

Breaking News English.com

Ready-to-Use English Lessons by Sean Banville

"1,000 IDEAS & ACTIVITIES
FOR LANGUAGE TEACHERS"

breakingnewsenglish.com/book.html

Thousands more free lessons
from Sean's other websites

www.freematerials.com/sean_banville_lessons.html

Level 6 – 7th October 2024

Mapping of fruit fly brain to change neuroscience

FREE online quizzes, mp3 listening and more for this lesson here:

<https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Contents

The Article	2	Discussion (Student-Created Qs)	15
Warm-Ups	3	Language Work (Cloze)	16
Vocabulary	4	Spelling	17
Before Reading / Listening	5	Put The Text Back Together	18
Gap Fill	6	Put The Words In The Right Order	19
Match The Sentences And Listen	7	Circle The Correct Word	20
Listening Gap Fill	8	Insert The Vowels (a, e, i, o, u)	21
Comprehension Questions	9	Punctuate The Text And Add Capitals	22
Multiple Choice - Quiz	10	Put A Slash (/) Where The Spaces Are	23
Role Play	11	Free Writing	24
After Reading / Listening	12	Academic Writing	25
Student Survey	13	Homework	26
Discussion (20 Questions)	14	Answers	27

Please try Levels 4 and 5 (they are easier).

X (Twitter)



[X.com/SeanBanville](https://x.com/SeanBanville)

Facebook



www.facebook.com/pages/BreakingNewsEnglish/155625444452176

THE ARTICLE

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Scientists have created a map of the wiring of a fruit fly's brain in a research project called FlyWire. The map of the neurons and connections is the most detailed ever produced for a creature. This groundbreaking feat could revolutionize the field of neuroscience and unlock secrets about our own brain. Brain specialist Dr Gregory Jefferis told the BBC: "The mapping of the fly brain is really remarkable and will help us get a real grasp of how our own brains work." He said it could provide insights into "the mechanism of thought". It took scientists years to analyze the fly's pinhead-sized brain. They created a detailed diagram of 139,255 neurons and 50 million connections.

The diagram of the fly's brain's neural pathways looks like a scientific work of art. It is a stunning, colourful web of neurons. The diagram is known as a connectome. To create it, the scientists sliced the fruit fly brain into 7,000 microscopic slivers. Each of these was studied using an electron microscope that imaged cells that were four-millionths of a millimetre wide. The researchers classified more than 8,400 different cell types. If the neural pathways were unravelled, they would stretch for 150 metres. The human brain has 86 billion neurons and trillions of connections. Current technology could not create a connectome of our brain. That map is still decades away.

Sources: <https://www.bbc.com/news/articles/c0lw0nxw71po>
<https://www.nature.com/articles/d41586-024-03190-y>
<https://www.theguardian.com/science/2024/oct/02/fruit-fly-brain-connections-wiring-diagram-neuroscience>

WARM-UPS

1. OUR BRAIN: Students walk around the class and talk to other students about our brain. Change partners often and share your findings.

2. CHAT: In pairs / groups, talk about these topics or words from the article. What will the article say about them? What can you say about these words and your life?

scientists / map / fruit fly / neurons / neuroscience / secrets / specialists / the brain / diagram / work of art / microscopic / cells / connection / current technology

Have a chat about the topics you liked. Change topics and partners frequently.

3. BRAIN MAPPING: Students A **strongly** believe it is important to match the brain of a fruit fly; Students B **strongly** believe otherwise. Change partners again and talk about your conversations.

4. THOUGHTS: How might reading people's thoughts help with these things? How do you feel about this? Complete this table with your partner(s). Change partners often and share what you wrote.

	Help	How You Feel
Crime		
Job interviews		
Relationships		
Best friends		
Education		
In the street		

5. MAP: Spend one minute writing down all of the different words you associate with the word "map". Share your words with your partner(s) and talk about them. Together, put the words into different categories.

