

JUST FOR U.S.*

GRADES 4-5

*Understanding Science

VOLUME 26 • ISSUE 1 2001-2002

Fembank Science Center • DeKalb County School System

ISSN 0742-6526

ONLY ONE OF THESE STATEMENTS IS TRUE.
WHICH ONE IS IT?

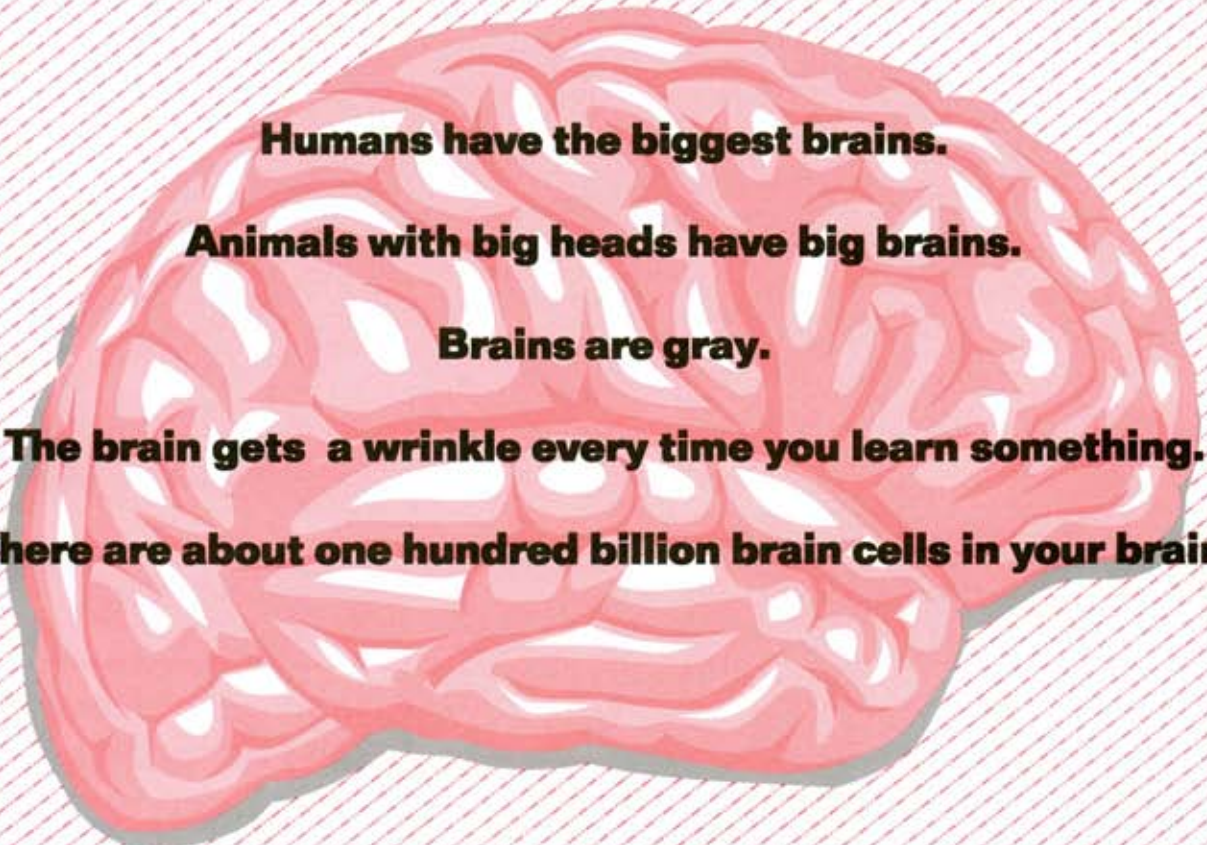
Humans have the biggest brains.

Animals with big heads have big brains.

Brains are gray.

The brain gets a wrinkle every time you learn something.

There are about one hundred billion brain cells in your brain.



NOT SURE?

DON'T WORRY!

MANY PEOPLE BELIEVE ALL OF THESE ARE TRUE ABOUT THE BRAIN.

There are about 100 billion brain cells in your brain.
That is the only TRUE statement.
All of the other statements are NOT TRUE! Find out why!

HUMANS HAVE THE BIGGEST BRAINS?

