

NAME: _____ DATE: _____

Science: Photosynthesis

Science

Photosynthesis

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 | Photosynthesis |
| 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 Science Revision for Junior Cert. 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

- **At the beginning of the class**, make sure that students understand **what** they are doing and **why**. *'We are doing the exercise on page (12) to help you to remember key words / to help your writing skills / to help with grammar'* etc.
- 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.

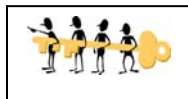


Recording what they have learnt on the **Learning Record**, which should be distributed at the start of each unit.



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.

- 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.



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

NAME: _____ DATE: _____

Science: Photosynthesis

Keywords

The list of keywords for this unit is as follows:

Nouns

carbon
cell
chemical
chlorophyll
chloroplasts
dioxide
experiment
glucose
iodine
leaf/leaves
light
methylated
photosynthesis
plant
pores
respiration
spirit
starch
tile

Verbs

boil
combine
test
trap

adjectives

green
hot
white

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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 |
|-------------|----------------|----------------------------|
| spirit | | |
| light | | |
| boiling | | |
| starch | | |
| trap | | |
| soften | | |



Get your teacher to check this and 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 |
|-------------|---------|---------------------|
| respiration | | |
| plant | | |
| iodine | | |
| cell | | |
| glucose | | |
| chemical | | |



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

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Science: Photosynthesis

Level: all
Type of activity: whole class

Focus: vocabulary, spelling,
dictionary, writing
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:

Plants

The Sun

- 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.

NAME: _____ DATE: _____

Science: Photosynthesis

Level: A1
Type of activity: pairs or individual

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

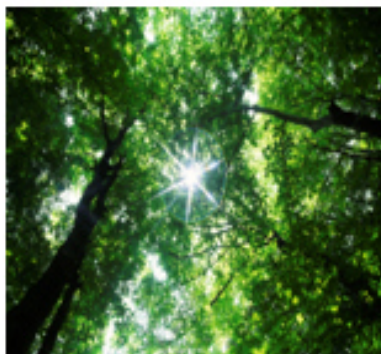
Working with words



1. Tick the correct answer



- a) this is a flower
- b) this is a leaf
- c) this is a garden
- d) this is a tree



- a) this is a river
- b) these is a beach
- c) this is sunlight
- d) this is a star

2. Find these words in your textbook.

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

| Word | Page in textbook | Explanation | In my language |
|----------------|------------------|-------------|----------------|
| photosynthesis | | | |
| chlorophyll | | | |
| carbon dioxide | | | |
| oxygen | | | |



Check that these key words are in your personal dictionary.

NAME: _____ DATE: _____
Science: Photosynthesis

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

Focus: vocabulary, basic sentence structure
Suggested time: 30 minutes



Sentences

1. Look in your textbook, then match the names with the symbols

O_2

a) water

H_2O

b) carbon dioxide

CO_2

c) oxygen

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

process/photosynthesis/ a/ is

food/from /light energy/ green plants/ use/ the sun/ to produce

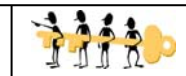
a plant/the green pigment/ chlorophyll/ of/ is

NAME: _____ DATE: _____

Science: Photosynthesis

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

Focus: word identification, vocabulary
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*

carbon dioxide oxygen child

plant leaf house tree

starch energy angel glucose

green soil brick plant

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

to test _____

to boil _____

to combine _____

to provide _____

to trap _____



Check that these key words are in your personal dictionary.

Level: A2 / B1
Type of activity: individual

Focus: key vocabulary
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.

l_g_t _____

s_ir_t _____

i_d_ne _____

p_an_ _____

2. Write as many words as possible related to **Photosynthesis**. You have 3 minutes!



Check that these key words are in your personal dictionary.

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Science: Photosynthesis

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

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



Unscramble the letters

1. This is a green chemical CHOLROHPLYL

Answer _____

2. Chlorophyll is found in the COLHROPLSATS

Answer _____

3. Chlorophyll traps LGIHT

Answer _____

4. This travels around the plant in cells GCUSOLE

Answer _____

Solve the secret code

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

ex: EAWYFRA = STUDENT

EABQXG _____

NAME: _____ DATE: _____

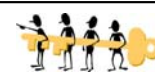
Science: Photosynthesis

Level: A2 / B1

Type of activity: pairs or individual

Focus: reading comprehension, extracting meaning from text, vocabulary

Suggested time: 30 minutes



Completing sentences

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

Plants make glucose from carbon dioxide and water by using the _____ from the sun and a catalyst called chlorophyll. Glucose can be _____ as energy, stored as starch, converted into protein or used to _____ cell walls.

Most leaves are broad, _____ and thin. This allows the maximum amount of _____ to be absorbed and also allows carbon dioxide in quickly.

Word Box:

| | | | | |
|------|-------|------|------|--------|
| make | light | used | flat | energy |
|------|-------|------|------|--------|

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Science: Photosynthesis

Level: A2 / B1
Type of activity: individual

Focus: key vocabulary, topic
information, reading
comprehension, multiple choice
Suggested time: 40 minutes

Multiple choice



Read the text below and choose the best answers.

