

# Science

## Conservation and Pollution

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	Conservation and Pollution	
<b>All students:</b>  Activities that are suitable for <b>Learning Support, Language Support</b> and the <b>Mainstream Subject Class</b> include:	Keywords	3
	Vocabulary File	4-5
	Activating Students' Existing Knowledge	6
	Completing Sentences	12
	Multiple Choice	13
	Writing	14
	Wordsearch	17
<b>Learning support and Language support:</b>  Activities suitable for students receiving Learning or Language Support include:	Working with words	7
	Picture Sentences	8
	Odd One Out	9
	Science Keywords	10
	Unscramble the letters	11
	Alphaboxes	16
	Play Snap	18-20
<b>Language support:</b>  Additional activities for Language Support:	Grammar points	15
<b>Levels for Language Support</b>	<b>A1 – B1</b> The language level of each activity is indicated in an information box.	
<b>Learning focus</b>	Using Science textbooks and accessing curriculum content and learning activities.	
<b>Acknowledgement</b>	The <i>English Language Support Programme</i> acknowledges the permission of Gill and Macmillan to reproduce excerpts from <i>Extracts from Science Revision for Junior Cert.</i> by Shea Mullally	

**Note:** The categorisation of activities is indicative only and should not prevent teachers from using any activities that are considered suitable for a particular group of students.

## Making the best use of these units

### Learning Record

A copy of the Learning Record should be distributed to each learning support and language support student.

Students should:

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.

**Introduction** of a topic or activity 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 learning/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:



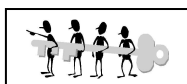
Developing a **personal dictionary** for different subjects, topics, and other categories of language, on an on-going basis. This prompt is a reminder.



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 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 also suitable as **homework** tasks or for **self-study**.

**NAME:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
**Science: Conservation and Pollution**

## **Keywords**

The list of keywords for this unit is as follows:

### **Nouns**

acid  
conservation  
detergent  
earth  
environment  
fertiliser  
human  
incineration  
incinerator  
materials  
pesticide  
pollution  
rain  
resources  
river  
sea

sewage  
soil  
waste

### **Verbs**

cause  
conserve  
dissolve  
dump  
pollute  
recycle

### **Adjectives**

careful  
harmful  
natural

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

### Vocabulary file 1

Word	Meaning	Note or example*
pesticide		
harmful		
waste		
acid		
resources		
earth		

\* You may wish to write a sentence or phrase, make a note of the page in your textbook where this word appears or, if English is not your first language, provide a translation into your language.



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

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

### Vocabulary file 2

Word	Meaning	Note or example
incineration		
fertiliser		
environment		
sewage		
dump		
natural		



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

**NAME:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
**Science: Conservation and Pollution**

**Language Level:** all  
**Type of activity:** whole class  
**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 for the spidergram:

**Pollution**

**Acid Rain**

**Recycling**

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





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

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
 Science: Conservation and Pollution

Language Level: A1  
 Type of activity: pairs or individual  
 Suggested time: 30 minutes

### Working with words

**1. Tick the correct answer.**

	<p>a) This is a beach.          b) This is a dump.          c) This is a recycling facility.          d) This is a car park.</p>
	<p>a) This is a beach.          b) This is a dump.          c) This is a recycling facility.          d) This is a car park.</p>

**2. Find these words in your textbook.**

Write your own explanation for these words. Then write a note or example to help you remember the word. Use your dictionary if necessary.

Word	Page in textbook	Explanation	Note or example
pollution			
natural resources			
conservation			
recycling			






Check that these key words are in your personal dictionary.

Language Level: A1  
 Type of activity: pairs or individual  
 Suggested time: 30 minutes



### Picture Sentences

1. Tick the correct answer

<p>a) This is air pollution.          b) This is soil pollution.          c) This is water pollution.</p>	
<p>a) This is air pollution.          b) This is soil pollution.          c) This is water pollution.</p>	
<p>a) This is air pollution.          b) This is soil pollution.          c) This is water pollution.</p>	

2. Put these words in the correct order to form sentences about pollution.

and/ smoke/air pollution/ is caused by/ dust/ harmful gases

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is caused by/ soil pollution/ pesticides / and/ acid rain/ artificial fertilisers