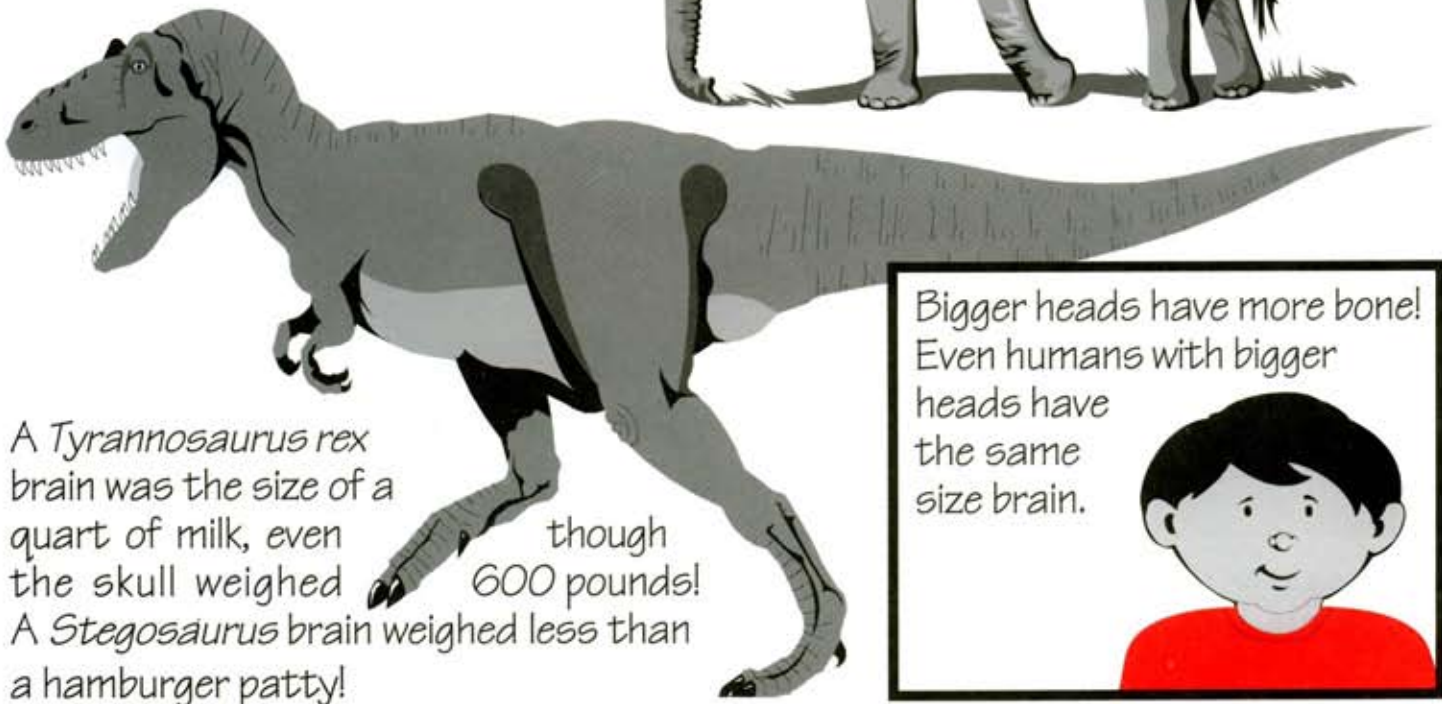
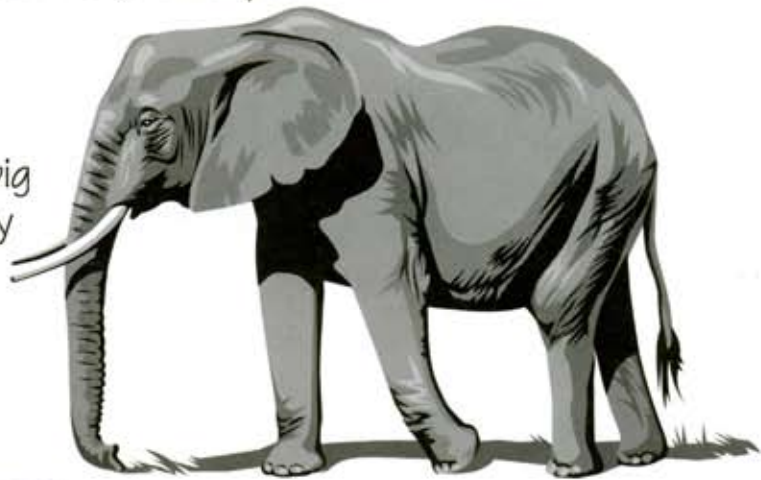
©Mike Johnson/earthwindow.com



Not true. Whales have the biggest brains. A blue whale brain weighs 15 pounds. A sperm whale brain weighs 20 pounds. A human brain weighs only 3 pounds!

