

Pain Research

B1 Reading, Vocabulary & Grammar Worksheet

Name: _____ Date: _____

Part 1: New Words & Phrasal Verbs

Read the words and their meanings.

Word / Phrasal Verb	Meaning
rewired	changed the connections in a system, especially in the brain or an electrical circuit
trial	a scientific test used to study something, such as a new treatment
targeted	aimed at a specific person, group, or problem
electrodes	small devices used to send or receive electrical signals
applied	used or put into practice, especially in a specific situation
significant	large or important enough to be noticed
vary	to be different, or to change
map out	to plan something carefully, or to create a detailed picture of something
work out	to calculate or discover something after thinking about it carefully
roll out	to introduce something new to a larger group of people, often gradually

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B1 Worksheet

Part 2: Reading

This text uses the Present Perfect and modal verbs (can, could, must, might). Read the text.

Chronic pain has become one of the most difficult conditions for doctors to treat. Unlike short-term pain, it can continue for months or years, even after the original injury has healed. Scientists believe this happens because the pain signal becomes rewired into the brain itself.

Researchers at Stanford have recently tested a new treatment that could change how doctors approach chronic pain. Patients who have suffered from severe, ongoing pain often don't respond well to standard treatments, so doctors have had to look into more targeted methods.

The new approach uses deep brain stimulation, a technique that has already been used to treat conditions like Parkinson's disease. Small electrodes are placed inside the brain, and doctors must carefully map out each patient's unique pain patterns before turning on the stimulation.

In a small study, three patients who had experienced years of pain took part in the trial. After scientists worked out which brain regions controlled their pain most effectively, they applied targeted electrical signals. The results have been described as promising, and some patients reported a significant drop in pain levels.

Experts say this method might not work for everyone, since chronic pain can vary a lot between patients. However, if doctors carry out more studies like this one, the treatment could eventually be rolled out to a wider group of patients.

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Part 3: Vocabulary Practice — Match the word to the meaning

Write the correct letter in the blank.

Word		Meaning
1. rewired	___	A. large or important enough to be noticed
2. trial	___	B. to plan something carefully, or to create a detailed picture of something
3. targeted	___	C. to be different, or to change
4. electrodes	___	D. a scientific test used to study something, such as a new treatment
5. applied	___	E. aimed at a specific person, group, or problem
6. significant	___	F. to calculate or discover something after thinking about it carefully
7. vary	___	G. small devices used to send or receive electrical signals
8. map out	___	H. to introduce something new to a larger group of people, often gradually
9. work out	___	I. used or put into practice, especially in a specific situation
10. roll out	___	J. changed the connections in a system, especially in the brain or an electrical circuit

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Part 4: Synonyms (same meaning)

Circle the option with the same meaning.

1. Which option means the same as "targeted"?

- ☐ A) random
- ☐ B) aimed at
- ☐ C) ignored

2. Which option means the same as "significant"?

- ☐ A) noticeable
- ☐ B) unimportant
- ☐ C) quiet

3. Which option means the same as "vary"?

- ☐ A) stay the same
- ☐ B) differ
- ☐ C) disappear

4. Which option means the same as "work out"?

- ☐ A) figure out
- ☐ B) forget
- ☐ C) ignore

5. Which option means the same as "applied"?

- ☐ A) removed
- ☐ B) ignored
- ☐ C) used

Part 5: Antonyms (opposite meaning)

Circle the word with the opposite meaning.