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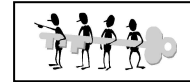
oil /fertilisers /water pollution/, sewage/ and detergents/ is caused by

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NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

Language Level: A1/A2  
Type of activity: pairs or individual  
Suggested time: 20 minutes



### Odd One Out

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

Example:    *apple*    *orange*    *banana*    **taxi**

earth                      environment              wind              book

pollution              humans              waste              look

desk                      conservation              seas              rivers

natural                      detergents              great              materials

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

to pollute \_\_\_\_\_

to recycle \_\_\_\_\_

to cause \_\_\_\_\_

to dump \_\_\_\_\_

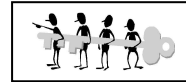
to dissolve \_\_\_\_\_



Check that these key words are in your personal dictionary.

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

Language Level: A1/A2  
Type of activity: individual  
Suggested time: 20 minutes



### Keywords

1. Fill in the missing letters of the keywords listed below.  
On the line beside each word, write whether the word is a noun, an adjective or a verb.

e\_r\_t\_ \_\_\_\_\_

h\_ma\_s \_\_\_\_\_

r\_in \_\_\_\_\_

r\_ve\_s \_\_\_\_\_

2. Write as many words as possible related to **Conservation and Pollution**. You have 3 minutes!

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Check that these key words are in your personal dictionary.

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

Language Level: A1 / A2  
Type of activity: pairs or individual  
Suggested time: 20 minutes



### Unscramble the letters

1. There are three main types of... PLLOTUNIO

**Answer** \_\_\_\_\_

2. Soil pollution is caused by... PTESICIED

**Answer** \_\_\_\_\_

3. Water is polluted by... FETRILISRES

**Answer** \_\_\_\_\_

4. The burning of waste is called... INCNIERATNOI

**Answer** \_\_\_\_\_

### Solve the secret code

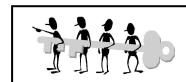
English	W	A	D	E	F	I	N	M	O	S	T	U
Code	B	X	Y	F	G	Q	R	O	L	E	A	W

example: EAWYFRA = STUDENT

**BXEAF** \_\_\_\_\_

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

Language Level: A2 / B1  
Type of activity: pairs or individual  
Suggested time: 30 minutes



## Completing sentences

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

### POLLUTION

\_\_\_\_\_ is any undesirable change in our \_\_\_\_\_ caused by human activities.

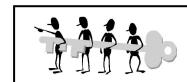
- Water pollution is the introduction of anything into water which alters any of its beneficial uses, e.g. sailing, fishing, drinking, etc.
- \_\_\_\_\_ pollution is the introduction of small suspended solids or poisonous liquids and gases into the air.
- \_\_\_\_\_ rain is caused by an increase in the pH of normal rain \_\_\_\_\_ by the introduction of sulphur dioxide and the oxides of nitrogen into the air.

### Word Box

pollution      acid      water      environment      atmospheric

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

Language Level: A2 / B1  
Type of activity: individual  
Suggested time: 40 minutes



## Multiple choice

*Read the text below and choose the best answers.*

### GREENHOUSE EFFECT

Certain gases in the air absorb ultraviolet radiation, which causes an increase in the temperature of the Earth. Carbon dioxide, methane and CFCs are some examples of greenhouse gases.

### OZONE LAYER

A layer of ozone gas protects us from the harmful effects of radiation from the sun. Some gases, in particular CFCs, have created a hole in the ozone layer.

### Effects of human activity on the environment

Treatment of waste - sewage.

Burning fossil fuels - greenhouse effect

Recycling of plastic, glass and aluminium cans.

Use of CFCs, which damage the ozone layer.

Restocking of fish in rivers.

Fish kills caused by silage and slurry.

Government levies - plastic bags.

Discharge of nitrates and phosphates into water

1. What do certain gases in the air absorb?  
a) food  
b) natural resources  
c) people  
d) ultraviolet radiation
2. What does the layer of ozone gas do?  
a) causes damage  
b) protects us  
c) helps the earth  
d) saves the fish
3. What have some gases created?  
a) smoke and dust  
b) water  
c) a hole in the ozone layer  
d) trees
4. Should materials such as paper, glass and plastics be recycled?  
a) Yes  
b) No
5. Does the government collect money for plastic bags?  
a) Yes  
b) No

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

Science: Conservation and Pollution

**Language Level:** A2 / B1  
**Type of activity:** pairs / small groups  
**Suggested time:** 40 minutes

**Writing**

Use your textbook to help you to write at least 6 sentences about **pollution**. Ask your teacher to check your work, and then file it in your folder. Note - writing this out will help you to remember it!

