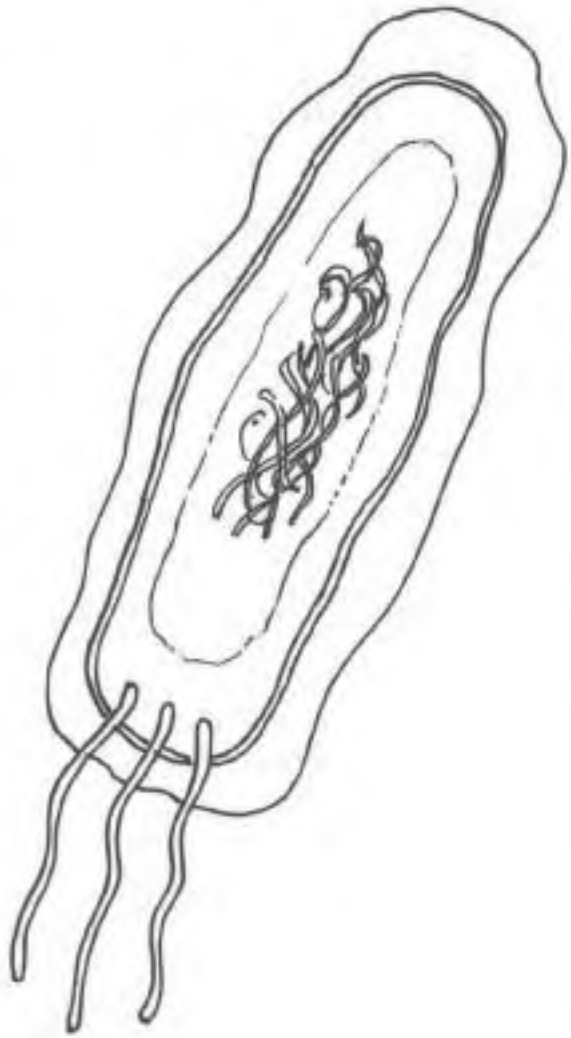
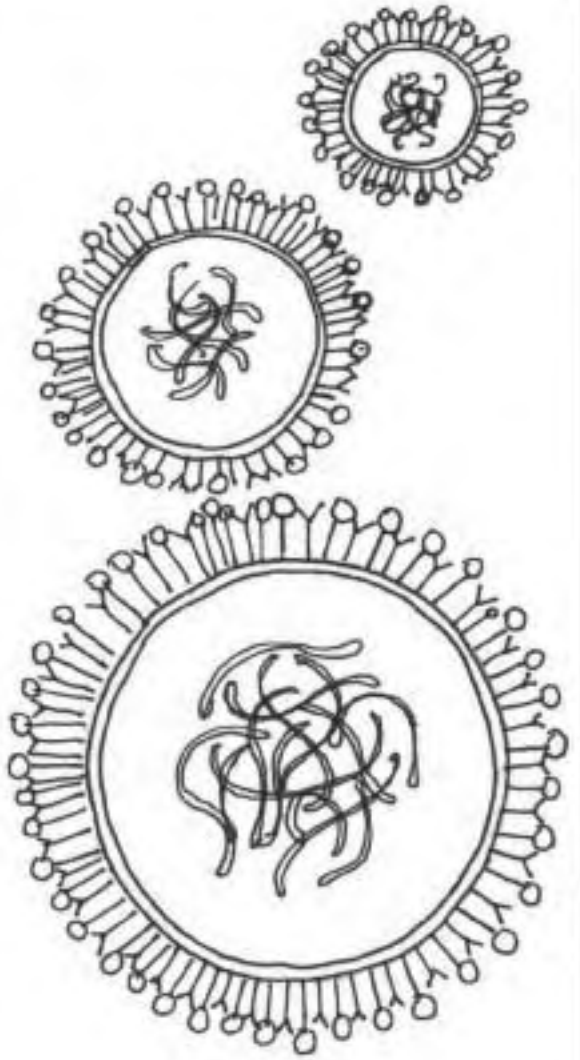
Key words Teacher copy **Microbes**

ACTIVITY 4

First Language	English	Definition
	microbes noun	very tiny living things
	float verb	drift
	air noun	a mixture of gases that we berathe
	water noun	a liquid – all living things need it
	soil noun	the top layer of the earth's surface – plants grow in soil
	tiny adjective	very, very small
	microscope noun	an instrument that magnifies very small things
	disease noun	sickness
	harmful adjective	can hurt or harm you
	harmless adjective	will not hurt or harm you
	necessary adjective	very important
	people noun	humans
	animals moun	living things that are not plants, people or microbes
	survive verb	to stay alive
	groups noun	things or people linked together in some way

▫ Activity..... OHT for students to copy.

ACTIVITY 5

		
Fungi	**a bacterium**	**Viruses**

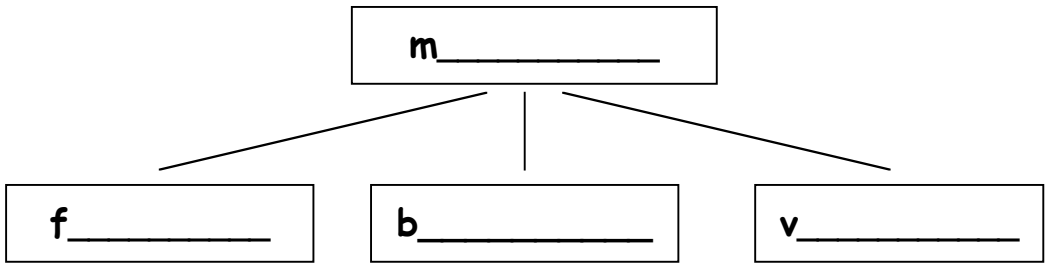
ACTIVITY 5

Microbes

Microbes are found everywhere. Some float in the air and some live in water and soil. Microbes are very tiny so we must use a microscope to see them.

There are thousands of different types of microbes. Some microbes are harmful and cause disease but most of them are harmless. Some microbes are very necessary and people and animals could not survive without them.

There are three main groups of microbes. They are fungi, bacteria and viruses.

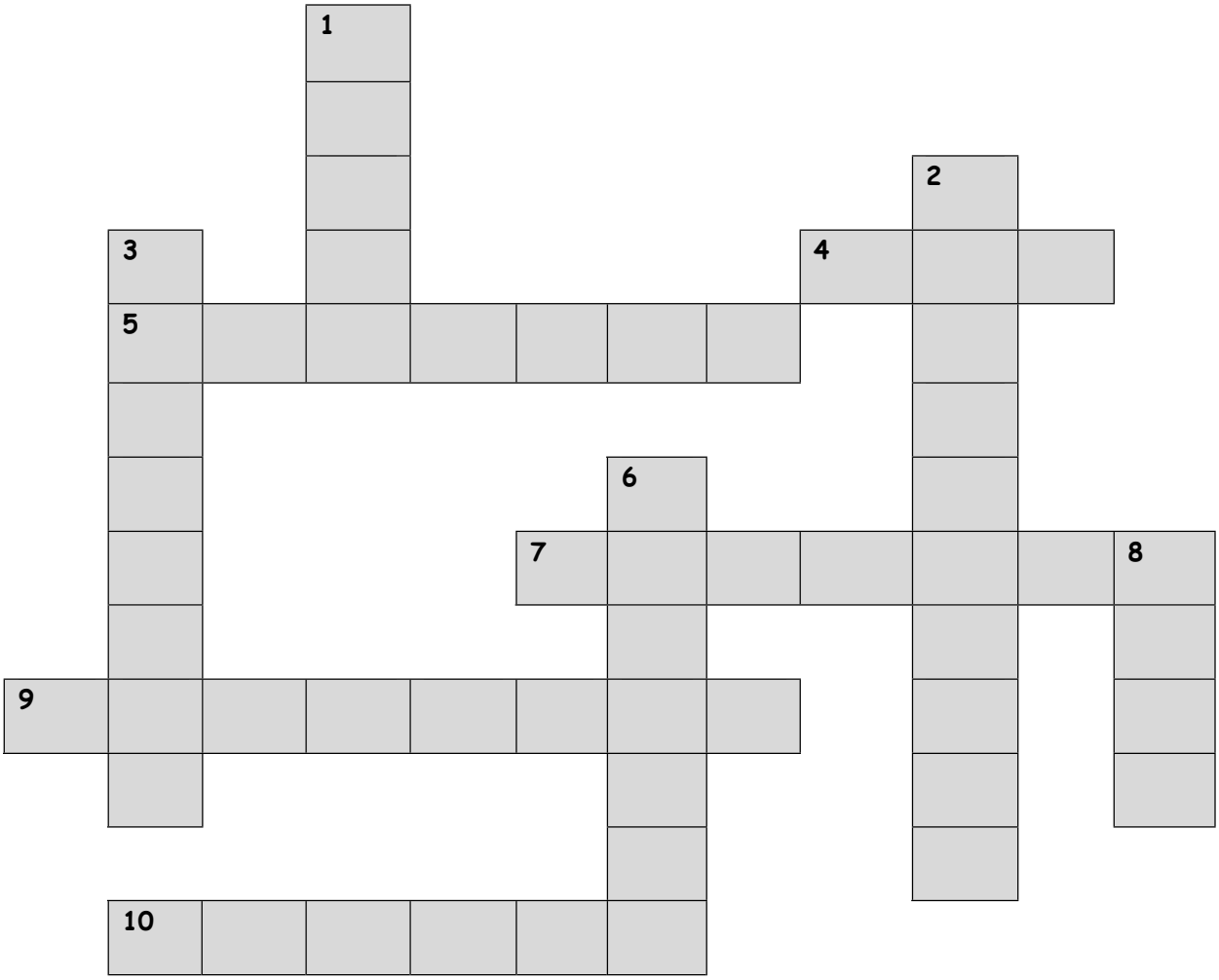


Three main groups of microbes

fungi	bacteria	viruses

ACTIVITY 6

Microbes – Crossword puzzle



Across	Down
4 we breathe it in	**1** mushrooms, yeast, mould
5 living things – cows, sheep, camels	**2** magnifies very small things
7 microbes that cause disease	**3** some are helpful, some are harmful
9 tiny living organisms	**6** sickness
10 humans	**8** plants grow in this

ACTIVITY 6

Microbes

- Write the ten words from the puzzle in the boxes below.

- Use the words to complete the text. You may need to use the same word more than once.

