

SCIENCE

Respiration and Breathing

It is not necessary to carry out all the activities contained in this unit.

Please see *Teachers' Notes* for explanations, additional activities, and tips and suggestions.

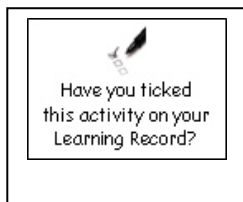
Theme	Respiration and Breathing
Levels	A1 – B1
Language focus	Key vocabulary, word identification, sentence structure, extracting information from text, writing text, grammar.
Learning focus	Using Science textbooks and accessing curriculum content and learning activities.
Activity types	Matching, word identification, structuring sentences and text, cloze, multiple choice, reading comprehension, categorising vocabulary, recording learning, developing a learning resource.
Acknowledgement	Extracts from <i>Science Revision for Junior Certificate</i> . Shea Mullally. Gill & Macmillan. We gratefully acknowledge Gill & Macmillan for the right to reproduce text in some of these activities.
Learning Record	A copy of the Learning Record should be distributed to each student. Students should: <ol style="list-style-type: none">1. Write the subject and topic on the record.2. Tick off/date the different statements as they complete activities.3. Keep the record in their files along with the work produced for this unit.4. Use this material to support mainstream subject learning.

Making the best use of these units

- **Introduction** should ensure that students understand **what** they are doing and **why**. Many students will have some difficulty in understanding both the language in the activity and the instructions/purpose for carrying out the activity.
- You can create your **personal teaching resource** by printing these units in full and filing them by subject in a large ring binder.
- **Encourage students to:**
 - Bring the relevant **subject textbooks** to language support class. It does not matter if they have different textbooks as the activities in these units refer to vocabulary and other items that will be found in all subject textbooks. These units are based on curriculum materials.
 - Take some **responsibility for their own learning** programmes by:



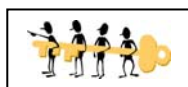
Developing a **personal dictionary** for different subjects, topics, and other categories of language, on an on-going basis. This prompt is a reminder.



Recording what they have learnt on the **Learning Record**, which should be distributed at the start of each unit.



Keeping their own **files** with good examples of the work produced in language support for different subjects and topics. This file will be an invaluable **learning resource** in supporting mainstream learning.



Indicates that answers may be found at the end of the unit.

- Don't forget that many of the activities in these units are suitable as **homework** tasks, for **self-study**, or for use in the **subject classroom** with the agreement of the subject teacher.

NAME: _____ DATE: _____
SCIENCE: Respiration and Breathing

Keywords

The list of keywords for this unit is as follows:

Nouns

air
alveoli
animal
blood
breath
bronchi/bronchioles
capillary/capillaries
carbon
carbon dioxide
characteristic
concentration
demonstration
diaphragm
diffusion
energy
filter
flask
heat
inhalation
limewater
lungs
oxygen
plant
presence
process
produce (*noun*)
products
release (*noun*)
respiration
seed/seeds
thermos
vapour
windpipe

Verbs

to breathe
to cause
to contain
to control
to damage
to demonstrate
to exchange
to exhale
to expire
to expel
to extract
to force
to inhale
to pass through
to produce (*verb*)
to release (*verb*)
to respire

Adjectives

active
aerobic
anaerobic
blue
breathing (*adjective*)
gaseous
living
pink
respiratory
tiny

Other key words/phrases

in a given time
is composed of
per second
the same
the time taken

NAME: _____ DATE: _____
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Vocabulary file 1

This activity may be done in language support class or in the mainstream subject classroom.

Word	Meaning	Word in my language
alveoli		
breath		
bronchi		
capillary		
carbon dioxide		
characteristic		
diaphragm		



Get your teacher to check this, then file it in your folder so you can use it in the future.

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Vocabulary file 2

This activity may be done in language support class or in the mainstream subject classroom.

Word	Meaning	Word in my language
diffusion		
energy		
filter		
lungs		
respiration		
vapour		
windpipe		



Get your teacher to check this, then file it in your folder so you can use it in the future.

NAME: _____ DATE: _____
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Vocabulary file 3

This activity may be done in language support class or in the mainstream subject classroom.

Word	Meaning	Word in my language
to breathe		
to exchange		
to extract		
to respire		
aerobic		
gaseous		
is composed of		



Get your teacher to check this, then file it in your folder so you can use it in the future.

Level: All
Type of activity: Whole class

Focus: vocabulary, spelling,
dictionary
Suggested time: 10 minutes

Activating students' existing knowledge

Use a spidergram to activate students' ideas and knowledge on the key points in this chapter. See **Teachers' Notes** for suggestions.

Possible key terms/ideas for the spidergram:

Air

(hint: look at other things such as when we sing, how other living things breathe etc.)