1. Which word means the opposite of "significant"?

- ☐ A) minor
- ☐ B) important
- ☐ C) noticeable

2. Which word means the opposite of "vary"?

- ☐ A) change
- ☐ B) differ
- ☐ C) stay the same

3. Which word means the opposite of "rewired"?

- ☐ A) changed
- ☐ B) unchanged
- ☐ C) fixed

4. Which word means the opposite of "targeted"?

- ☐ A) aimed
- ☐ B) specific
- ☐ C) random

5. Which word means the opposite of "applied"?

- ☐ A) used
- ☐ B) removed
- ☐ C) practiced

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B1 Worksheet

Part 6: Grammar — Choose the correct verb form

1. Chronic pain ____ one of the most difficult conditions to treat.

☐ A) become

☐ B) becomes

☐ C) has become

2. Researchers ____ a new treatment recently.

☐ A) have tested

☐ B) test

☐ C) tested

3. Doctors ____ carefully map out each patient's pain patterns.

☐ A) can

☐ B) must

☐ C) might

4. The technique ____ already been used for Parkinson's disease.

☐ A) have

☐ B) had

☐ C) has

5. Scientists ____ out which brain regions controlled the pain.

☐ A) worked

☐ B) work

☐ C) have worked

6. This method ____ not work for everyone.

☐ A) can

☐ B) might

☐ C) must

7. If doctors ____ out more studies, the treatment could be rolled out.

☐ A) carried

☐ B) have carried

☐ C) carry

8. Some patients ____ a significant drop in pain levels.

☐ A) have reported

☐ B) report

☐ C) reported

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B1 Worksheet

Part 7: Grammar — What does the modal verb express?

Read the sentence. Circle what the modal verb means here.

1. "Doctors must carefully map out each patient's pain patterns."

☐ A) Obligation

☐ B) Possibility

☐ C) Ability

2. "This method might not work for everyone."

☐ A) Ability

☐ B) Possibility

☐ C) Obligation

3. "The treatment could eventually be rolled out."

☐ A) Obligation

☐ B) Ability

☐ C) Possibility

4. "Doctors can now target specific brain regions."

☐ A) Possibility

☐ B) Ability

☐ C) Obligation

5. "Patients must follow the treatment plan carefully."

☐ A) Obligation

☐ B) Ability

☐ C) Possibility

Part 8: Word Scramble

Put the words in the correct order. Write the full sentence.

1. has / Chronic / pain / become / one / of / the / most / difficult / conditions / to / treat.

Your sentence: _____

2. have / Researchers / at / Stanford / recently / tested / a / new / treatment.

Your sentence: _____

3. must / Doctors / carefully / map / out / each / patient's / unique / pain / patterns.

Your sentence: _____

4. worked / Scientists / out / which / brain / regions / controlled / their / pain / most / effectively.

Your sentence: _____

5. could / The / treatment / eventually / be / rolled / out / to / a / wider / group / of / patients.

Your sentence: _____

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Part 9: Dialogue — Complete the conversation

Amara and Leo talk about the new pain treatment. Circle the best word or phrase for each blank.

Amara: Have you read about the new pain treatment?

Leo: Yes, researchers ____ (1) ____ a new method for chronic pain.

Amara: I heard doctors ____ (2) ____ carefully map out each patient's pain patterns.

Leo: Right. They ____ (3) ____ out which brain regions control the pain best.

Amara: Do you think this treatment ____ (4) ____ help everyone?

Leo: Not sure. Chronic pain can ____ (5) ____ a lot between patients.

Amara: True. If doctors ____ (6) ____ out more studies, the treatment could spread further.

Leo: I hope they ____ (7) ____ it out to more patients soon.

Amara: That would be ____ (8) ____ progress.

1. Blank 1

☐ A) tested

☐ B) have tested

☐ C) test

2. Blank 2

☐ A) can

☐ B) might

☐ C) must

3. Blank 3

☐ A) worked

☐ B) work

☐ C) have worked

4. Blank 4

☐ A) can

☐ B) might

☐ C) must

5. Blank 5

☐ A) varies

☐ B) varied

☐ C) vary

6. Blank 6

☐ A) carry

☐ B) carried

☐ C) have carried

7. Blank 7

☐ A) rolled

☐ B) roll

☐ C) rolling

8. Blank 8

☐ A) targeted

☐ B) applied

☐ C) significant

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Answer Key

Part 3: Vocabulary Matching

1. rewired → J
2. trial → D
3. targeted → E
4. electrodes → G
5. applied → I
6. significant → A
7. vary → C
8. map out → B
9. work out → F
10. roll out → H