**Pollution**

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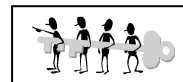
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Have you ticked this activity on your Learning Record?

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

Science: Conservation and Pollution

Language Level: B1  
Type of activity: individual  
Suggested time: 30 minutes



## Grammar points

### Verb + preposition

1. Study the following sentence:

Air pollution is caused by smoke, dust and harmful gases.

The verb cause is often followed by the preposition by.

2. Look at the following list of verbs. Write down the preposition that usually follows the verb. Then write a sample sentence. You can compare your answers with the Answer Key.

verb	+ preposition
cause	by <i>Acid rain is caused by pollution.</i>
agree	
ask	
believe	
belong	
depend	
hope	
good	
look	
pay	
talk	


NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

## 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.



NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
 Science: Conservation and Pollution



### Word search

Find the words from the list below.

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

ACID	DUMPING	HUMANS	RIVER
AFFECT	EARTH	INCINERATION	RIVERS
ANIMALS	ENVIRONMENT	NATURAL	SEWAGE
CAUSE	FERTILISERS	PESTICIDES	SOIL
DETERGENTS	GASES	POLLUTION	SULFUR
DISSOLVE	HARMFUL	RESOURCES	WASTE

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

## Play Snap

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



<b>pollution</b>	<b>pollution</b>
<b>recycling</b>	<b>recycling</b>
<b>dumping</b>	<b>dumping</b>

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

<b>incinerator</b>	<b>incinerator</b>
<b>wastes</b>	<b>wastes</b>
<b>detergents</b>	<b>detergents</b>

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

<b>fertiliser</b>	<b>fertiliser</b>
<b>resources</b>	<b>resources</b>
<b>rain</b>	<b>rain</b>

## Answer key

### Working with words, page 7

1. b, c

### Picture sentences, page 8

1. c, a, b

2. Air pollution is caused by dust, smoke and harmful gases.

Soil pollution is caused by pesticides, artificial fertilisers and acid rain.

Water pollution is caused by sewage, fertilisers and detergents.

### Odd one out, page 9

Book, look, desk, great

### Keywords, page 10

Earth (noun), humans (noun), rain (noun and verb), rivers (noun)

### Unscramble the letters, page 11

Pollution, pesticides, fertilisers, incineration

Secret code: waste

### Completing Sentences, page 12

**Pollution** is any undesirable change in our **environment** caused by human activities.

- Water pollution is the introduction of anything into water which alters any of its beneficial uses, e.g. sailing, fishing, drinking, etc.
- **Atmospheric** pollution is the introduction of small suspended solids or poisonous liquids and gases into the air.
- **Acid** rain is caused by an increase in the pH of normal rain **water** by the introduction of sulphur dioxide and the oxides of nitrogen into the air.

### Multiple Choice, page 13

1.d, 2.b, 3.c, 4.a, 5.a

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

**Grammar point, page 15**

Other verb + prepositions are possible, these are the most common.

<b>verb</b>	<b>+ preposition</b>
cause	<b>by</b> <i>Acid rain is caused by pollution.</i>
agree	<b>with</b> <i>I agree with the teacher that spellings are difficult!</i>
ask	<b>for</b> <i>I asked for extra paper during the exam.</i>
believe	<b>in</b> <i>Most people believe in a god.</i>
belong	<b>to</b> <i>He belongs to a soccer club.</i>
depend	<b>on</b> <i>I depend on my parents for everything.</i>
hope	<b>for</b> <i>We are all hoping for a good summer.</i>
good	<b>at</b> <i>I am very good at English!</i>
look	<b>For</b> <i>Look for the special offers when you go shopping.</i> <b>At</b> <i>Look at that sky - it's going to rain.</i>
pay	<b>for</b> <i>If you break something you have to pay for it.</i>
talk	<b>to</b> <i>I love talking to my sister.</i>

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_  
Science: Conservation and Pollution

Word search, page 17

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