- Invite students to provide key words in their own languages.
- Encourage dictionary use.
- Encourage students to organise their vocabulary into relevant categories (e.g. meaning, nouns, keywords, verbs etc.).



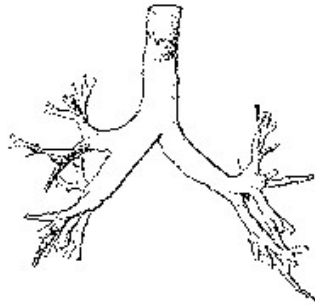
Students should record vocabulary and terms from the spidergram in their personal dictionaries.

Level: A1
Type of activity: Pairs or individual

Focus: vocabulary, spelling, dictionary
Suggested time: 30 minutes

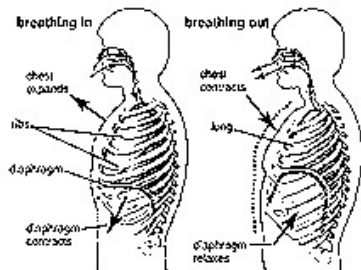
Working with words - Tick the correct answer

1



- a) blood
- b) air
- c) bronchi
- d) bike

2



- a) respiration
- b) athlete
- c) animal
- d) vapour

Find these words in your textbook.

Write your own explanations for the words. Then write the word in your own language. Use your dictionary if necessary.

Word	Page in textbook	Explanation	In my language
to breathe			
to exchange			
to release			
to respire			

NAME: _____ DATE: _____

SCIENCE: Respiration and Breathing

Level: A1

Type of activity: Pairs or individual

Focus: vocabulary, basic sentence structure

Suggested time: 30 minutes

Picture Sentences - Tick the correct answer

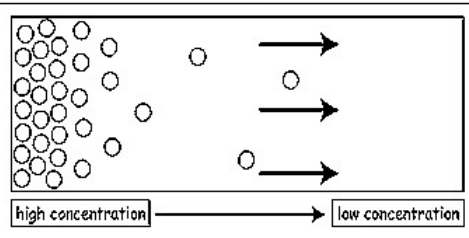
1.

- a). This is a train.
- b). This is a flask.
- c). This is a car.



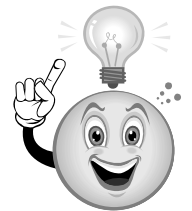
2.

- a). This is diffusion.
- b). This is an athlete.
- c). This is a pencil.



3.

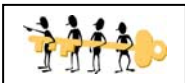
- a). This is sweating.
- b). This is flying.
- c). This is sailing.



Don't forget!

You must have a capital letter and full stop in each sentence.

Put these words in the correct order to form sentences.



lungs we when our down breathe and up move

process respiration the breathing of is

athlete her fast after race breathes very the

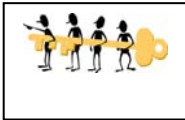
Level: A1 / A2
Type of activity: Pairs or individual

Focus: word identification, vocabulary, sentence structure
Suggested time: 20 minutes

Odd One Out

Circle the word which does not fit with the other words in each line.

Example: chair desk book **train**



1. boy girl man lungs

2. air men oxygen respiration

3. breath bronchi windpipe cloud

4. capillaries sound blood oxygen



Find these words in your textbook. Then put them in short sentences in your own words. Use a dictionary if necessary.

alveoli _____

breathe _____

carbon dioxide _____

diffusion _____

seeds _____



Check that these keywords are in your personal dictionary.

NAME: _____ DATE: _____
SCIENCE: Respiration and Breathing

Level: A2 / B1
Type of activity: Individual

Focus: identifying and
categorising key vocabulary,
plurals
Suggested time: 40 minutes

Science keywords

Fill in the missing letters of the keywords listed below.

On the line next to the keywords, write down whether this word is a noun, an adjective or a verb.

- 1. l _ng_ _____
- 2. en _rg_ _____
- 3. c _rb _n _____
- 4. di _ph _ _ gm _____



Write as many words as possible relating to breathing and respiration. You have 3 minutes.

Write the plurals of these words:

- capillary _____
- man _____
- lung _____
- breath _____

Level: A1 / A2
Type of activity: Pairs or individual

Focus: key vocabulary, pronunciation, spelling
Suggested time: 20 minutes

Unscramble the letters



1. Respiration is the release of energy from FDOO

Answer _____

2. The air passes through the WIDNPIEP

Answer _____

3. We breathe in the air to the LNGUS

Answer _____

4. We inhale oxygen and we exhale ACRBNO DIXODIE

Answer _____

Look at each word as you write the answer.

Is your spelling correct?

Can you pronounce the word?

Do you know what the word means?

Have you got this word in your personal dictionary?