6. FLIES: Rank these with your partner. Put the best at the top. Change partners often and share your rankings.

- Fruit flies
- Dragonflies
- Fireflies
- House flies
- Crane flies
- Gauromydas
- Mosquitoes
- Hoverflies

VOCABULARY MATCHING

Paragraph 1

- | | |
|-------------------|--|
| 1. wiring | a. A part of a machine or a way something works. |
| 2. neuron | b. Something very new and important that has never been done before. |
| 3. groundbreaking | c. To understand something. |
| 4. feat | d. The way wires are connected, like in a machine or inside your body to send signals. |
| 5. grasp | e. A good idea or understanding of something. |
| 6. insight | f. A tiny part of the brain or body that helps send messages. |
| 7. mechanism | g. A great or difficult thing that someone does. |

Paragraph 2

- | | |
|-----------------|---|
| 8. stunning | h. A very thin piece of something. |
| 9. connectome | i. Grouped into different types. |
| 10. microscopic | j. When something is taken apart or opened up. |
| 11. sliver | k. A special map that shows how the brain is connected. |
| 12. classified | l. A way or route something follows. |
| 13. pathway | m. So small that you need a special tool, like a microscope, to see it. |
| 14. unravelled | n. Very beautiful or amazing. |

BEFORE READING / LISTENING

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

1. TRUE / FALSE: Read the headline. Guess if a-h below are true (T) or false (F).

1. The name of the research project is Wire Fly. **T / F**
2. The map of the fruit fly brain is the most detailed done for any animal. **T / F**
3. A brain expert believes the map will help us understand human thought. **T / F**
4. The map shows 50 million neural connections in a fruit fly's brain. **T / F**
5. The brain map has been turned into a piece of art. **T / F**
6. Scientists analyzed 7,000 tiny specimens of a fruit fly's brain. **T / F**
7. The pathways in the fruit fly brain would stretch for 150 metres. **T / F**
8. A map of the human brain will be available by the end of the decade. **T / F**

2. SYNONYM MATCH: (The words in **bold** are from the news article.)

- | | |
|-----------------------|-----------------------|
| 1. connections | a. categorized |
| 2. creature | b. workings |
| 3. remarkable | c. network |
| 4. mechanism | d. extend |
| 5. diagram | e. interrelationships |
| 6. web | f. outline |
| 7. classified | g. present-day |
| 8. unravelled | h. animal |
| 9. stretch | i. untangled |
| 10. current | j. exceptional |

3. PHRASE MATCH: (Sometimes more than one choice is possible.)

- | | |
|---|------------------------------|
| 1. This groundbreaking | a. of neuroscience |
| 2. revolutionize the field | b. of 139,255 neurons |
| 3. help us get a real | c. unravelled |
| 4. analyze the fly's pinhead- | d. away |
| 5. They created a detailed diagram | e. grasp of how |
| 6. like a scientific work | f. feat |
| 7. scientists sliced the fruit fly brain into | g. of connections |
| 8. If the neural pathways were | h. of art |
| 9. trillions | i. sized brain |
| 10. That map is still decades | j. 7,000 microscopic slivers |

GAP FILL

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Scientists have created a map of the (1) _____ of a fruit fly's brain in a research project called FlyWire. The map of the (2) _____ and connections is the most detailed ever produced for a creature. This groundbreaking feat could revolutionize the (3) _____ of neuroscience and unlock secrets about our own brain. Brain (4) _____ Dr Gregory Jefferis told the BBC: "The mapping of the fly brain is really (5) _____ and will help us get a real grasp of how our own brains work." He said it could provide (6) _____ into "the mechanism of thought". It took scientists years to (7) _____ the fly's pinhead-sized brain. They created a detailed diagram of 139,255 neurons and 50 million (8) _____.