Microbes

_____ are found everywhere. Some float in the ___ and some live in water and ____. _____ are very tiny so we must use a _____to see them.

There are thousands of different types of _____. Some are harmful and cause _____ but most of them are harmless. Some _____ are very necessary and without them _____ and _____ could not survive.

There are three main groups of _____. They are _____, _____ and _____.

Nouns

ACTIVITY 7

Nouns can be <u>singular</u> (microbe) or <u>plural</u> (microbes). We add an 's' to some words to change them from singular to plural.

- Complete the following table.

SINGULAR	PLURAL
soil	
microscope	
	diseases
animal	
virus	
mirror	
	arms
	bases
	organisms
human	
	instruments
	gases
liquid	
	plants

Sometimes we change the spelling of a word to change it from singular to plural.

fungus	
bacterium	
lens	(add 'es')

Sometimes a noun means both singular and plural. The spelling stays the same.

people	water	air

ACTIVITY 8

Microbes

Disappearing text

.....

There are _____ of different types __ microbes. Some microbes are _____ and cause disease but most of them are harmless. Some microbes are ____ necessary. People and _____ could not survive without _____. There are three main _____ of microbes. They are fungi, _____ and viruses.

FOLD A.....

There are thousands of _____ types of _____. Some microbes ___ harmful and cause disease but _____ of them are harmless. Some _____ are very necessary. _____ and animals _____ not survive _____ them. There are _____main groups of microbes. They are _____, bacteria and viruses.

FOLD B.....

There are _____ of _____ types of _____. Some microbes are _____ and cause disease but most of _____ are _____. Some microbes are very _____. People and animals could ___ survive _____them. There are three _____ _____ of microbes. They are _____, _____ and _____.

FOLD C.....

_____

_____

_____

_____

_____

_____

_____

_____

_____

Simple sentences and compound sentences

What is a sentence?

- A sentence must make complete sense.
- The first word of a sentence must begin with a capital letter.
- Each sentence ends with a full stop.
- Each sentence must have a finite verb (one that is marked for tense).

Simple sentences

- **A clause** is a group of words that always contains a finite verb.
- **A simple sentence** is a main clause. It can stand alone or be part of a longer sentence.

Microbes are found everywhere.
Some microbes float in the air.
A microscope magnifies very small things.

Compound sentences

- **A compound sentence** is made up of two main clauses.
- The two clauses are joined together by **conjunctions** such as ***and***, ***but*** or ***so***.

Microbes are found everywhere ***and*** most of them are harmless.

MAIN CLAUSE
Microbes are found everywhere.

MAIN CLAUSE
Most of them are harmless.

Some microbes are harmful ***but*** most of them are harmless.

MAIN CLAUSE
Some microbes are harmful.

MAIN CLAUSE
Most of them are harmless.

ACTIVITY 9

Microbes

- Sentence reconstruction (simple sentences).

Most bacteria	can cause	very small things.
A microscope	magnifies	very helpful.
Mould	grows	in air, water and soil.
A mushroom	live	a cap, stalk and gills.
Viruses	has	on soft fruit and bread
Microbes	are	serious diseases.

.....

Most bacteria	can cause	very small things.
A microscope	magnifies	very helpful.
Mould	grows	in air, water and soil.
A mushroom	live	a cap, stalk and gills.
Viruses	has	on soft fruit and bread.
Microbes	are	serious diseases.

ACTIVITY 9

Compound sentences

- Match the following clauses and use a conjunction to make compound sentences. Write the sentences on the lines below. Use ***and***, ***but*** or ***so***.

MAIN CLAUSE	MAIN CLAUSE
1. A microscope is an instrument. 2. Some microbes live in the air. 3. Water is a liquid. 4. Some bacteria are harmful. 5. Some microbes are necessary. 6. Yeast is used to make bread. 7. The rain stopped. 8. A microscope is heavy. 9. Mould grows on bread. 10. I felt hungry.	People could not survive without them. It must be carried carefully. Some are harmless. I went for a walk. Mould is used to make cheese. Air is a gas. I ate my lunch. Mushrooms grow in soil and humus. It is used to magnify things. Some live in soil and water.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Partnership dictation Homework

ACTIVITY 10

Fungi, bacteria and viruses

1. Some microbes are too small to be visible to the human eye. We need to use a microscope to see them. Microbes are everywhere. Some float in the air and some live in water and soil.	2. There are three kinds of fungi. Different kinds have different shapes and sizes. Yeast is used to make bread. Moulds are made up of tiny, thin threads. Mushrooms can be seen without a microscope.
3. Most bacteria are helpful to humans. Bacteria are found everywhere. They are found in the air and soil, in our food and drink and in plants and animals. Bacteria are probably the most numerous living things on earth.	4. The smallest microbes are viruses. They can only be seen through an electron microscope. Viruses need other living organisms to reproduce. They lie on the borderline between living and non-living things.

- Do you know the meaning of these words?
  Use a dictionary to check the meanings. Make sure you know these words in your first language.

visible .....
(adjective)

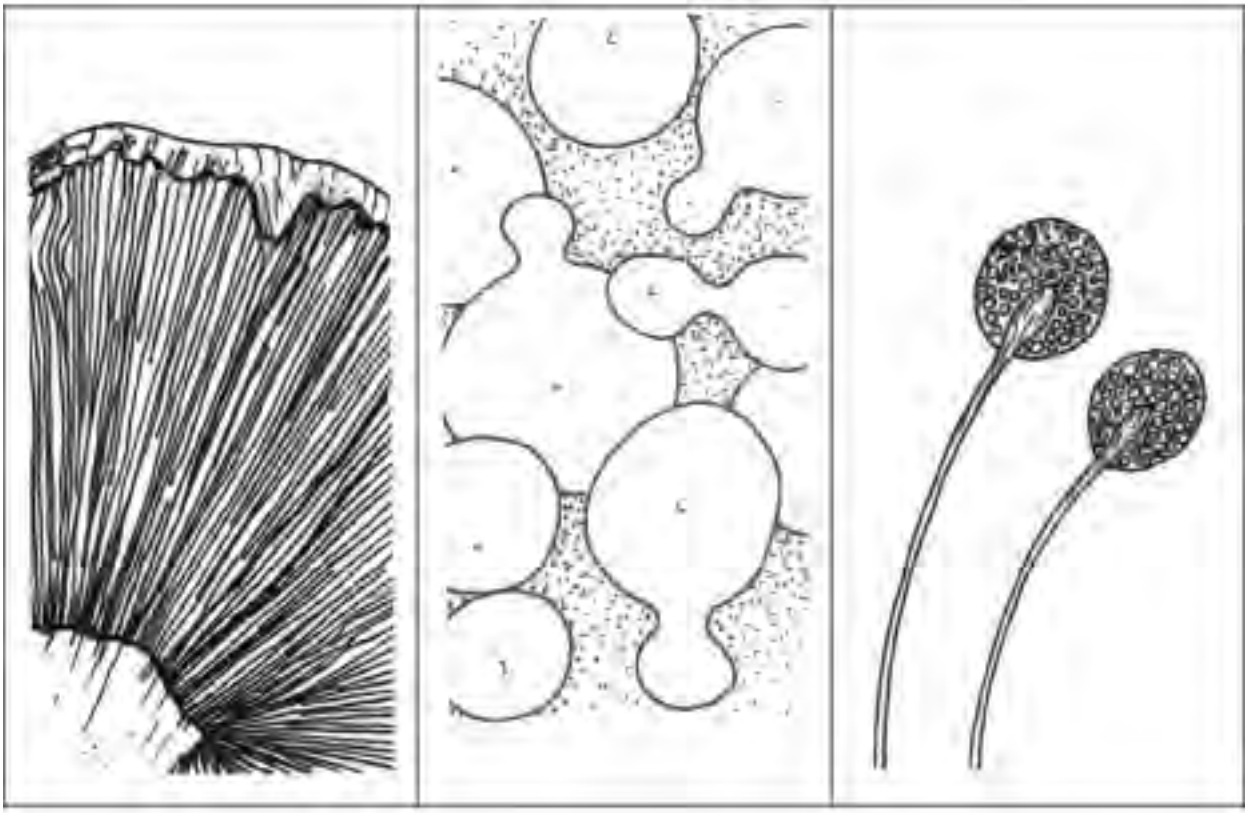
numerous .....
(adjective)

an electron microscope .....
(noun)

borderline .....
(adjective)

Fungi

mushrooms yeast mould

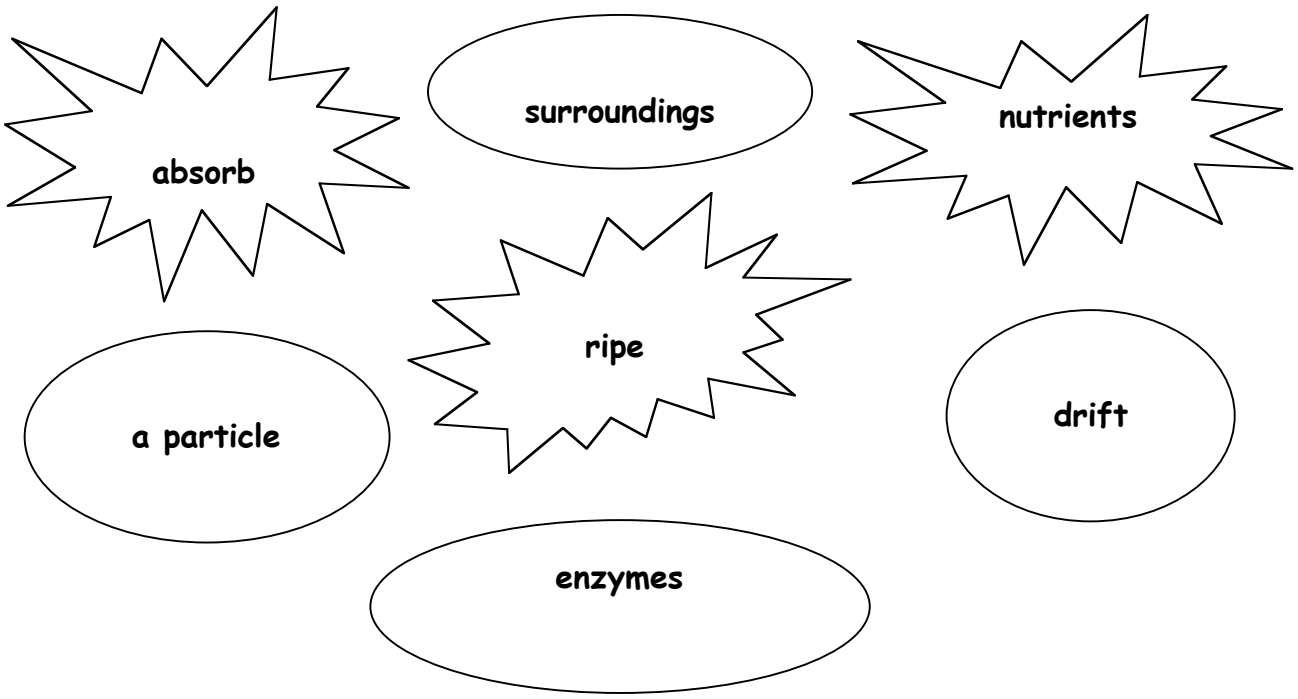


ACTIVITY 11

Key words

Fungi

First language	Word	Definition
	verb	to take in, soak up
	noun	are substances that help people, plants or animals grow
	noun	the area or place where something lives or grows
	noun	a very small piece of something
	verb	to float in the wind or on water
	adjective	when a pod is ready to burst open or fruit is ready to be eaten
	noun	chemical substances

