

English in Mind Second edition

Level 4 Unit 13

Worksheet

A small bite for a monkey ...
a giant leap for mankind

THE INDEPENDENT

Lead-in

A



B



C



D



1 Look the photos and match them to the captions below. What do you think could be the connection between them? How might the monkey in photo C be helping the people in photos A and D? Why do you think the author has chosen this title for the article?

- 1 American airman, Brian Kolfage, is fitted with prosthetic limbs, after losing an arm and two legs in Iraq. [www.airforcetimes.com]
- 2 Diagnosed with motor neuron disease at the age of 21, Professor Stephen Hawking is now almost totally paralysed. He is able to communicate only by moving a muscle in his cheek connected to a computer. [www.msnbc.msn.com]
- 3 A monkey controls a robotic arm during an experiment at the University of Pittsburgh.
- 4 Neil Armstrong takes his first step on the moon. [www.pressmart.net]

Reading comprehension

2 Read through the text quickly. Choose the best subtitle for the article.

- a Paralysed humans can use thoughts to control prosthetic limbs.
- b Hope for paralysis victims as animal is trained to control robotic arm using only its thoughts.
- c Scientists find cures for paralysis using monkey research.

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3 Decide whether the following statements are true (T) or false (F).

- 1 The monkey in photo C is unable to eat the food. F
- 2 Humans may in the future be able to control prosthetic limbs using thought control.
- 3 The experiment is a very important advance in understanding how the brain works.
- 4 It will never be possible to drive a car using thought control.
- 5 Understanding how the brain works may help to cure many serious diseases.
- 6 Computers are used in the experiment.
- 7 It was difficult to train the monkeys to move the arm.
- 8 The training took several weeks.
- 9 Monkeys can also move cursors on a computer screen by thought control.
- 10 The monkeys were scared of the robot.
- 11 This is the first experiment involving feeding.
- 12 The study is now complete.

Vocabulary: words in context

4 The following words are printed in *italics* in the text. Find them and use the context to help you match them to their meanings.

- | | |
|-----------------------|---|
| 1 <i>morsels</i> | a discovering something hidden or unclear |
| 2 <i>relayed</i> | b soft sugary sweet, popular in the USA |
| 3 <i>feat</i> | c held back, not allowed to move freely |
| 4 <i>fork-lift</i> | d copy something better |
| 5 <i>marshmallow</i> | e transmitted, sent |
| 6 <i>disorders</i> | f willingly, easily, happily |
| 7 <i>tapping into</i> | g significant achievement |
| 8 <i>detecting</i> | h small pieces |
| 9 <i>restrained</i> | i hold tightly |
| 10 <i>readily</i> | j connecting to, using |
| 11 <i>emulate</i> | k used for lifting and carrying heavy objects |
| 12 <i>grip</i> | l illnesses of the mind or body |

1 h 2 _____ 3 _____ 4 _____ 5 _____ 6 _____ 7 _____ 8 _____ 9 _____ 10 _____ 11 _____ 12 _____

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5 There is a lot of scientific and technical vocabulary in the text. Find words and phrases which fit the explanations below.

- 1 artificial arms and legs, operated by a robot robotic prosthetic limbs (para 2)
- 2 machines which operate independently _____ (para 2)
- 3 brains and machines working together _____ (para 5)
- 4 regular brain activity _____ (para 7)
- 5 a vertical handle that can be moved in all directions to operate, e.g. aircraft, computer games _____ (para 10)
- 6 useful behaviour _____ (para 16)
- 7 using the most recent ideas and methods _____ (para 16)
- 8 activity involving the nervous system _____ (para 18)
- 9 placed inside _____ (para 18)
- 10 information coming from the senses (sight, touch, smell, etc.) _____ (para 19)

Grammar (1): passive voice

6 The following examples of the passive are taken from the text.

Match them to their tenses below.

- 1 'Two monkeys have been trained ...' (para 1) d
- 2 '... thoughts that are relayed ...' (para 1) _____
- 3 'The astonishing feat is being seen ...' (para 2) _____
- 4 '... would enable the technology to be adapted ...' (para 3) _____
- 5 '... whose study is published ...' (para 5) _____
- 6 'The monkeys ... had been initially trained ...' (para 10) _____
- 7 '... the monkeys' arms were gently restrained ...' (para 10) _____
- 8 'The electrical patterns were sent ...' (para 12) _____
- 9 '... which had been programmed ...' (para 12) _____

- a present simple passive (x 2)
- b present continuous passive
- c past simple passive (x 2)
- d present perfect passive
- e past perfect passive (x 2)
- f passive infinitive

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Begin your sentences with the words or phrases given. Decide if it is necessary to include 'by' + the person(s) performing the action.

- 1 Scientists often use animals for medical research.

Animals are often used for medical research

- 2 They are developing new technologies to help in their experiments.

New technologies _____

- 3 Scientists have recently made many exciting discoveries about brain function.

Many exciting discoveries about brain function _____

- 4 Before the invention of computers people had understood very little about the brain.

Very little about the brain _____

- 5 This research will help people who are paralysed.

People who are paralysed _____

- 6 They need to do a lot more research on the brain.

A lot more research on the brain needs _____

Grammar (2): relative pronouns**8** Find the relative pronouns printed in bold in the text and, in each case, identify the words or phrases referred to.

- 1 **that** (para 2) robotic prosthetic limbs and other automated devices

- 2 **that** (para 3) _____

- 3 **whose** (para 5) _____

- 4 **that** (para 7) _____

- 5 **which** (para 10) _____

- 6 **where** (para 13) _____

- 7 **which** (para 19) _____

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- 1** Do you agree that the findings of this research are as important and exciting as landing on the moon?
- 2** How long do you think it will be before we are able to do things such as driving cars by using thought control? What would be the advantages?
- 3** In what other ways could thought-controlled robots be useful to people who are paralysed or have lost their limbs?
- 4** Do you think that the use of animals in such research is justified?

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