The diagram of the fly's brain's neural (9) _____ looks like a scientific work of art. It is a stunning, colourful web of neurons. The diagram is (10) _____ as a connectome. To create it, the scientists (11) _____ the fruit fly brain into 7,000 microscopic slivers. Each of these was studied using an electron (12) _____ that imaged cells that were four-millionths of a millimetre wide. The researchers (13) _____ more than 8,400 different cell types. If the neural pathways were unravelled, they would (14) _____ for 150 metres. The human brain has 86 billion neurons and trillions of connections. Current (15) _____ could not create a connectome of our brain. That map is still (16) _____ away.

field
remarkable
connections
wiring
analyze
specialist
neurons
insights

sliced
pathways
stretch
microscope
known
technology
decades
classified

LISTENING – Guess the answers. Listen to check.

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

- 1) Scientists have created a map of the wiring of a fruit fly's brain in _____
 - a. a researcher project
 - b. a research projected
 - c. the research project
 - d. a research project
- 2) The map of the neurons and connections is the most detailed ever produced _____
 - a. for a creative
 - b. for a creatures
 - c. for the creature
 - d. for a creature
- 3) This groundbreaking feat could revolutionize the field of neuroscience _____
 - a. and unlock secrets
 - b. and unlocks secrets
 - c. and unlocked secrets
 - d. and unlock secret
- 4) He said it could provide insights into the _____
 - a. mechanism of taught
 - b. mechanism of thought
 - c. mechanism off thought
 - d. mechanism oft thought
- 5) It took scientists years to analyze the fly's _____
 - a. pinhead-size brain
 - b. pinhead-sized brain
 - c. pinhead-sizes brain
 - d. pinhead-seized brain
- 6) The diagram of the fly's brain's neural pathways looks like a scientific _____
 - a. work of art
 - b. work off art
 - c. work out art
 - d. work at art
- 7) To create it, the scientists sliced the fruit fly brain into _____
 - a. 7,000 microscopic slivers
 - b. 7,000 microscopic silvers
 - c. 7,000 microscopic sieves
 - d. 7,000 microscopic slippers
- 8) electron microscope that imaged cells that were four-millionths of _____
 - a. a millimetre wade
 - b. the millimetre wide
 - c. a millimetre widen
 - d. a millimetre wide
- 9) The human brain has 86 billion neurons and _____
 - a. trillions of connection
 - b. trillion of connections
 - c. trillions of connections
 - d. trillionaires of connections
- 10) technology could not create a connectome of our brain. That map is _____
 - a. stall decades away
 - b. still decades away
 - c. stale decades away
 - d. till decades away

LISTENING – Listen and fill in the gaps

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Scientists have (1) _____ of the wiring of a fruit fly's brain in a research project called FlyWire. The map of the neurons and connections is the most detailed ever produced (2) _____. This groundbreaking feat could revolutionize the field of neuroscience and (3) _____ our own brain. Brain specialist Dr Gregory Jefferis told the BBC: "The mapping of the fly brain (4) _____ and will help us get a real grasp of how our own brains work." He said it could (5) _____ "the mechanism of thought". It took scientists years to analyze the fly's pinhead-sized brain. They created a (6) _____ 139,255 neurons and 50 million connections.

The diagram of the fly's brain's (7) _____ like a scientific work of art. It is a (8) _____ of neurons. The diagram is known as a connectome. To create it, (9) _____ the fruit fly brain into 7,000 microscopic slivers. Each of these was studied using an electron microscope that (10) _____ were four-millionths of a millimetre wide. The researchers classified more than 8,400 different cell types. If the neural (11) _____, they would stretch for 150 metres. The human brain has 86 billion neurons and trillions of connections. Current technology could not create a connectome of our brain. That map is (12) _____.

COMPREHENSION QUESTIONS

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

1. What's the name of the research project?
2. What does the article say the mapping could revolutionize?
3. What could the map of the brain give insights into the mechanism of?
4. How large is a fruit fly's brain?
5. How many neural connections are there in a fruit fly's brain?
6. What does the diagram of the fly's brain's neural pathways look like?
7. What is the map of the neural network called?
8. How many samples of the fruit fly brain did scientists study?
9. How many different cell types did the scientists classify?
10. When will the human brain be mapped?