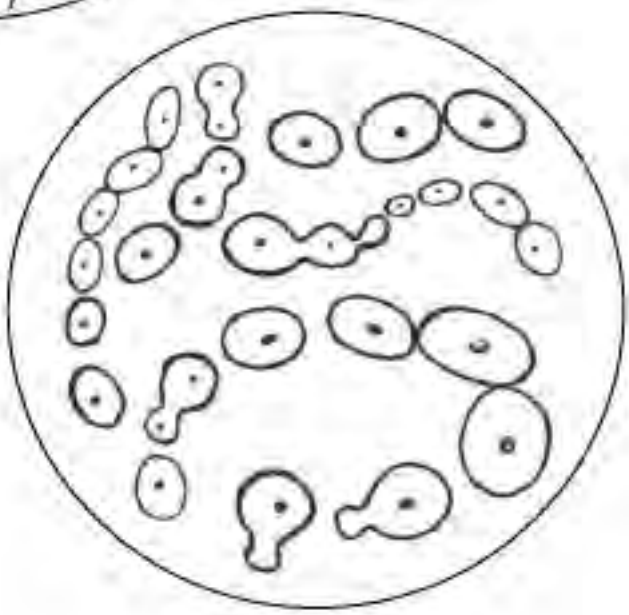


ACTIVITY 12

Fungi – an introduction

Fungi

Fungi do not have roots, leaves, flowers or seeds. They do not make their own food like plants do. Fungi absorb and use nutrients from their surroundings. Some fungi are very large. Some are very tiny and can only be seen with a microscope.

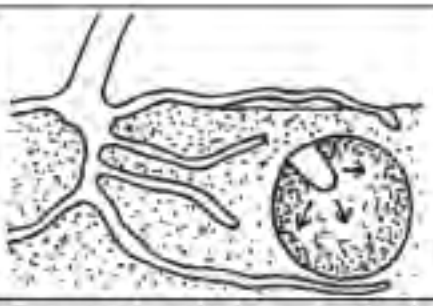


ACTIVITY 12

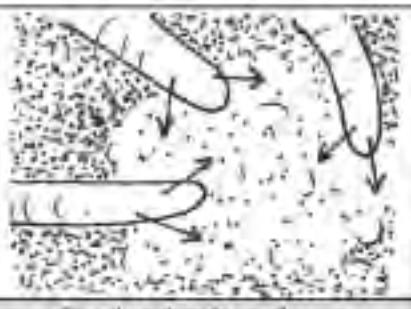
Fungi – an introduction

How fungi feed

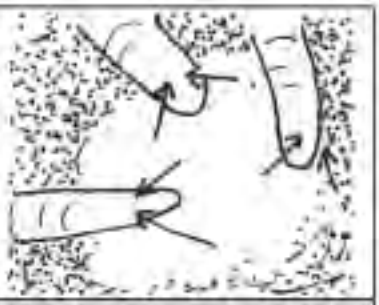
Fungi feed by absorbing food through the hyphae. Fungi grow on top of their food supply. The hyphae grow down through the food source. Enzymes break down the food so that it can be absorbed by the hyphae.



Enzymes **break down** the food.



Food **is broken down**.

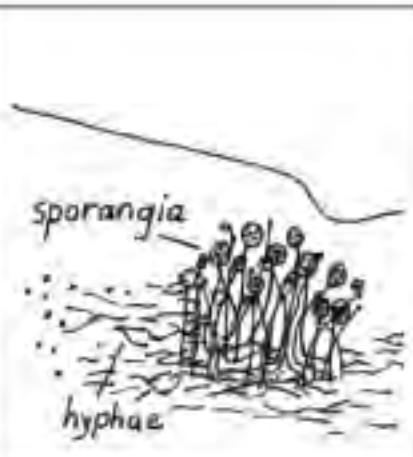


Nutrients **are absorbed**.

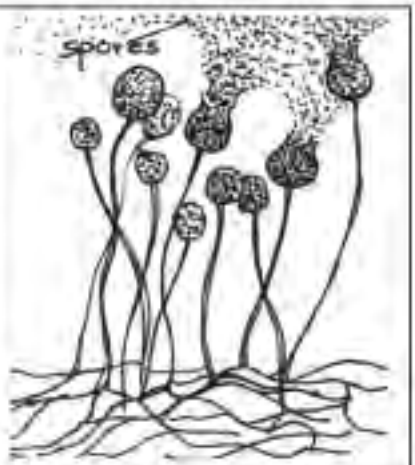
How fungi reproduce

Fungi grow from spores. These are tiny microscopic particles. When the spores land on a suitable food source a new fungus will grow. Spores are made inside the sporangia. When the sporangia are ripe, they burst open and the spores drift away.

1. Spores **land** on food.

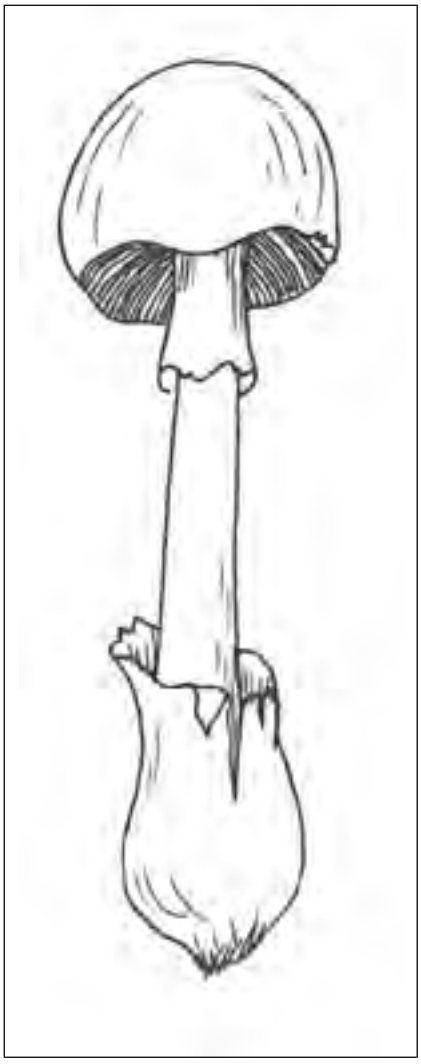


1. Spores **grow** hyphae and then sporangia **appear**.



3. The sporangia **burst open**.

Mushrooms

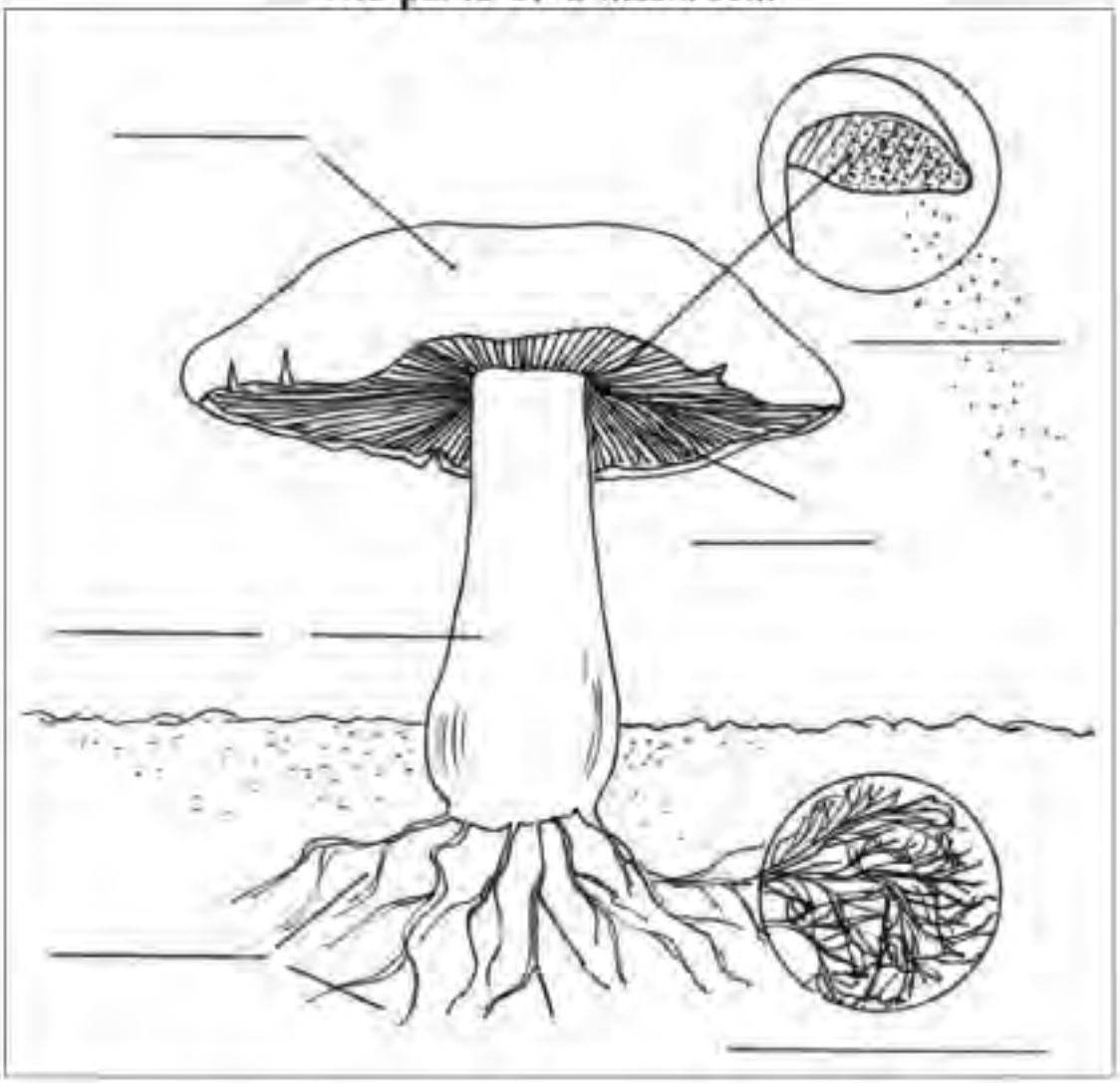


ACTIVITY 13

Mushrooms

- Read the text and complete the diagram.