Solve the secret code

English=	V	P	D	E	N	O	R	U	A	S	T	U
Code=	B	X	Y	F	R	Q	G	O	L	E	A	W

example: EAWYFRA = STUDENT

BLXQOG _____

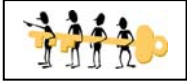
NAME: _____ DATE: _____

SCIENCE: Respiration and Breathing

Level: A2 / B1
Type of activity: Pairs or individual

Focus: reading comprehension, extracting meaning from text, vocabulary
Suggested time: 40 minutes

Completing text



Fill in the blanks in these sentences. Use words from the Word Box below.

Oxygen passes through the walls of the alveoli and into the blood capillaries by _____. Carbon dioxide passes the other way by diffusion.

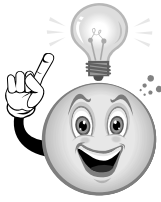
Smoking damages your _____, which makes _____ difficult and causes lung diseases including cancer.

The products of _____ respiration are carbon dioxide, water and heat.

_____ is a strip of muscle which forces the air to move in and out of the lungs.

Word Box:

diaphragm diffusion aerobic
breathing lungs

 Fill in the past tenses of these verbs! Are there any irregular verbs?	Tenses	
	Present	Past
	to breathe	
	to produce	
	to exchange	
	to contain	
to respire		



Are these verbs in your personal dictionary?

NAME: _____ DATE: _____
SCIENCE: Respiration and Breathing

Level: A2 / B1
Type of activity: Individual

Focus: key vocabulary, topic
information, reading
comprehension, multiple choice
Suggested time: 30 minutes

Multiple choice



(Read the text below and choose the best answers)

Text:

Respiration is a characteristic of all animal and plant cells. It is the release of energy from food.

Aerobic respiration requires the presence of oxygen.

Humans breathe by exchanging oxygen for carbon dioxide in the lungs. Fish breathe by extracting oxygen from water in their gills.

Breathing is the process by which animals bring air or water into contact with their gaseous exchange surface.

1. What is a characteristic of all animal and plant cells?
 - a) cancer
 - b) respiration
 - c) dry skin
 - d) nothing
2. What does aerobic respiration require?
 - a) energy
 - b) oxygen
 - c) people
 - d) food
3. What do humans exchange oxygen for?
 - a) oxygen
 - b) cakes
 - c) food
 - d) carbon dioxide
4. Where do fish extract water from?
 - a) gills
 - b) fins
5. Is breathing a process?
 - a) Yes
 - b) No

Level: B1
Type of activity: Pairs / small groups

Focus: vocabulary, planning and structuring text
Suggested time: 40 minutes

Planning text

Use this chart to plan a short text on the topic, 'Respiration in humans'.

Introduction

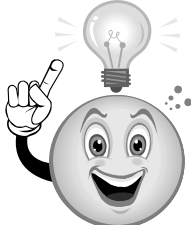
First paragraph

Second paragraph

Concluding points

Important words for this topic.

What is the difference between to inhale and to exhale?
Look carefully at the spelling.



Have you ticked this activity on your Learning Record?

NAME: _____ DATE: _____

SCIENCE: Respiration and Breathing

Level: All
Type of activity: Individual

Focus: adjectives, opposites,
dictionary work
Suggested time: 30 minutes

Grammar Points

In this Unit, we came across the following words:

- living
- tiny
- active

Look up these words in your dictionary. Are they nouns, adjectives or verbs?

Word	Meaning	Opposite	Meaning
living			
tiny			
active			

Adjective Hunt

Circle the 10 adjectives in these columns. Score 4 points for each correct answer.
Who will score the highest? Perhaps you will. Good luck!

respiration

wet

waste

cobalt

energy

living

gauze

energetic

muscle

big

bronchi

blue

better

dioxide

attack

water

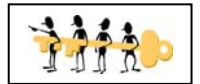
active

respiratory

dry

breathing

gaseous



Score: _____ points

Level: All
Type of activity: Individual

Focus: adverbs, sentence structure, writing text
Suggested time: 30 minutes

Grammar points

Adverbs describe how things are done. In this unit we have been studying respiration and breathing.

Look at these sentences. The adverbs are underlined.

Write each adverb in your own language on the line beside the sentence.

	In my language
A running man breathes <u>quickly</u> .	
Blood is pumped <u>rapidly</u> in the body.	
You must read your textbook <u>carefully</u> .	
It is important to write <u>clearly</u> .	
You must do your experiments <u>slowly</u> .	

Now write your own sentences using these words:

quickly _____

slowly _____

carefully _____

clearly _____

rapidly _____

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SCIENCE: Respiration and Breathing

Levels: A1 / A2

Alphaboxes

Using your textbook, find one word beginning with each of the letters of the alphabet.
Write the word in the relevant box. You could also write the word in your own language.