MULTIPLE CHOICE - QUIZ

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

- 1) What's the name of the research project?
 - a) WireFly
 - b) WiFi
 - c) FlyWire
 - d) FruitFly
- 2) What does the article say the mapping could revolutionize?
 - a) neuroscience
 - b) fruit
 - c) the sixth sense
 - d) brains
- 3) What could the map of the brain give insights into the mechanism of?
 - a) sleep
 - b) thought
 - c) mental illness
 - d) memory loss
- 4) How large is a fruit fly's brain?
 - a) miniscule
 - b) the size of a grain of rice
 - c) 0.5 mm wide
 - d) pinhead sized
- 5) How many neural connections are there in a fruit fly's brain?
 - a) 5,000,000
 - b) 15,000,000
 - c) 50,000,000
 - d) 150,000,000
- 6) What does the diagram of the fly's brain's neural pathways look like?
 - a) a road map
 - b) a work of art
 - c) spaghetti
 - d) a train network map
- 7) What is the map of the neural network called?
 - a) a metronome
 - b) a gnome
 - c) a tome
 - d) a connectome
- 8) How many samples of the fruit fly brain did scientists study?
 - a) 6,000
 - b) 7,000
 - c) 8,000
 - d) 9,000
- 9) How many different cell types did the scientists classify?
 - a) exactly 8,400
 - b) more than 8,400
 - c) around 8,400
 - d) just fewer than 8,400
- 10) When will the human brain be mapped?
 - a) not for decades
 - b) next year
 - c) by the end of this decade
 - d) in 2028

ROLE PLAY

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Role A – Fruit Flies

You think fruit flies are the best flies. Tell the others three reasons why. Tell them what is wrong with their flies. Also, tell the others which is the worst of these (and why): dragonflies, fireflies or crane flies.

Role B – Dragonflies

You think dragonflies are the best flies. Tell the others three reasons why. Tell them what is wrong with their flies. Also, tell the others which is the worst of these (and why): fruit flies, fireflies or crane flies.

Role C – Fireflies

You think fireflies are the best flies. Tell the others three reasons why. Tell them what is wrong with their flies. Also, tell the others which is the worst of these (and why): dragonflies, fruit flies or crane flies.

Role D – Crane Flies

You think crane flies are the best flies. Tell the others three reasons why. Tell them what is wrong with their flies. Also, tell the others which is the worst of these (and why): dragonflies, fireflies or fruit flies.

AFTER READING / LISTENING

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

1. WORD SEARCH: Look online / in your dictionary to find collocates, information on, synonyms for... the words 'fruit' and 'fly'.

fruit	fly

- Share your findings with your partners.
- Make questions using the words you found.
- Ask your partner / group your questions.

2. ARTICLE QUESTIONS: Look back at the article and write down some questions you would like to ask the class about the text.

- Share your questions with other classmates / groups.
- Ask your partner / group your questions.

3. GAP FILL: In pairs / groups, compare your answers to this exercise. Check your answers. Talk about the words from the activity. Were they new, interesting, worth learning...?

4. VOCABULARY: Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

5. TEST EACH OTHER: Look at the words below. With your partner, try to recall how they were used in the text:

<ul style="list-style-type: none">• project• feat• secrets• grasp• thought• detailed	<ul style="list-style-type: none">• art• known• 7,000• types• 150• decades
---	---

OUR BRAIN SURVEY

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Write five GOOD questions about our brain in the table. Do this in pairs. Each student must write the questions on his / her own paper. When you have finished, interview other students. Write down their answers.

	STUDENT 1 _____	STUDENT 2 _____	STUDENT 3 _____
Q.1.			
Q.2.			
Q.3.			
Q.4.			
Q.5.			