The parts of a mushroom



hyphae **mycelium** **stalk** **cap** **gills** **spores**

The **hyphae** take in water and nutrients from the soil. The fine web of threads is called a **mycelium**. On top of the **stalk** is the **cap**. Inside the cap are the **gills**. The **spores** grow on the gills.

ACTIVITY 14

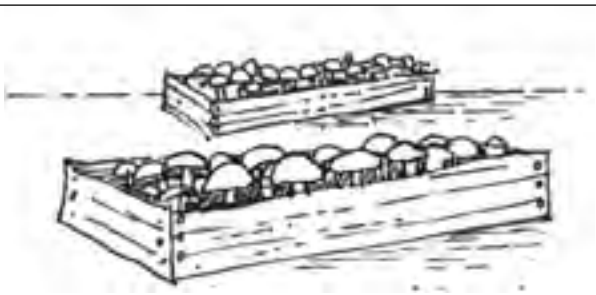
Key words

Mushrooms

First language	Word	Definition
	web noun	
	fresh adjective	
	dried adjective	
	the wild noun	
	cultivate verb	
	scale noun	the size of something
	reproduce verb	
	surface noun	

Word focus

These mushrooms are growing **in the wild.**



These mushrooms are **cultivated.**

These mushrooms are **fresh.**

These mushrooms are **dried.**

Mushrooms

Mushrooms are a type of fungus. Both fresh and dried mushrooms are an important food. They grow in the wild but in many countries they are cultivated on a large scale. They are grown on mushroom farms. Often, they are grown in places where there is no light. Unlike plants, mushrooms do not need light to grow.

- Read the text and write the information in the chart.

What are they?	Where do they grow?	Why are they cultivated?	How are they preserved?

- How is a mushroom different from a plant? Tick the boxes and then write six simple sentences. Write two compound sentences using the conjunction *but*.

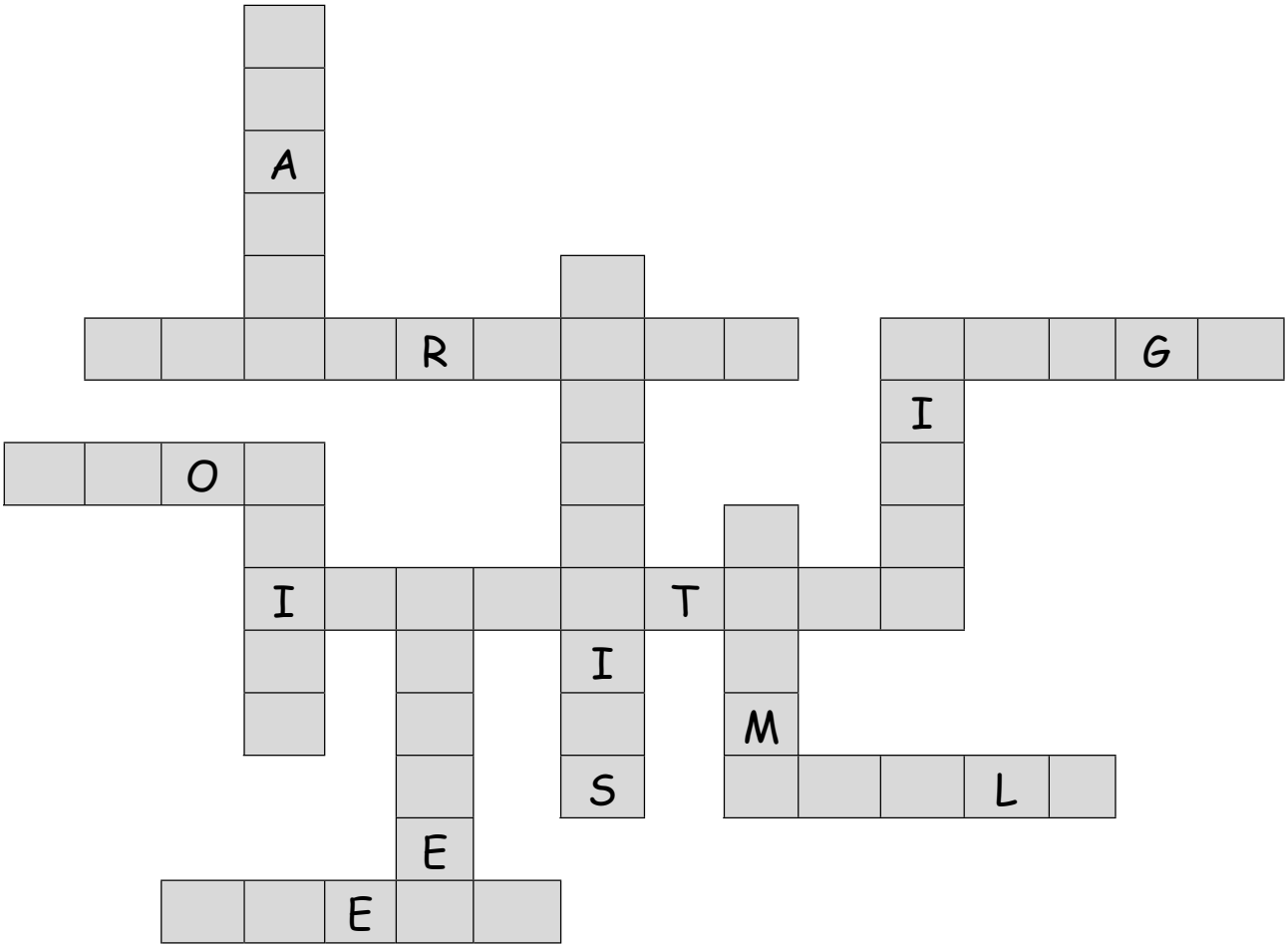
What it has	a mushroom	a plant
leaves		✓
roots		
hyphae		
cap		
gills		
branches		
flowers		
can grow in the dark		
needs light to grow		
grows from spores		
grows from a seed		

- Use a dictionary to find the meaning of these words

preserve	dehydrate

ACTIVITY 16

Mushrooms - Crossword Puzzle



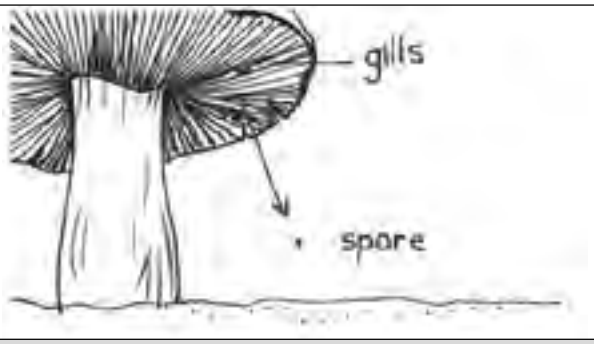
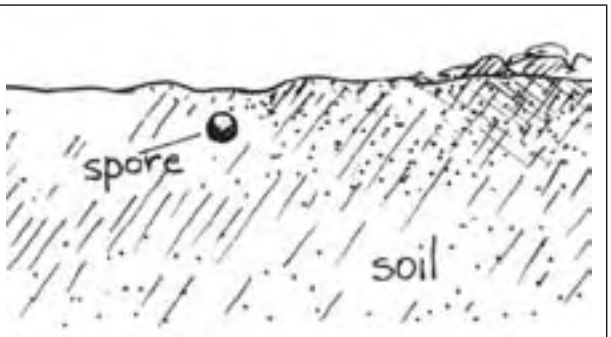
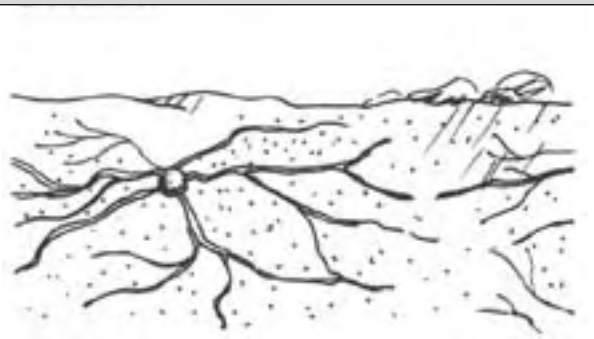
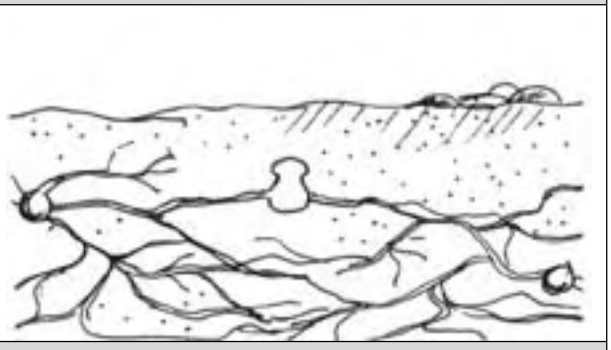
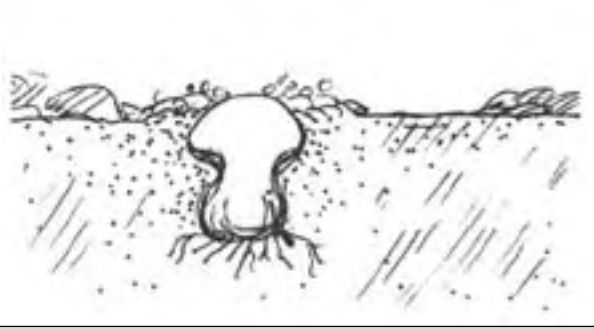
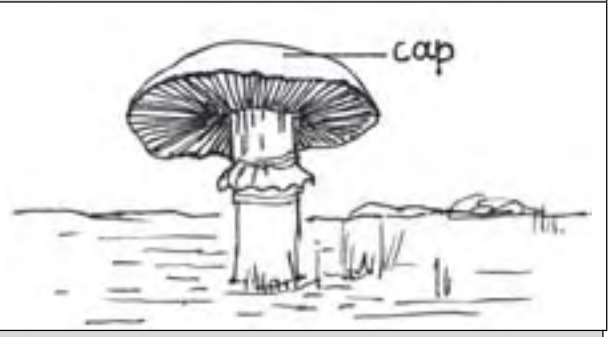
Find the words in the text *Mushroom*

Across	Down
Noun. 9 letters. They are fungi that we can eat.	Noun. 9 letters. They are places where people live.
Adjective. 9 letters. The last letter is a 't'.	Noun. 6 letters. Begins with 'pl'.
Adjective. 5 letters. Begins with 'fr'.	Noun. 6 letters. Begins with 'pl'.
Noun. Begins with 'sc'.	Adjective. Begins with 'dr'. All the moisture has been removed.
Adjective. This word means the same as big. It begins with 'l'.	Adjective. Begins with 'f'.
Noun. 4 letters. All living things need this to stay alive. It begins with 'f'.	Noun. Begins with 'l'. It means the opposite of dark.