BIG HEAD, BIG BRAIN?

No! An elephant has a very big head but its brain weighs only 10 pounds.



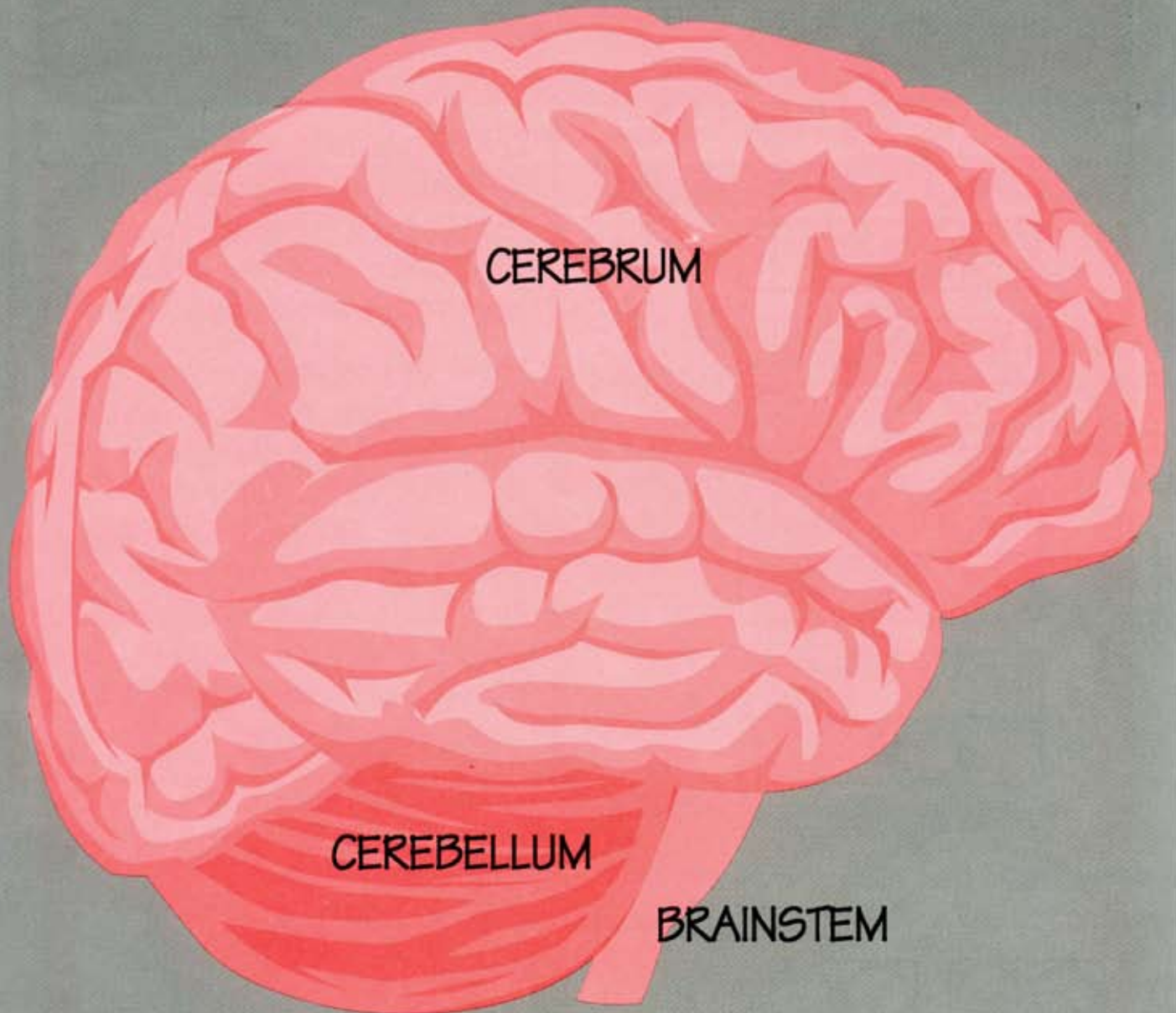
A *Tyrannosaurus rex* brain was the size of a quart of milk, even though the skull weighed 600 pounds! A *Stegosaurus* brain weighed less than a hamburger patty!

Bigger heads have more bone! Even humans with bigger heads have the same size brain.



GRAY? NO WAY!