- Now return to your original partner and share and talk about what you found out. Change partners often.
- Make mini-presentations to other groups on your findings.

OUR BRAIN DISCUSSION

STUDENT A's QUESTIONS (Do not show these to student B)

1. What did you think when you read the headline?
2. What images are in your mind when you hear the word 'fruit fly'?
3. What do you know about fruit flies?
4. How useful is a map of a fruit fly's brain?
5. What secrets are there about our brain?
6. What can we do to look after our brain?
7. What would happen if a machine could read our thoughts?
8. What would you like to know about the brain?
9. What might fruit flies think about?
10. What would you think if scientists could programme our brain?

Mapping of fruit fly brain to change neuroscience – 7th October 2024
Thousands more free lessons at [breakingnewsenglish.com](https://www.breakingnewsenglish.com)

OUR BRAIN DISCUSSION

STUDENT B's QUESTIONS (Do not show these to student A)

11. Did you like reading this article? Why/not?
12. What do you think of when you hear the word 'neuroscience'?
13. What do you think about what you read?
14. What do you know about neuroscience?
15. How important is neuroscience?
16. Would you like a connectome for your brain?
17. How would it be to be able to communicate with insects?
18. How useful would a map of the human brain be?
19. What are your favourite insects?
20. What questions would you like to ask the researchers?

DISCUSSION (Write your own questions)

STUDENT A's QUESTIONS (Do not show these to student B)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Copyright © breakingnewsenglish.com 2024

DISCUSSION (Write your own questions)

STUDENT B's QUESTIONS (Do not show these to student A)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

LANGUAGE - CLOZE

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Scientists have created a map of the (1) _____ of a fruit fly's brain in a research project called FlyWire. The map of the neurons and connections is the most detailed ever produced (2) _____ a creature. This groundbreaking (3) _____ could revolutionize the field of neuroscience and unlock secrets about our own brain. Brain specialist Dr Gregory Jefferis told the BBC: "The mapping of the fly brain is really remarkable and will help us get a real (4) _____ of how our own brains work." He said it could provide insights (5) _____ "the mechanism of thought". It took scientists (6) _____ to analyze the fly's pinhead-sized brain. They created a detailed diagram of 139,255 neurons and 50 million connections.

The diagram of the fly's brain's neural pathways looks like a scientific (7) _____ of art. It is a stunning, colourful web of neurons. The diagram is known as a connectome. To create it, the scientists (8) _____ the fruit fly brain into 7,000 microscopic slivers. Each of these was studied using an electron microscope that imaged cells that were four-millionths (9) _____ a millimetre wide. The researchers classified more than 8,400 different cell types. If the neural pathways were unravelled, they would stretch (10) _____ 150 metres. The human brain has 86 billion neurons and trillions of connections. (11) _____ technology could not create a connectome of our brain. That map is still decades (12) _____.

Put the correct words from the table below in the above article.

- | | | | | |
|-----|--------------|----------------|----------------|------------|
| 1. | (a) wringing | (b) wrought | (c) wiring | (d) waring |
| 2. | (a) for | (b) at | (c) as | (d) in |
| 3. | (a) feat | (b) fret | (c) feet | (d) fate |
| 4. | (a) grasp | (b) gasp | (c) grips | (d) gapes |
| 5. | (a) onto | (b) into | (c) unto | (d) as to |
| 6. | (a) decade | (b) monthly | (c) annuals | (d) years |
| 7. | (a) labour | (b) employment | (c) work | (d) job |
| 8. | (a) sluiced | (b) laced | (c) diced | (d) sliced |
| 9. | (a) of | (b) at | (c) to | (d) on |
| 10. | (a) far | (b) for | (c) reach | (d) length |
| 11. | (a) Currant | (b) Current | (c) Occurrence | (d) Occult |
| 12. | (a) about | (b) far | (c) away | (d) abound |

SPELLING

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Paragraph 1

1. The map of the eurnnos
2. groundbreaking efat
3. the field of surneeicnoce
4. He said it could provide niihgsts
5. the cmnahiesm of thought
6. a atdieeld diagram

Paragraph 2

7. The diagram is known as a enncootcme
8. 7,000 csrocmpoiiic slivers
9. using an lectreon microscope
10. The researchers lascfisied more than 8,400
11. If the neural pathways were nrvulealed
12. That map is still eacddes away

PUT THE TEXT BACK TOGETHER

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Number these lines in the correct order.