ACTIVITY 17

Fungi

How a mushroom grows from a spore.

	
1.	2.
	
3.	4.
	
5.	6.

It **lands** on damp soil.	When two threads **meet**, a mushroom **starts to grow**.
The spore **starts to grow** threads.	A spore **falls off** a mushroom gill.
The mushroom **grows** and **pushes** through the soil.	As the mushroom **grows**, the cap **breaks away** from the stalk.

Fungi

Explanations

- An explanation tells *how* or *why* something happens.
- An explanation usually starts with *why* or *how*.

Text structure

The explanation is written in sequence

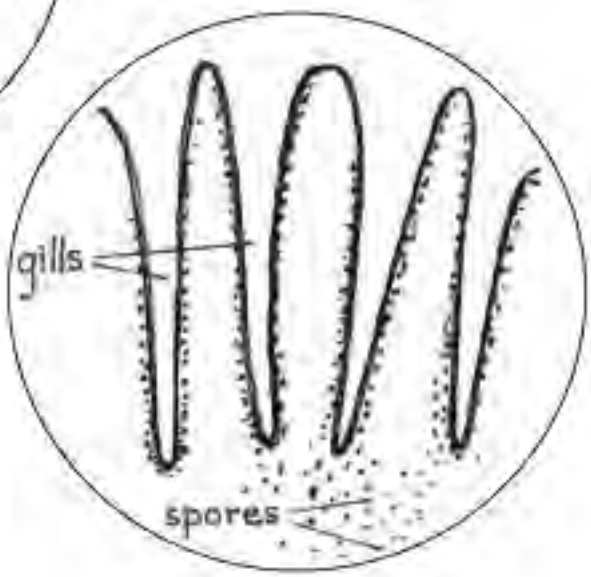
How a mushroom grows from a spore.

A mushroom spore grows on a gill inside a mushroom cap. When a spore is ripe, it falls. If a spore falls onto damp soil, it begins to grow hyphae (threads). When two hyphae meet, a mushroom begins to grow. As the mushroom grows, it pushes through the soil. As the mushroom gets bigger, the cap breaks away from the stalk.

Grammar

Usually starts with a 'why' or 'how'.

action verbs – 'timeless' present tense



ACTIVITY 18

Paragraph reconstruction

- Cut out the sentences and sequence them correctly. Copy the paragraph into your workbooks.

As the mushroom gets bigger, the cap breaks away from the stalk.

If a spore falls onto damp soil, it begins to grow hyphae (threads).

A mushroom spore grows on a gill inside a mushroom cap.

How a mushroom grows from a spore.

When a spore is ripe it falls.

When two hyphae meet, a mushroom begins to grow.

As the mushroom gets bigger, the cap breaks away from the stalk.

If a spore falls onto damp soil, it begins to grow hyphae (threads).

A mushroom spore grows on a gill inside a mushroom cap.

How a mushroom grows from a spore.

When a spore is ripe it falls.

When two hyphae meet, a mushroom begins to grow.

Fungi

- Disappearing Dictation

How a mushroom grows from a spore.

A mushroom spore _____ on a gill inside a mushroom cap. When a spore is ____, it falls. If a spore _____ onto damp soil it _____ to grow hyphae (threads). When two hyphae _____, a mushroom begins to grow. As the _____ grows it pushes through the _____. As the mushroom gets _____, the cap breaks away from ____ stalk.

Fold A ----------

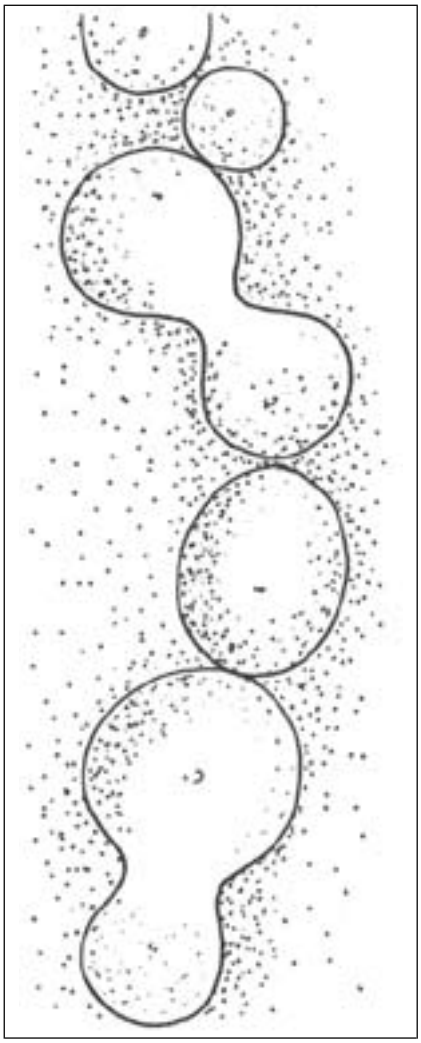
__ mushroom _____ grows on a gill _____a mushroom cap. When a spore is ripe, __ falls. If a spore falls onto _____ soil, it begins to grow hyphae (threads). When ____ hyphae meet, a _____ begins to grow. As the mushroom _____, it pushes _____ the soil. As ____ mushroom _____bigger, the ____ breaks away _____ the _____.

Fold B ----------

A _____ spore grows on a ____ inside a mushroom ____. When a spore is ripe, ____ falls. If a _____ falls onto damp ____, it begins __ grow _____ (threads). _____ two hyphae _____, a mushroom _____ to grow. As ____mushroom grows, it _____ through the _____. As ____ mushroom gets bigger, ____ cap _____ away _____ the stalk.

Fold C ----------

Yeast

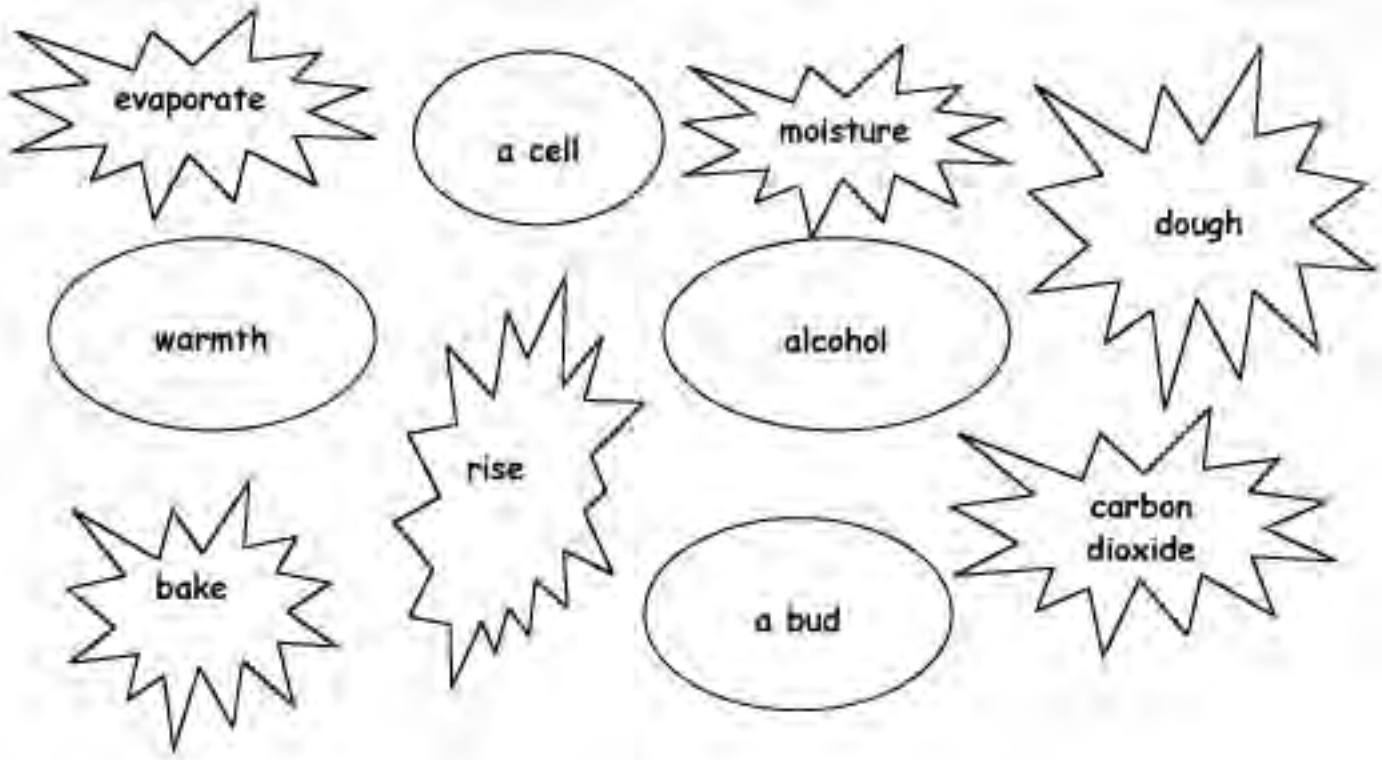


ACTIVITY 20

Key words

Yeast

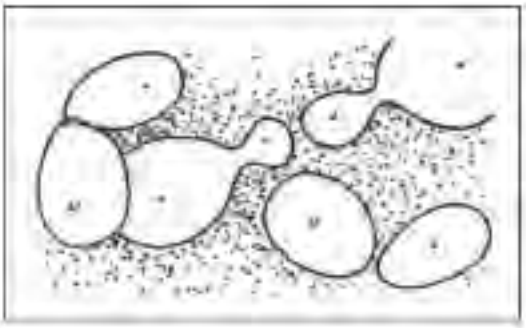
First language	Word	Definition
	noun	the smallest part of a living thing
	noun	a new growth
	verb	move upwards
	noun	a mixture of flour and water before it is baked
	noun	a colourless liquid with a strong taste
	verb	change from a liquid into a gas
	verb	to cook in an oven
	noun	a slight amount of heat
	noun	tiny drops of water
	noun	a gas, CO_2



Yeast

What is yeast?

