What are the Cerebral Hemispheres?

Worksheet

The cerebral hemispheres are the two halves of the cerebrum (left and right), each divided into frontal, parietal, temporal, and occipital lobes that control movement, sensation, language, and vision.

Questions

1. Which structure connects the left and right cerebral hemispheres?

A) Cerebellum
B) Corpus callosum
C) Brainstem
D) Thalamus

2. Which lobe is primarily responsible for vision?

A) Frontal
B) Parietal
C) Temporal
D) Occipital

3. Damage to the frontal lobe most likely affects

A) Hearing
B) Movement and personality
C) Vision
D) Balance

4. In most right-handed people, which hemisphere is dominant for language?

A) Left
B) Right
C) Both equally
D) Neither

5. A stroke damages the left frontal lobe's Broca's area. What symptom appears?

6. A patient can't process visual information despite healthy eyes. Which lobe is likely damaged?

7. Someone has trouble understanding spoken language after a stroke. Which lobe/area is affected?

8. Define: What connects the two cerebral hemispheres?

9. Define: Name the four lobes of each hemisphere.

10. Define: Which lobe controls voluntary movement and decision-making?

Answer Key

1. B) Corpus callosum - The corpus callosum is the main white-matter bridge between the hemispheres.
2. D) Occipital - The occipital lobe at the back of the brain processes visual information.
3. B) Movement and personality - The frontal lobe governs voluntary movement, planning, and personality.
4. A) Left - Language centers (Broca's, Wernicke's) are typically in the left hemisphere.
5. The frontal lobe (left hemisphere) houses Broca's area, key for speech production. Damage here causes Broca's aphasia - the person understands language but struggles to produce fluent speech.
6. Visual processing happens in the occipital lobe, at the back of the brain. Damage there causes cortical blindness even though the eyes themselves work normally.
7. Language comprehension is centered in Wernicke's area, located in the temporal lobe. Damage causes Wernicke's aphasia - fluent but nonsensical speech and poor comprehension.
8. The corpus callosum, a thick bundle of nerve fibers that allows the hemispheres to communicate.
9. Frontal, parietal, temporal, and occipital.
10. The frontal lobe.