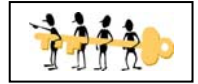
a	b	c
d	e	f
g	h	i
j	k	l
m	n	o
p	q	r
s	t	u
v	w	xyz

Do you understand all these words?



Get your teacher to check this, then file it in your folder so you can use it in the future.

Word search



Level: All levels

Find the words in the box below.

When you have found all the words, write each word in your own language.

Q	D	U	G	L	E	X	P	I	R	E	D	M	Y	N	R	K	W	W		
D	C	A	A	U	P	R	O	D	U	C	I	N	G	N	B	F	T	I		
J	I														H	D	X	C		
B	A		L	I	U	C	A	R	B	O	N	Y	F		Y	J	P	G		
L	A		R	E	L	E	A	S	E	S	A	K	I		M	N	H	G		
T	Z		C	M								A	Y		C	M	U	Z		
P	Z		M	H		C	A	I	R	K		K	G		W	J	T	V		
N	Y		M	R		Z	R	K	I	J		G	N		M	X	N	E		
L	P		Y	J		B	Z		I	Y		W	M		W	C	J	N		
H	N		B	N		T	V		S	D		Y	T		Q	E	F	L		
K	I		A	I		W	A					Y	N		E	O	X	R		
T	L		D	V		K	O	X	Y	G		E	N	V	L	C	Q	N		
N	P		U	X		Z	X	U	O	R		J	F	H	X	I	U	G		
B	Y		I	Q											P	M	I	I		
E	I		E	S		N	E	V	S	A		E	R	O	B	I	U	U		
L	M		M	U		I	P	R	O	D		U	C	E	S	G	Z	C		
T	J																	B	K	
L	O		G	J		R	E	S	P	I		R	A	T	I	O	N	O	K	
E	Q		D	T		A	L	V	E	O		L	I	D	I	O	X	I	E	Y
																				R

AEROBIC AIR ALVEOLI CARBON DIOXIDE EXPIRED OXYGEN	PRODUCES PRODUCING RELEASE RESPIRATION
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NAME: _____ DATE: _____

SCIENCE: Respiration and Breathing

Play Snap

Make Snap cards with 2 sets of the same keywords. See *Notes for teachers* for ideas about how to use the cards.



muscle	muscle
respiration	respiration
windpipe	windpipe

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oxygen	oxygen
carbon	carbon
dioxide	dioxide

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diaphragm	diaphragm
bronchioles	bronchioles
control	control

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Answer key

Scramble sentence =

When we breathe our lungs move up and down.

Respiration is the process of breathing.

The athlete breathes fast after her race. (or *After her race the athlete breathes fast.*)

Odd One Out =

lungs, men, cloud, sound

Letter Scramble =

food
windpipe
lungs
carbon dioxide

Secret Code =

vapour

Completing text =

Oxygen passes through the walls of the alveoli and into the blood capillaries by diffusion.

Carbon dioxide passes the other way by diffusion.

Smoking damages your lungs, which makes breathing difficult and causes lung diseases including cancer.

The products of aerobic respiration are carbon dioxide, water and heat.

Diaphragm is a strip of muscle which forces the air to move in and out of the lungs.

(Science Revision for Junior Certificate. Page 96)

Multiple Choice =

b, b, d, a, a

Grammar Points = big, better, dry, wet, energetic, active, living, blue, respiratory, gaseous

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Word Search:

Q	D	U	G	L	E	X	P	I	R	E	D	M	Y	N	R	K	W	W	
D	C	A	A	U	P	R	O	D	U	G	I	N	G	N	B	F	T	I	
J	I													H	D		P	G	
B	A		L	I	U	G	A	R	B	O	N	Y	F		Y	J	H	G	
L	A		R	E	L	E	A	S	E	S	A	K	I		M	N	U	Z	
T	Z		C	M							A	Y		C	M		T	V	
P	Z		M	H		C	A	I	R	K		K	G		W	J	N	E	
N	Y		M	R		Z	R	K	I	J		G	N		M	X	J	N	
L	P		Y	J		B	Z		I	Y		W	M		W	C	F	L	
H	N		B	N		T	V		S	D		Y	T		Q	E	X	R	
K	I		A	I		W	A					Y	N		E	O	Q	N	
T	L		D	V		K	O	X	Y	G	E	N	V		L	C	U	G	
N	P		U	X		Z	X	U	O	R	J	F	H		X	I	I	I	
B	Y		I	Q											P	M	U	U	
E	I		E	S	N	E	V	S	A	E	R	O	B	I	G	A	Z	C	
L	M		M	U	I	P	R	O	D	U	G	E	S	G	Z	J	B	K	
T	J																O	K	
L	O	G	J	R	E	S	P	I	R	A	T	I	O	N	G	A	Z	Z	E
E	Q	D	T	A	L	V	E	O	L	I	D	I	O	X	I	D	E	Y	R