Yeast is one of the single-celled fungi. It **does not grow** threads. Each cell **will produce** a small bud that **will grow to form** another cell. Yeast **is used to make** bread **rise.**

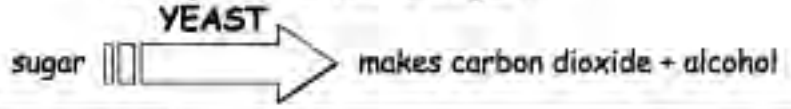


How yeast makes bread rise.

Yeast **is used to make** bread. It **is mixed** with flour, salt, sugar and water. Yeast **causes** the dough **to rise.** Bread **made** without yeast **is** flat.

Yeast **changes** sugars in the dough into **carbon dioxide** and **alcohol.** The bubbles of carbon dioxide **make** the dough **rise.** They **make** the dough soft and light. The alcohol **evaporates** during baking.

How yeast affects sugar.



Yeast **is mixed** with flour, water, sugar and salt.

The dough **is placed** in a warm place. **It rises.**

The dough **is kneaded** and then **put** in a baking tin. **It rises** again before it **is baked** in an oven.

Yeast

Why yeast grows.

1 Yeast is a fungus. It needs warmth, moisture and food to grow. When yeast is mixed
2 with flour, it feeds on the flour and produces carbon dioxide. The gas makes
3 bubbles inside the dough. The dough expands because of the bubbles. It becomes
4 twice the size. The dough is allowed to rise before it is placed in the hot oven. The
5 dough rises even more in the hot oven. It stops rising when the heat kills the yeast
6 at 45° C.

- **Synonyms:** Find words in the text that have the same meaning or a similar meaning to the words in the list. Each line of the text has a number to help you locate (find) the synonym.

			Line
1.	a little heat		1
2.	a little water		1
3.	is blended		1
4.	eats		2
5.	makes		2
6.	uncooked bread		3
7.	gets bigger		3
8.	put		4
9.	ceases		5
10.	destroys		5

A **synonym** is a word with the same or similar meaning to another word.
An **antonym** is a word with the opposite meaning to another word.

ACTIVITY 23

Adverbial phrases - prepositional phrases

Sometimes a **verb group** will include an adverb or a preposition. These verb groups are called **phrasal verbs.**

burst *open* **breaks** *away*
break *down* **take** *in*
drift *away*

▫ Activity Read the sentences and underline the **phrasal verbs.**

1. The enzymes break down the food particles.
2. The spores drift away into the air.
3. The sporangia burst open and release the spores.
4. The hyphae take in water and nutrients.
5. The cap breaks away from the stalk.

Prepositions are usually single words. Sometimes they can be multiple words or phrases (eg on top of). This is a list of some common prepositions. There are many more.

in on over under to with before from off past through

A prepositional phrase begins with a preposition.

▫ Activity Underline the **prepositional phrases**

1. Some microbes **float** in the air.
2. Some microbes **float** in water.
3. Some fungi **can only be seen** with a microscope.
4. Fungi **absorb** food through their hyphae.
5. They **grow** on top of their food supply.
6. The cap **is** on top of the stalk.
7. The gills **are** inside the cap.
8. The mushroom **pushes** through the soil.
9. The cap **breaks away** from the stalk.
10. Yeast **changes** sugars in the dough.
11. Carbon dioxide **makes** bubbles inside the dough.
12. The bread **is placed** in the hot oven.

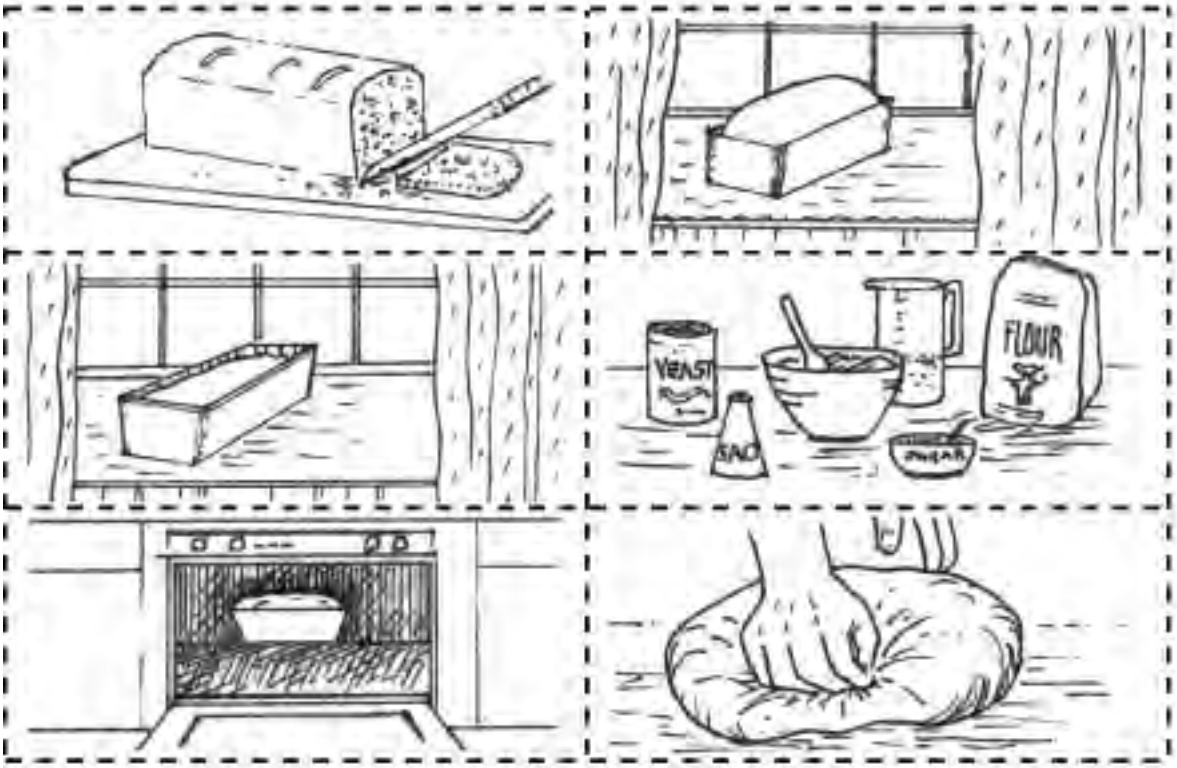
ACTIVITY 24

How bread is made.

Picture	Text
1	1
2	2
3	3
4	4
5	5
6	6

ACTIVITY 24

How bread is made.



Allow the dough to rise until it is twice the size.	**Let** the bread cool and cut a slice!
Place the bread tin in a warm place.	**Knead** the dough to make it soft and light.
Bake in a hot oven.	**Blend** the flour, salt, sugar and yeast.

Mould

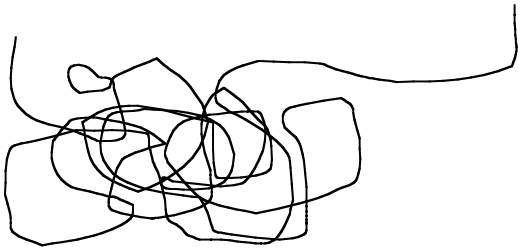
Key words

Mould

ACTIVITY 25

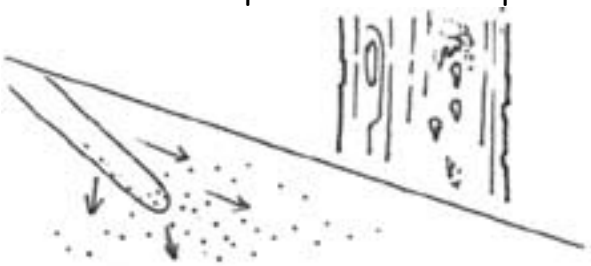
First language	Word	Definition
	threads noun	
	tangled verb	
	secrete verb	
	moist adjective	
	ripe adjective	

Word focus



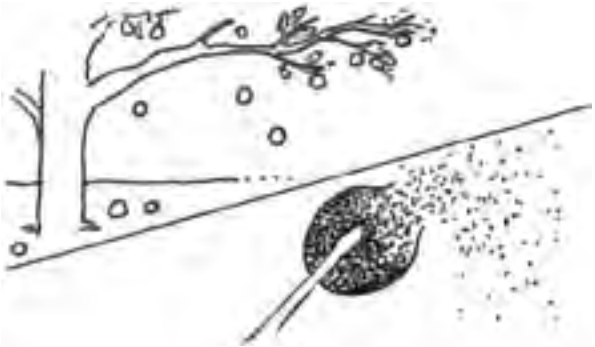
These **threads** are **tangled** together.

Some trees and plants **secrete** sap.

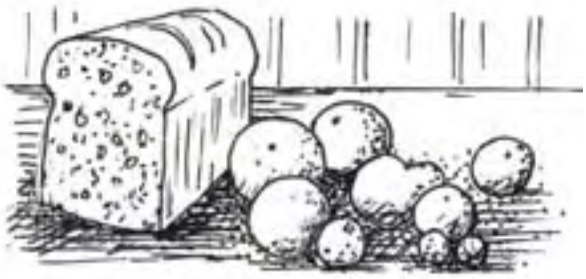


Hyphae **secrete** enzymes.

When fruit is **ripe**, it falls off the tree.



This sporangia is **ripe**. It bursts open.