- () microscope that imaged cells that were four-millionths of a millimetre wide. The researchers classified more
- () project called FlyWire. The map of the neurons and connections is the most detailed ever produced for
- () of connections. Current technology could not create a connectome of our brain. That map is still decades away.
- () for 150 metres. The human brain has 86 billion neurons and trillions
- () art. It is a stunning, colourful web of neurons. The diagram is known as a connectome. To create it, the scientists
- () than 8,400 different cell types. If the neural pathways were unravelled, they would stretch
- () insights into "the mechanism of thought". It took scientists years to analyze the fly's pinhead-sized
- () brain. They created a detailed diagram of 139,255 neurons and 50 million connections.
- () a creature. This groundbreaking feat could revolutionize the field of neuroscience and unlock
- () secrets about our own brain. Brain specialist Dr Gregory Jefferis told the BBC: "The mapping of the fly brain is really
- (1) Scientists have created a map of the wiring of a fruit fly's brain in a research
- () remarkable and will help us get a real grasp of how our own brains work." He said it could provide
- () sliced the fruit fly brain into 7,000 microscopic slivers. Each of these was studied using an electron
- () The diagram of the fly's brain's neural pathways looks like a scientific work of

PUT THE WORDS IN THE RIGHT ORDER

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

1. the have map created of wiring . a Scientists
2. ever a The creature . detailed produced for most
3. This of feat field revolutionize could neuroscience . the
4. fly brain is of the mapping The remarkable .
5. a diagram They detailed of created 139,255 neurons .
6. the of The fly's diagram neural brain's pathways .
7. a It colourful stunning, is web of neurons .
8. sliced the brain into 7,000 Scientists microscopic slivers .
9. classified 8,400 than more different Researchers cell types .
10. technology could not create Current a connectome .

CIRCLE THE CORRECT WORD (20 PAIRS)

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Scientists have created a map of the *wring* / *wiring* of a fruit fly's brain in a research project called FlyWire. The map of the neurons and connections is the most detailed ever produced for a *creative* / *creature*. This groundbreaking feat could revolutionize the *field* / *pitch* of neuroscience and unlock *secrets* / *secretive* about our own brain. Brain *specialist* / *specialism* Dr Gregory Jefferis told the BBC: "The mapping of the fly brain is really *remarked* / *remarkable* and will help us get a real *gasp* / *grasp* of how our own brains work." He said it could provide insights *onto* / *into* "the mechanism of thought". It took scientists *years* / *yearly* to analyze the fly's pinhead-sized brain. They created a detailed *diaphragm* / *diagram* of 139,255 neurons and 50 million connections.

The diagram of the fly's brain's neural / *neutral* pathways looks like a scientific work *at* / *of* art. It is a stunning, colourful web of neurons. The diagram is known *as* / *was* a connectome. To create it, the scientists *sliced* / *sluiced* the fruit fly brain into 7,000 microscopic *slivers* / *silvers*. Each of these was studied using an electron microscope that imaged cells that were four-millionths of a millimetre *width* / *wide*. The researchers classified more than 8,400 different cell types. If the neural pathways were *unravelled* / *unravel*, they would stretch *for* / *at* 150 metres. The human brain has 86 billion neurons and trillions *of* / *to* connections. Current technology could not create a connectome of our brain. That map is still *decade* / *decades* away.

Talk about the connection between each pair of words in italics, and why the correct word is correct. Look up the definition of new words.

