

TEACHER'S NOTES

Li-Fi

www.macmillandictionary.com

Overview: Suggestions for using the **Macmillan Dictionary Buzzword** article on *Li-Fi* and the associated worksheets.

Total time for worksheet activities: 45 minutes

Suggested level: Upper intermediate and above

1. If you intend to use the worksheets in class, go to the *BuzzWord* article at the web address given at the beginning of the worksheet and print off a copy of the article. Make a copy of the worksheet and the *BuzzWord* article for each student. You might find it helpful not to print a copy of the Key for each student but to check the answers as a class.
2. If the members of your class all have computer access, ask them to open the worksheet before they go to the *BuzzWord* article link. Make sure they do not scroll down to the Key until they have completed each exercise.
3. Ask students to read through the whole *BuzzWord* article carefully.
4. Ask students to work in pairs to find the answers to the **Find the information** questions. Check the answers as a class. Look again at the answer to question 5 – do students understand what a *clipped form* is? (Answer = an abbreviated form created by removing a part of the word, as exemplified in the text, i.e.: *Li-Fi* = *Light Fidelity*, *Wi-Fi* = *Wireless Fidelity*). Can they give any examples of clipped forms in their own languages? Mention that they will be looking at clipped forms again later.
5. Note that for exercise 2, the answers appear in order through the text. If felt necessary, first ask the students to read the article again. Extra help could be given if needed (i.e. answers 1 and 2 are in paragraph 1, answers 3, 4 and 5 in paragraph 2, answer 6 and 7 in paragraph 3, answer 8 in paragraph 6). Check the answers as a class.
6. Students could look up the entry for the word *light* in the Macmillan Dictionary if they need extra help with completing exercise 4. Explore the fact that some of the expressions mentioned allow a degree of variation, e.g.: *cast / shed / throw light; in a bad / different / good light*. Mention that the phrasal verb *light up*, (see Q. 3) can be used literally as well as metaphorically. Can students write a sentence exemplifying a literal use? (E.g.: *A spectacular firework display lit up the night sky. A warning light lit up on the dashboard.*). As an extension activity, students could be asked to write their own sentences using the fixed expressions in the exercise and / or any variations on them, or other expressions involving the word *light*, e.g. *the light at the end of the tunnel, in the cold light of day ...*
7. Before completing exercise 5, return to a brief explanation of the word formation process of *clipping* (also sometimes described as *truncation* or simply *shortening*). Explain that clipping takes place in three ways – most commonly the end of a word is removed, but it can also be the beginning of a word, or even the end and the beginning to leave a middle part. Ask students to complete the exercise and compare their answers with a partner. If there's time, you could also briefly explore the fact that clipped forms might also be regionally marked, e.g.: US *gas* = *gasoline* (**Note:** if you use the word *gas* in UK English you are unlikely to be talking about fuel, but rather the air-like substance, which in this sense isn't a clipped form) and UK *pub* = *public house*. Examples of synonymous regional variants also exist, e.g. *maths* (UK) / *math* (US) = mathematics. Sometimes sense discrimination plays a role too, so that e.g. *exam* can only refer to an academic test in UK English, but in US English it can also refer to a medical examination.

WORKSHEET

Li-Fi

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Go to the **Macmillan Dictionary BuzzWord** article at:
<http://www.macmillandictionary.com/buzzword/entries/Li-Fi.html>

1 Find the information

Read the **BuzzWord** article on **Li-Fi** and answer these questions.

1. What problem might *Li-Fi* be a solution to?
2. What expression does *LED* stand for? Give one example of where *LEDs* are found.
3. What two numbers are used as a way of encoding information?
4. What advantages does *Li-Fi* have over *Wi-Fi*?
5. Look at the 'Background' information. What term do linguists sometimes use to describe abbreviations like *Li-Fi* and *Wi-Fi*?
6. Why was the company *VLC Ltd* set up?

2 Find the words

Look in the text and find the following words. The first letter of each word is given. The words are in the order in which they appear in the text.

1. a verb meaning *to move information to your computer from another computer system or the internet*
d _____
2. a noun meaning *the process of sending out electronic signals* t _____
3. a verb meaning *to go on and off repeatedly* f _____
4. a verb meaning *to notice something* d _____
5. a verb meaning *to try to be more successful than others* c _____
6. a noun meaning *something that you can choose instead of something else* a _____
7. a noun meaning *a machine or piece of equipment that does a particular thing* d _____
8. a noun meaning *the first form of something new, made before it is produced in large quantities*
p _____

3 Find the odd one out

Cross out the alternative that has a different meaning to the others.

1. Radio waves are replaced by light waves in a new *method / way / programme / means* of data transmission.
2. A flickering light can be incredibly *annoying / irritating / infuriating / alarming*.
3. Information can therefore be encoded in the light by *increasing / varying / changing / altering* the rate at which the LEDs flicker on and off.
4. *Li-Fi* may offer a *genuine / convenient / real / true* alternative to radio-based wireless.
5. The opportunity to *exploit / use / utilize / include* a completely different part of the electromagnetic spectrum is very appealing.
6. The company *VLC Ltd* was *set up / expanded / established / founded* to commercialize the technology.

WORKSHEET

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4 Expressions with *light*

Complete the sentences with the correct form of the expressions in the box.

shed light on	in a different light	come to light
give the green light to	in the light of	light up

- In the past week, new evidence has _____ which suggests our initial theory was wrong.
- _____ what we have recently discovered, we have decided to withdraw our support.
- I think Rob really likes Laila – his face _____ when she walked into the room.
- It looks like all parties are in agreement and so the government has _____ the reforms.
- I thought Andrew was a nice guy, but after what happened yesterday I'm beginning to see him _____
- We are hoping that this new research will be able to _____ the problem.

5 What's the abbreviation?

The word *Li-Fi* is a new example of a clipped form. Look at the words in the table below which all have clipped forms in common use. Can you complete the table?

full form	clipped form
<i>Light Fidelity</i>	<i>Li-Fi</i>
advertisement	
aeroplane	
examination	
gymnasium	
influenza	
laboratory	
memorandum	
telephone	
weblog	

KEY

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KEY

1 Find the information

1. how to meet the increasing demand for high-speed wireless internet
2. Light-emitting diode. Examples: traffic / street lights, car brake lights, remote control units
3. 1 (one) and 0 (zero)
4. It is safe to use on aircraft and in hospitals or medical devices, and can be used underwater.
5. clipped forms
6. The company was set up to commercialize (=develop and sell) *Li-Fi* technology.

2 Find the words

1. download
2. transmission
3. flicker
4. detect
5. compete
6. alternative
7. device
8. prototype

3 Find the odd one out

1. programme
2. alarming
3. increasing
4. convenient
5. include
6. expanded

4 Expressions with *light*

1. come to light
2. in the light of
3. lit up
4. given the green light to
5. in a different light
6. shed light on

5 What's the abbreviation?

full form	clipped form
<i>Light Fidelity</i>	<i>Li-Fi</i>
advertisement	ad, advert
aeroplane	plane
examination	exam
gymnasium	gym
influenza	flu
laboratory	lab
memorandum	memo
telephone	phone
weblog	blog