Bread and fruit are **moist**. They contain water.

Moulds

Moulds are fungi. They are much smaller than mushrooms. They are made up of many fine threads called hyphae. Moulds can be seen when many threads are tangled together. This network of threads is called the mycelium. The threads secrete enzymes that break down the food and absorb nutrients from it.

Mould spores are everywhere but they need to land on the right food before they can grow. Moulds grow best on moist food such as bread and soft, ripe fruit. Different types of spores grow different moulds. For instance, bread mould can only grow on bread. It will not grow on an apple.

- Read the text and circle the correct end of each sentence. Write each sentence in the boxes below.

1. Moulds <u>are</u> 1) small mushrooms. 2) large fungi. 3) smaller than mushrooms.	5. Mould spores <u>grow</u> 1) on moist food. 2) everywhere. 3) on fungi.
2. Hyphae <u>are</u> 1) small mushrooms. 2) large fungi. 3) tiny threads.	6 Mould <u>grows</u> 1) on eggs. 2) in milk. 3) on apples.
3. Mycelium <u>are</u> 1) invisible. 2) tiny mushrooms. 3) tangled threads.	7 Bread mould <u>grows</u> 1) on bananas. 2) on apples. 3) on sandwiches.
4. The threads <u>absorb</u> 1) nutrients. 2) enzymes. 3) mould.	8 *Secrete* means 1) to produce a liquid. 2) absorb liquid. 3) to grow.

1	5	
2	6	
3	7	
4	8	

Teacher copy

Running Dictation

ACTIVITY 27

Moulds are smaller than mushrooms.

Moulds grow on moist fruit and bread.

The threads secrete enzymes.

The threads absorb nutrients from the food.

Moulds grow best on moist food.

Different types of spores grow different moulds.

Some moulds are blue and some are yellow.

Verb phrases

Sometimes a verb phrase consists of more than one word. It can take more than one word to express the meaning of the verb.

Moulds

Moulds are fungi. They are much smaller than mushrooms. They are made up of many fine threads called hyphae. Moulds can be seen when many threads are tangled together. This network of threads is called the mycelium. The threads secrete enzymes that break down the food and absorb nutrients from it.

Mould spores are everywhere but they need to land on the right food before they can grow. Moulds grow best on moist food such as bread and soft, ripe fruit. Different types of spores grow different moulds. For example, bread mould can only grow on bread. It will not grow on an apple.

- Underline the verb phrases in the following texts

Fungi

Fungi do not have roots, leaves, flowers or seeds. They do not make their own food like plant do. Fungi absorb and use nutrients from their surroundings. Some fungi are very large. Some are very tiny and can only be seen with a microscope.

Why yeast grows.

Yeast is a fungus. It needs warmth, moisture and food to grow. When yeast is mixed with flour, it feeds on the flour and produces carbon dioxide. The gas makes bubbles inside the dough. The dough expands because of the bubbles. It becomes twice the size. The dough is allowed to rise before it is placed in the oven. The dough rises even more in the hot oven. It stops rising when the heat kills the yeast at 45 Celsius.

ACTIVITY 29

Key word assessment

Microbes

- Choose a word from the box to complete each sentence.
- There is one extra word in the box.

groups	survive	animals	necessary	microscope	people

1. Sheep and cows are _____.
2. The word _____ means to stay alive.
3. Some bacteria are _____ for people and animals to stay alive.
4. There are three main _____ of microbes.
5. Some types of microbes cause disease in plants, animals and _____.

harmless	water	diseases	microscope	tiny	soil

1. We look at microbes through a _____.
2. Microbes are very _____.
3. Microbes live in air, water and _____.
4. Some microbes are _____. Some can cause disease.
5. Medicine can help prevent people from getting _____.

water	air	float	magnify	microbes	harmful

1. If we drink dirty _____ we can get a disease.
2. Some microbes are _____ . They will cause disease.
3. We use a microscope to _____ very small things so we can see them.
4. Microbes _____ in the air.
5. _____ are very tiny living things.

surroundings	absorb	particle	enzymes	drift	ripe

1. The word _____ means a very small piece of something.
2. _____ are chemical substances in living things.
3. When sporangia are _____ they burst open.
4. The spores _____ in the air.
5. Fungi like moist _____. Fruit and bread are moist.

Key word assessment

Microbes

ACTIVITY 29

surface	reproduce	scale	cultivate	the wild	absorb

1. Some mushrooms grow in _____. People find them and pick them.
2. People _____ mushrooms. They grow them for food.
3. Mushrooms _____ from spores.
4. Some people cultivate mushrooms on a large _____. They sell them to shops.
5. Fungi _____ food through their hyphae. (threads)

dried	fresh	web	surface	evaporate	warmth

1. Spores grow on the _____ of a mushroom gill. Bacteria live on the surface of our skin.
2. A mycelium is a tangled____ of tiny threads. Spiders weave their webs carefully.
3. Yeast needs food, moisture and _____ to grow.
4. We soak _____ mushrooms in water to make them soft. Then we cook them.
5. We can slice _____mushrooms and put them in a salad or a stir-fry.

cell	rises	bake	bud	carbon dioxide	evaporates

1. The new growth on a yeast cell is called a _____ . It breaks away to make a new cell.
2. A _____ is the smallest part of a living thing.
3. When yeast feeds on sugar it produces _____.
4. The alcohol _____ in the hot oven. It turns into a gas.
5. When yeast is mixed with dough and put in a warm place, it _____. The bubbles made by the carbon dioxide cause the dough to rise.

alcohol	moisture	bake	warmth	dough	threads

1. Yeast needs _____ , moisture and food to grow.
2. _____ is kneaded to make it soft and light.
3. _____ evaporates during baking.
4. We _____ bread in an oven.
5. Bread and fruit contain _____. They are moist. Mould grows on moist food.

Key word assessment

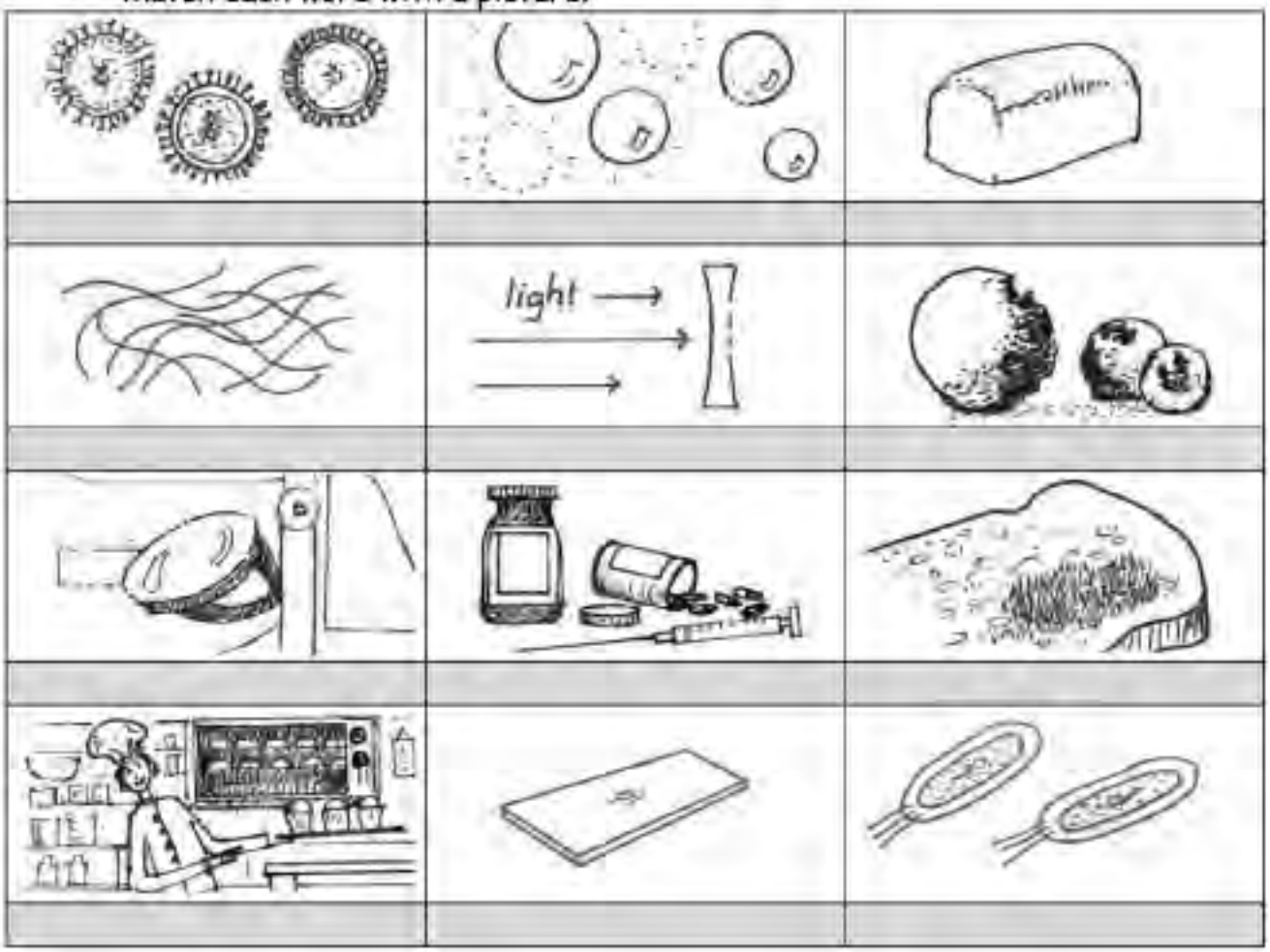
Microbes

ACTIVITY 29

mould	mouldy	secrete	threads	tangled	mushrooms

1. We do not eat _____ fruit and bread.
2. Mould is made up of many tiny _____ called hyphae.
3. The _____ threads of a fungi are called a mycelium.
4. Hyphae _____ enzymes that soften food.
5. _____ are delicious to eat.

- Match each word with a picture.



bubbles	bacteria	viruses	bread mould	a baker	threads
a lens	a mirror	mouldy fruit	medicine	a slide	a loaf of bread

Cheese is a food. It is made from fermented milk. Write <u>a description</u> of cheese and <u>a scientific explanation</u> of how cheese becomes blue. Use the texts on yeast as a model.

TEXT A. Write <u>a description</u> of cheese. The heading is **What is cheese?**

- Use the words and phrases from the box to help you write your text.
- You will need to add more words to make sentences.
- Make sure you use capital letters and full stops.