INSERT THE VOWELS (a, e, i, o, u)

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Sc__nt_sts h_v_ cr__t_d _ m_p _f th_ w_r_ng _f _ fr__t fly's br__n _n _ r_s__rch pr_j_ct c_ll_d FlyW_r_. Th_ m_p _f th_ n__r_ns _nd c_nn_ct__ns _s th_ m_st d_t__l_d _v_r pr_d_c_d f_r _ cr__t_r_. Th_s gr__ndbr__k_ng f__t c__ld r_v_l_t__n_z_ th_ f__ld _f n__r_sc__nc_ _nd _nl_ck s_cr_ts _b__t __r _wn br__n. Br__n sp_c__l_st Dr Gr_g_ry J_ff_r_s t_ld th_ BBC: "Th_ m_pp_ng _f th_ fly br__n _s r__lly r_m_rk_bl_ _nd w_ll h_lp _s g_t _ r__l gr_sp _f h_w __r _wn br__ns w_rk." H_ s__d _t c__ld pr_v_d_ _ns_ghts _nt_ "th_ m_ch_n_sm _f th__ght". _t t__k sc__nt_sts y__rs t_ _n_lyz_ th_ fly's p_nh__d-s_z_d br__n. Th_y cr__t_d _ d_t__l_d d__gr_m _f 139,255 n__r_ns _nd 50 m_ll__n c_nn_ct__ns.

Th_ d__gr_m _f th_ fly's br__n's n__r_l p_thw_ys l__ks l_k_ _ sc__nt_f_c w_rk _f _rt. _t _s _ st_nn_ng, c_l__rf_l w_b _f n__r_ns. Th_ d__gr_m _s kn_wn _s _ c_nn_ct_m_. T_ cr__t_ _t, th_ sc__nt_sts sl_c_d th_ fr__t fly br__n _nt_ 7,000 m_cr_sc_p_c sl_v_rs. __ch _f th_s_ w_s st_d__d _s_ng _n _l_ctr_n m_cr_sc_p_ th_t _m_g_d c_lls th_t w_r_ f__r-m_ll__nth_s _f _ m_ll_m_tr_ w_d_. Th_ r_s__rch_rs cl_ss_f__d m_r_ th_n 8,400 d_ff_r_nt c_ll typ_s. _f th_ n__r_l p_thw_ys w_r_ _nr_v_ll_d, th_y w__ld str_tch f_r 150 m_tr_s. Th_ h_m_n br__n h_s 86 b_ll__n n__r_ns _nd tr_ll__ns _f c_nn_ct__ns. C_rr_nt t_chn_l_gy c__ld n_t cr__t_ _ c_nn_ct_m_ _f __r br__n. Th_t m_p _s st_ll d_c_d_s _w_y.

PUNCTUATE THE TEXT AND ADD CAPITALS

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

scientists have created a map of the wiring of a fruit fly's brain in a research project called flywire. The map of the neurons and connections is the most detailed ever produced for a creature. This groundbreaking feat could revolutionize the field of neuroscience and unlock secrets about our own brain. Brain specialist Dr Gregory Jefferis told the BBC the mapping of the fly brain is really remarkable and will help us get a real grasp of how our own brains work. He said it could provide insights into the mechanism of thought. It took scientists years to analyze the fly's pinhead-sized brain. They created a detailed diagram of 139,255 neurons and 50 million connections.

The diagram of the fly's brain's neural pathways looks like a scientific work of art. It is a stunning, colourful web of neurons. The diagram is known as a connectome. To create it, the scientists sliced the fruit fly brain into 7,000 microscopic slivers. Each of these was studied using an electron microscope that imaged cells that were four-millionths of a millimetre wide. The researchers classified more than 8,400 different cell types. If the neural pathways were unravelled, they would stretch for 150 metres. The human brain has 86 billion neurons and trillions of connections. Current technology could not create a connectome of our brain. That map is still decades away.

