

Cross-Section Brain Model

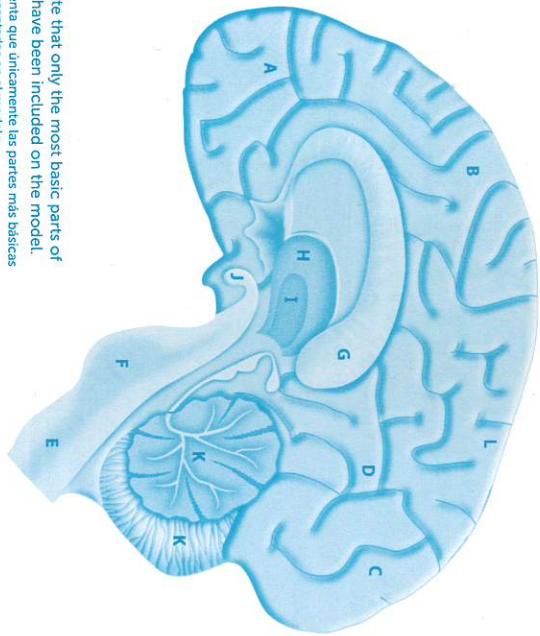
Modelo de encéfalo con sección transversal • Modèle de cerveau en coupe
Anatomimodell Gehirn im Querschnitt



The brain is probably the most important part of the body. It is the control center for the entire body controlling every movement, thought, and even the automatic processes that happens inside the body. The Cross-Section Brain Model is a great hands-on way to introduce and discuss the functions and parts of the brain. The model can easily be passed around so that students can physically interact with the model and gain a more concrete understanding about this important organ.

grades 2+

Parts of a Brain (as represented by the model)



- * Please note that only the most basic parts of the brain have been included on the model.
- * Ten en cuento que únicamente las partes más básicas están representadas en el modelo.
- * Veuillez noter que seules les parties les plus basiques du cerveau ont été incluses dans le modèle.
- * Hinweis: Das Modell enthält nur eine grobe Übersicht über die Hirnareale.

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A. Frontal Lobe – Controls many functions including movement, memory, language, social behavior, problem solving, making decisions, and also controls our emotions and directs our personality.

B. Cerebrum – The largest part of the brain which is divided into two halves. Each half contains four lobes.

C. Occipital Lobe – Controls visual perception and processes visual information, including color recognition, and then sends the information to the parietal and temporal lobes.

D. Temporal Lobe – Controls auditory perception, speech, language comprehension, and also visual recognition.

E. Medulla Oblongata – Controls breathing, heartbeat, and other automatic functions. It also is responsible for sending messages from the brain to the spinal cord.

F. Pons – Responsible for sending sensory information between the cerebrum and cerebellum. It also wakes you from sleep and triggers dreaming.

G. Corpus Callosum – Connects the left and right side of the brain and is responsible for the communication between the two sides.

H. Thalamus – Acts like a transmitter, sending sensory information and relaying this information to other parts of the brain.

I. Hypothalamus – Controls body temperature, thirst, hunger, and emotions.

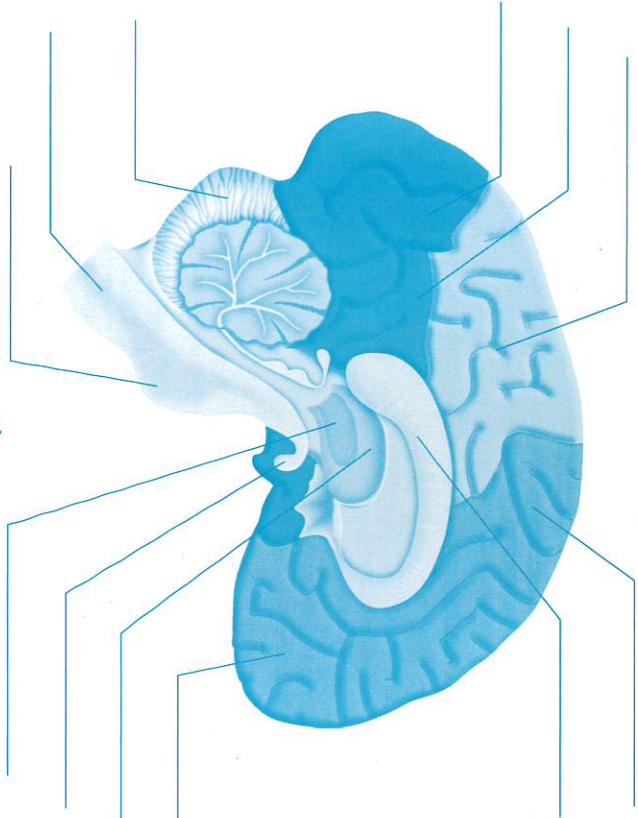
J. Pituitary Gland – This gland is small but very important, controlling hormone levels as well as the functions of all the other endocrine system glands.

K. Cerebellum – Helps in coordinating body movement and maintaining balance and equilibrium.

L. Parietal Lobe – Interprets sensory information such as touch, pressure, temperature, and pain, and is also involved with language comprehension.

Brain Structure Worksheet

Directions: Correctly label all parts of the brain.
Instrucciones: Nombre correctamente todas las partes del cerebro.
Anleitung: Beschriften alle Hirnareale.



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Name: _____
Nombre • Nom • Name:

Interesting Brain Facts

- On average, a brain weighs about 3 lbs (1.4 kg).
- If the brain does not receive blood for ten seconds, you will become unconscious.
- The brain uses 20 percent of the oxygen that we breathe in.
- After a large meal you may feel sleepy because most of the body's oxygen is being used by the stomach to digest food, denying the brain of some of its needed oxygen.
- There are over 100 billion neurons in the brain that send messages throughout the body.
- The brain stops growing around the age of 18.
- The brain is approximately 60 percent fat.
- A headache is not actually pain in your brain, but pain mostly in the nerves, muscles, and blood vessels that cover the head and neck.

Healthy Brains

The brain is such a vital part of the body that it is important to keep it protected and healthy. These are some suggestions to keep a protected, healthy brain, but are not meant to be an all-inclusive list.

- Always wear a helmet when riding a bike or motorcycle.
- When playing sports, always wear the proper protective safety equipment and know the risks that are involved.

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- Do not dive into a pool that has shallow water or a lake that may have hidden objects like large rocks under the water. Be sure the water is deep enough before diving.
- A healthy diet is important to help your brain stay healthy. Foods that are high in protein such as fish, cheese, and eggs contain amino acids necessary to create neurotransmitters.
- Keep your brain hydrated by drinking a lot of water.
- Exercise your brain by reading, doing puzzles, or other problem-solving activities.

Suggested Activities

- Allow students to hold the model. Ask them what observations they can make about the model and have them discuss what they already know about their brain.
- Use the model review worksheet on page 4 as a quiz or review.
- Have students sit in a circle and start passing the two halves of the model in opposite directions. When one student receives both halves at once, have that student say one fact about the brain or name a part of the brain. After the fact is determined to be correct, that student tosses each half to two different students to start again. Remember the fact or part of the brain that was said before should not be repeated more than once!