What is cheese?

food	cows, goats or sheep's milk	thousands of years	
many parts of the world	ingredients		
milk	rennet	a starter culture of bacteria	salt
white mould	blue mould		

TEXT B. Write a <u>scientific explanation</u> of **How cheese becomes blue.**

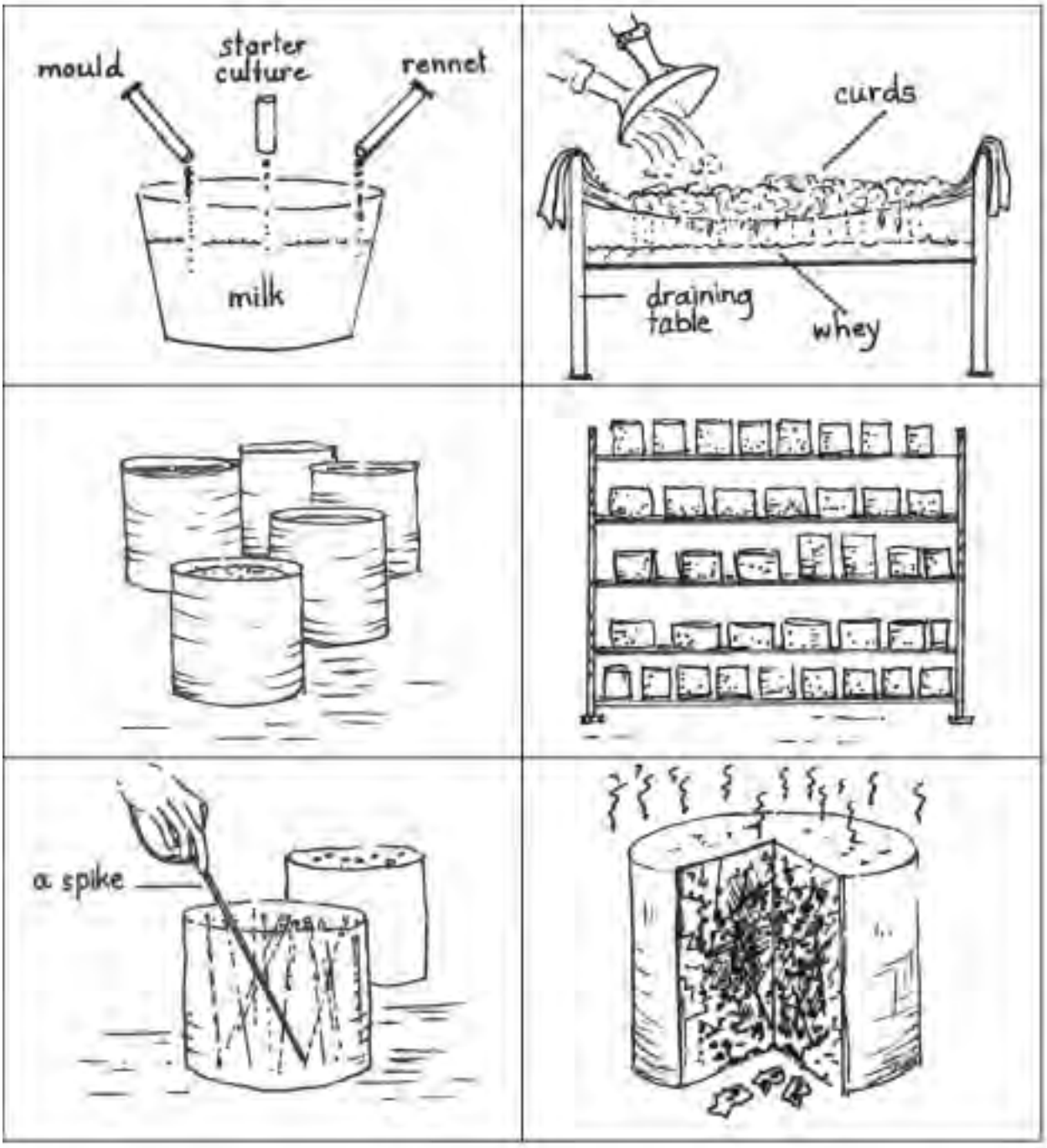
- Use the illustrations to help you write the text.
- Make sure you use capital letters and full stops.
- Write simple and compound sentences.

When you have finished writing both texts ~

- Write an *S* at the beginning of each simple sentence. Write a *C* for each compound sentence.
- Underline the verb phrases.
- Put a circle around the prepositional phrases.
- Write a *T* above the technical words.
- Check that you have used correct punctuation and spelling.

ACTIVITY 30

How cheese becomes blue.



Writing assessment : ***Teacher copy***

ACTIVITY 30

What is cheese?

Cheese is *fermented* milk. It is made from cows', goats' or sheep's milk. It has been made for thousands of years in many parts of the world. The main ingredients in cheese are milk, *rennet*, *starter cultures* of bacteria and salt. White mould is grown on the outside of cheese. Blue mould is grown inside cheese.

How cheese becomes 'blue'.

First, blue mould, rennet and a starter culture are added to warm milk. Then the milk turns into *curds*. The *whey* is removed from the curds. The curds are put into containers and then salted. Then the cheese is put into a storeroom to mature.

After a week, the cheese-makers put holes in the cheese with a stainless steel spike. The holes allow air to circulate through the cheese so that the mould will spread. The mould begins to grow along the holes and after two weeks threads of mould can be seen growing through the cheese. The cheese is now called 'blue cheese'.

Key terms

fermentation noun	a chemical reaction that changes the milk into a solid
rennet noun	a liquid that contains enzymes from a calf's stomach.
a starter culture noun	a liquid containing acid-forming bacteria that turns milk sour
curds noun	the solids that form when milk ferments
whey noun	the watery substance that separates from the curds when cheese is made.
to mature verb	to develop the flavour

Bingo

ACTIVITY 30

List 1	List 2	List 3	List 4	List 5
microbes	fungi	web	cell	smaller
float	absorb	important	bread	tangled
air	nutrients	fresh	dough	fruit
water	surroundings	dried	flat	apple
soil	large	cultivated	changes	enzymes
microscope	tiny	reproduce	carbon dioxide	ripe
harmful	microscope	surface	bubbles	moist
harmless	microscopic	countries	rise	food
disease	particles	farms	soft	different
necessary	spores	light	evaporates	everywhere
people	ripe	threads	warmth	soft
animals	burst	soil	moisture	right

These websites have additional information and task sheets.

http://www.microbeworld.org/htm/aboutmicro/microbes/resources.htm
- a very comprehensive website, with lots of graphics

http://www.microbeworld.org/htm/aboutmicro/microbes/uses.htm
- a link on the microbeworld website with very good review information on microbes in everyday products

http://users.telenet.be/educypedia/education/biology-virusinfo.htm
- an excellent website that has information at different levels (elementary to advanced) and very useful models and graphics of microbes in action: it also has suggestions for practical experiments with microbes.

It is also linked to Educypedia, which has links to many resources on maths, physics and many other areas of the curriculum.

http://www.umsl.edu/~microbes/links.html
This website is a portal to many other microbes sites, with articles, images and activities on microbes

http://www.agresearch.co.nz/scied/search/sitemap.htm
- a New Zealand website (AgResearch) with clear information on different types of microbes and a link to a series of pages on yoghurt - properties and experiments- and other links to the New Zealand curriculum

OHT

Microbes

Microbes are found everywhere. Some float in the air and some live in water and soil. Microbes are very tiny so we must use a microscope to see them.

There are thousands of different types of microbes. Some microbes are harmful and cause disease but most of them are harmless. Some microbes are very necessary and people and animals could not survive without them.

There are three main groups of microbes. They are fungi, bacteria and viruses.

OHT

Fungi

Fungi do not have roots, seeds, flowers or leaves. They do not make their own food like plants do. Fungi absorb and use nutrients from their surroundings. Some fungi are very large. Some are very tiny and can only be seen with a microscope.

OHT

Fungi

How many syllables in each word?

One syllable	Two syllables	Three syllables
do not	fungi	

OHT

How fungi feed.

Fungi feed by absorbing their food through their hyphae. They grow on top of their food supply. The hyphae grow down through the food source. Enzymes break down the food so that it can be absorbed by the hyphae.

How fungi reproduce.

Fungi grow from spores. They are tiny microscopic particles. Each spore can grow into a new fungus if it lands on a suitable food source.

Spores are made inside sporangia. When the sporangia are ripe, they burst open and spores drift away.

OHT

Mushrooms

Mushrooms are a type of fungus. Both fresh and dried mushrooms are an important food. They grow in the wild but in many countries they are cultivated on a large scale. They are grown on mushroom farms. Often, they are grown in places where there is no light. Unlike plants, mushrooms do not need light to grow.

What is another word that means the same as dried? It starts with the letter 'd' and has four syllables.

OHT

How a mushroom grows from a spore.

A mushroom spore grows on a gill inside a mushroom cap. When a spore is ripe, it falls. If a spore falls onto damp soil, it begins to grow hyphae (threads). When two hypae meet, a mushroom begins to grow. As the mushroom grows, it pushes through the soil. As the mushroom gets bigger, the cap breaks away from the stalk.

OHT

What is yeast?

Yeast is a single-celled fungus. It does not grow threads. Each cell will produce a small bud that will grow to form another cell. Yeast is used to make bread rise.

How yeast makes bread rise.

Yeast is mixed with flour, salt, sugar and water. Yeast causes the dough to rise. Bread is flat, tough and chewy without yeast.

Yeast changes sugars in the dough into carbon dioxide and alcohol. The bubbles of carbon dioxide make the dough rise. It makes the dough light and fluffy. The alcohol evaporates during baking.

MICROBES

Fungi -

A topic based language learning programme for students learning English at **E**nglish **L**anguage **I**ntensive **P**rogramme (ELIP) Stage 2

Age: Secondary

mushrooms	**yeast**	**mould**

Moulds

Moulds are fungi. They are much smaller than mushrooms. They are made up of many fine threads called hyphae. Moulds can be seen when many threads are tangled together. This network of threads is called the mycelium. The threads secrete enzymes that break down the food and absorb nutrients from it.

Mould spores are everywhere but they need to land on the right food before they can grow. Moulds grow best on moist food such as bread and soft, ripe fruit. Different types of spores grow different moulds. For instance, bread mould can only grow on bread. It will not grow on an apple.