PUT A SLASH (/) WHERE THE SPACES ARE

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Scientists have created a map of the wiring of a fruit fly's brain in a research project called FlyWire. The map of the neurons and connections is the most detailed ever produced for a creature. This groundbreaking feat could revolutionize the field of neuroscience and unlock secrets about our own brain. Brain specialist Dr Gregory Jefferis told the BBC: "The mapping of the fly brain is really remarkable and will help us get a real grasp of how our own brains work." He said it could provide insights into "the mechanism of thought". It took scientists years to analyze the fly's pinhead-sized brain. They created a detailed diagram of 139,255 neurons and 50 million connections. The diagram of the fly's brain's neural pathways looks like scientific work of art. It is a stunning, colourful web of neurons. The diagram is known as a connectome. To create it, the scientists sliced the fruit fly brain into 7,000 microscopic slivers. Each of these was studied using an electron microscope that imaged cells that were four-millionths of a millimetre wide. The researchers classified more than 8,400 different cell types. If the neural pathways were unravelled, they would stretch for 150 metres. The human brain has 86 billion neurons and trillions of connections. Current technology could not create a connectome of our brain. That map is still decades away.

FREE WRITING

From <https://breakingnewsenglish.com/2410/241007-fruit-fly-brain.html>

Write about **our brain** for 10 minutes. Comment on your partner's paper.

HOMework

1. VOCABULARY EXTENSION: Choose several of the words from the text. Use a dictionary or Google's search field (or another search engine) to build up more associations / collocations of each word.

2. INTERNET: Search the Internet and find out more about this news story. Share what you discover with your partner(s) in the next lesson.

3. FRUIT FLIES: Make a poster about fruit flies. Show your work to your classmates in the next lesson. Did you all have similar things?

4. BRAIN RESEARCH: Write a magazine article about our spending more money on research into the brain. Include imaginary interviews with people who are for and against this.

Read what you wrote to your classmates in the next lesson. Write down any new words and expressions you hear from your partner(s).

5. WHAT HAPPENED NEXT? Write a newspaper article about the next stage in this news story. Read what you wrote to your classmates in the next lesson. Give each other feedback on your articles.

6. LETTER: Write a letter to an expert on our brain. Ask him/her three questions about it. Give him/her three of your ideas on what we need to know about our brain. Read your letter to your partner(s) in your next lesson. Your partner(s) will answer your questions.

ANSWERS

VOCABULARY (p.4)

1. d 2. f 3. b 4. g 5. c 6. e 7. a
8. n 9. k 10. m 11. h 12. i 13. l 14. j

TRUE / FALSE (p.5)

- 1 F 2 T 3 T 4 T 5 F 6 T 7 T 8 F

SYNONYM MATCH (p.5)

1. e	2. h	3. j	4. b	5. f
6. c	7. a	8. i	9. d	10. g

COMPREHENSION QUESTIONS (p.9)

1. FlyWire
2. Neuroscience
3. Thought
4. Pinhead sized
5. Fifty million
6. A work of art
7. A connectome
8. Seven thousand
9. More than 8,400
10. Not for decades

WORDS IN THE RIGHT ORDER (p.19)

1. Scientists have created a map of the wiring.
2. The most detailed ever produced for a creature.
3. This feat could revolutionize the field of neuroscience.
4. The mapping of the fly brain is remarkable.
5. They created a detailed diagram of 139,255 neurons.
6. The diagram of the fly's brain's neural pathways.
7. It is a stunning, colourful web of neurons.
8. Scientists sliced the brain into 7,000 microscopic slivers.
9. Researchers classified more than 8,400 different cell types.
10. Current technology could not create a connectome.

MULTIPLE CHOICE - QUIZ (p.10)

1. c 2. a 3. b 4. d 5. c 6. b 7. d 8. b 9. b 10. a

ALL OTHER EXERCISES

Please check for yourself by looking at the Article on page 2.
(It's good for your English ;-)