Carbon dioxide is taken in through tiny holes in the leaf called stomata.

- Water is taken up from the roots.
- Energy is provided by the sun.
- Chlorophyll acts as a catalyst.
- Oxygen is released through the stomata.
- Glucose is transported to the rest of the plant.

1. What is taken in through tiny holes in the leaf?

- | | |
|-------------------|-------------------|
| a) photos | b) image |
| c) carbon dioxide | d) photosynthesis |

2. Where is the water taken from?

- | | |
|----------------|--------------|
| a) paint | b) chlorine |
| c) chlorophyll | d) the roots |

3. What provides the energy?

- | | |
|--------------------------------|------------|
| a) chloroplasts of plant cells | b) school |
| c) chlorine | d) the sun |

4. Glucose is transported to the plant.

- | | |
|---------|----------|
| a) true | b) false |
|---------|----------|

5. Is oxygen released through the stomata?

- | | |
|--------|-------|
| a) Yes | b) No |
|--------|-------|

NAME: _____ DATE: _____

Science: Photosynthesis

Level: A2 / B1
Type of activity: individual

Focus: vocabulary, writing sentences
Suggested time: 40 minutes

Writing

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

Photosynthesis


Have you ticked
this activity on your
Learnina Record?

NAME: _____ DATE: _____

Science: Photosynthesis

Level: A2/B1

Type of activity: individual

Focus: content words,
dictionary work, spellings
Suggested time: 30 minutes



Vocabulary

1. Plurals of nouns. Fill in the missing words.



This is a picture of a _____.



There are lots of _____ in this picture.

2. There are lots of spelling rules, but not all of them work! The following is a list of nouns that take irregular plurals. Write in the plural then check your dictionary.

a potato - some _____

a tomato - a kilo of _____

the factory - two _____

a pony - lots of _____

a monkey - lots of _____

one knife - many _____

his wife - their _____

the shelf - lots of _____

a house - a lot of _____

a sheep - some _____

a foot - two _____

a woman - two _____

3. Based on the spellings above, can you write out some spelling rules?
Check your suggestions with the Answer Key.

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Levels A1 and 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.

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Word search

Find the words from the list below. When you have found all the words, write each word in your own

I Y
J Q
F V H Q
M B V R
V O P Z M N
G H Q B G X

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

| | | | |
|--------------|------------|--------|-------|
| BOILING | GLUCOSE | PORES | WATER |
| CHLOROPHYLL | GREEN | SPIRIT | WHITE |
| CHLOROPLASTS | IODINE | STARCH | |
| COMBINE | METHYLATED | TEST | |
| DIOXIDE | OXYGEN | TRAPS | |

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Science: Photosynthesis

Play Snap

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



| | |
|-----------------------|-----------------------|
| photosynthesis | photosynthesis |
| chlorophyll | chlorophyll |
| oxygen | oxygen |

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| | |
|---------------|---------------|
| starch | starch |
| iodine | iodine |
| light | light |

NAME: _____ DATE: _____

Science: Photosynthesis

| | |
|--------------------|--------------------|
| respiration | respiration |
| carbon | carbon |
| pores | pores |

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Science: Photosynthesis

Answer key

Working with words, page 7

1. b,c

Sentences, page 8

1. a) water H₂O

b) carbon dioxide CO₂

c) oxygen O₂

2. Photosynthesis is a process.

Green plants use light energy from the sun to produce food.

The green pigment of a plant is chlorophyll.

Odd one out, page 9

Child, house, angle, brick

Keywords, page 10

Light (noun, verb, adjective), spirit (noun), iodine (noun), plant (noun or verb)

Unscramble the letters, page 11

Chlorophyll, chloroplasts, light, glucose

Secret Code: starch

Completing Sentences, page 12

Plants make glucose from carbon dioxide and water by using the **energy** from the sun and a catalyst called chlorophyll. Glucose can be **used** as energy, stored as starch, converted into protein or used to make **cell** walls.

Most leaves are broad, **flat** and thin. This allows the maximum amount of **light** to be absorbed and also allows carbon dioxide in quickly.

Multiple Choice, page 13

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

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Vocabulary, page 15

a potato - some potatoes, a tomato - a kilo of tomatoes

the factory - two factories, a pony - lots of ponies,

a monkey - lots of monkeys, a knife - many knives,

his wife - their wives, the shelf - lots of shelves

a house - a lot of houses, a sheep - some sheep

a foot - two feet, a woman - two women

Spelling Rules:

The regular plural ending is *s/es*.

We add *es* after *o* in potato, tomato, hero.

After a consonant, *y* changes to *ies* (but when *y* comes after a vowel, *ey*, the plural is regular).

F and *fe* change to *ves* in knife, shelf, wolf, thief, half, life, leaf, loaf.

Sheep, deer and most names of fish have the same plural and singular nouns.

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Word Search, page 17

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