Part 4: Synonyms

1. Which option means the same as "targeted"?

☐ A) random

☒ B) aimed at ✓ CORRECT

☐ C) ignored

2. Which option means the same as "significant"?

☒ A) noticeable ✓ CORRECT

☐ B) unimportant

☐ C) quiet

3. Which option means the same as "vary"?

☐ A) stay the same

☒ B) differ ✓ CORRECT

☐ C) disappear

4. Which option means the same as "work out"?

☒ A) figure out ✓ CORRECT

☐ B) forget

☐ C) ignore

5. Which option means the same as "applied"?

☐ A) removed

☐ B) ignored

☒ C) used ✓ CORRECT

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Answer Key

Part 5: Antonyms

1. Which word means the opposite of "significant"?

☒ A) minor ✓ CORRECT

☐ B) important

☐ C) noticeable

2. Which word means the opposite of "vary"?

☐ A) change

☐ B) differ

☒ C) stay the same ✓ CORRECT

3. Which word means the opposite of "rewired"?

☐ A) changed

☒ B) unchanged ✓ CORRECT

☐ C) fixed

4. Which word means the opposite of "targeted"?

☐ A) aimed

☐ B) specific

☒ C) random ✓ CORRECT

5. Which word means the opposite of "applied"?

☐ A) used

☒ B) removed ✓ CORRECT

☐ C) practiced

Part 6: Correct Verb Form

1. Chronic pain ____ one of the most difficult conditions to treat.

☐ A) become

☐ B) becomes

☒ C) has become ✓ CORRECT

2. Researchers ____ a new treatment recently.

☒ A) have tested ✓ CORRECT

☐ B) test

☐ C) tested

3. Doctors ____ carefully map out each patient's pain patterns.

☐ A) can

☒ B) must ✓ CORRECT

☐ C) might

4. The technique ____ already been used for Parkinson's disease.

☐ A) have

☐ B) had

☒ C) has ✓ CORRECT

5. Scientists ____ out which brain regions controlled the pain.

☒ A) worked ✓ CORRECT

☐ B) work

☐ C) have worked

6. This method ____ not work for everyone.

☐ A) can

☒ B) might ✓ CORRECT

☐ C) must

7. If doctors ____ out more studies, the treatment could be rolled out.

☐ A) carried

☐ B) have carried

☒ C) carry ✓ CORRECT

8. Some patients ____ a significant drop in pain levels.

☒ A) have reported ✓ CORRECT

☐ B) report

☐ C) reported

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Answer Key

Part 7: What Does the Modal Verb Express?

1. "Doctors must carefully map out each patient's pain patterns."

☒ A) Obligation ✓ CORRECT

☐ B) Possibility

☐ C) Ability

2. "This method might not work for everyone."

☐ A) Ability

☒ B) Possibility ✓ CORRECT

☐ C) Obligation

3. "The treatment could eventually be rolled out."

☐ A) Obligation

☐ B) Ability

☒ C) Possibility ✓ CORRECT

4. "Doctors can now target specific brain regions."

☐ A) Possibility

☒ B) Ability ✓ CORRECT

☐ C) Obligation

5. "Patients must follow the treatment plan carefully."

☒ A) Obligation ✓ CORRECT

☐ B) Ability

☐ C) Possibility

Part 8: Word Scramble

1. has / Chronic / pain / become / one / of / the / most / difficult / conditions / to / treat.

✓ Chronic pain has become one of the most difficult conditions to treat.

2. have / Researchers / at / Stanford / recently / tested / a / new / treatment.

✓ Researchers at Stanford have recently tested a new treatment.

3. must / Doctors / carefully / map / out / each / patient's / unique / pain / patterns.

✓ Doctors must carefully map out each patient's unique pain patterns.

4. worked / Scientists / out / which / brain / regions / controlled / their / pain / most / effectively.

✓ Scientists worked out which brain regions controlled their pain most effectively.

5. could / The / treatment / eventually / be / rolled / out / to / a / wider / group / of / patients.

✓ The treatment could eventually be rolled out to a wider group of patients.

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Answer Key

Part 9: Dialogue

1. Blank 1

☐ A) tested

☒ B) have tested ✓ CORRECT

☐ C) test

2. Blank 2

☐ A) can

☐ B) might

☒ C) must ✓ CORRECT

3. Blank 3

☒ A) worked ✓ CORRECT

☐ B) work

☐ C) have worked

4. Blank 4

☐ A) can

☒ B) might ✓ CORRECT

☐ C) must

5. Blank 5

☐ A) varies

☐ B) varied

☒ C) vary ✓ CORRECT

6. Blank 6

☒ A) carry ✓ CORRECT

☐ B) carried

☐ C) have carried

7. Blank 7

☐ A) rolled

☒ B) roll ✓ CORRECT

☐ C) rolling

8. Blank 8

☐ A) targeted

☐ B) applied

☒ C) significant ✓ CORRECT