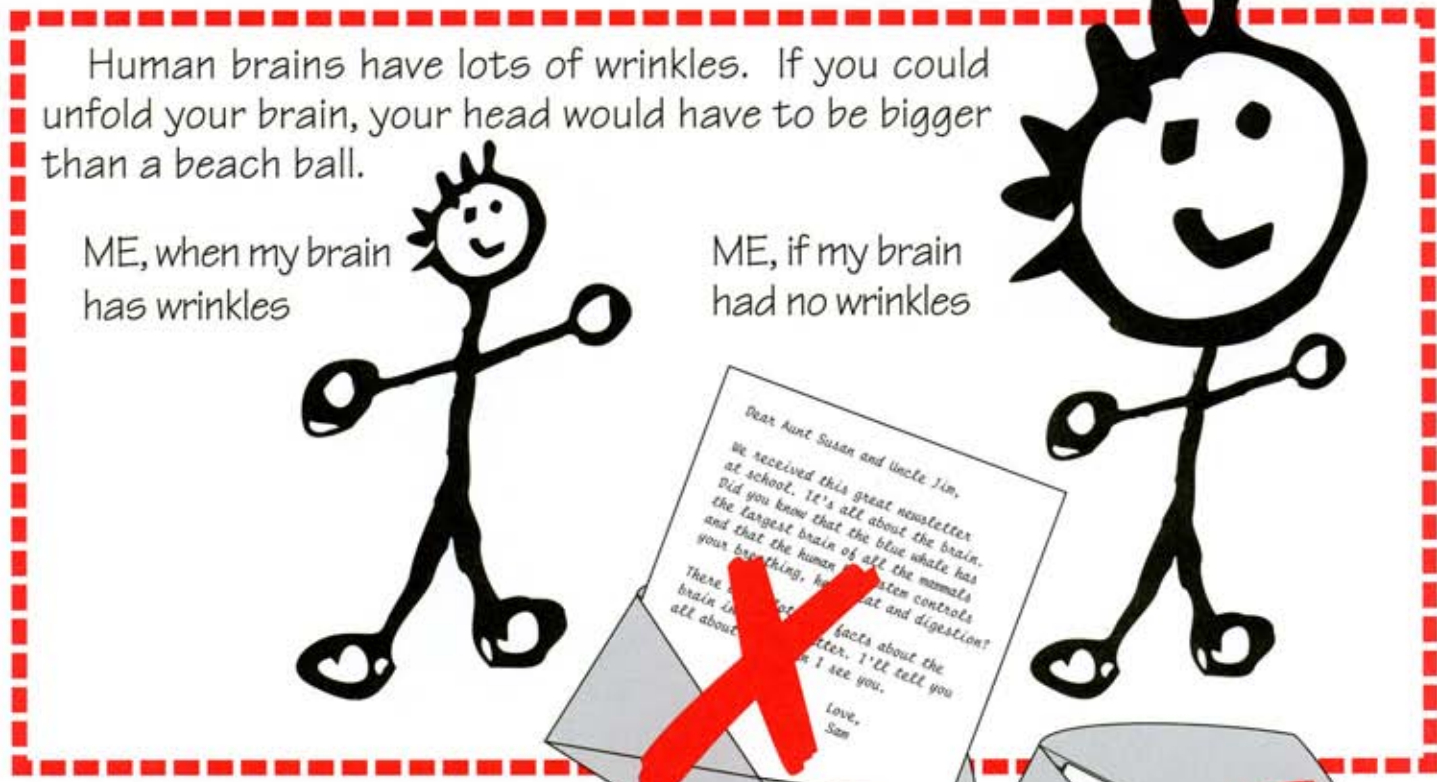
The brain inside your head is not gray. It is creamy white and looks pink because of the red blood in it. A brain in a jar looks gray because the blood looks black. Scientists use the term "gray matter" to describe the outside layer of the brain, but maybe they should call it "pink matter!"



Your brain looks like this! There are three main parts.
The **CEREBRUM** (sir-ree-brum) controls movement, senses, thinking, and emotions.
The **CEREBELLUM** (sarah-bell-um) controls balance and coordination.
The **BRAINSTEM** controls breathing, heartbeat and digestion.

WHY ARE THERE ALL OF THOSE WRINKLES?

The wrinkles are folds. The folds mean that more brain can fit into the head, like folding a letter to put it in an envelope. Intelligent animal species have more folds in their brains than less intelligent ones but the wrinkles do not change no matter how much the animal learns.

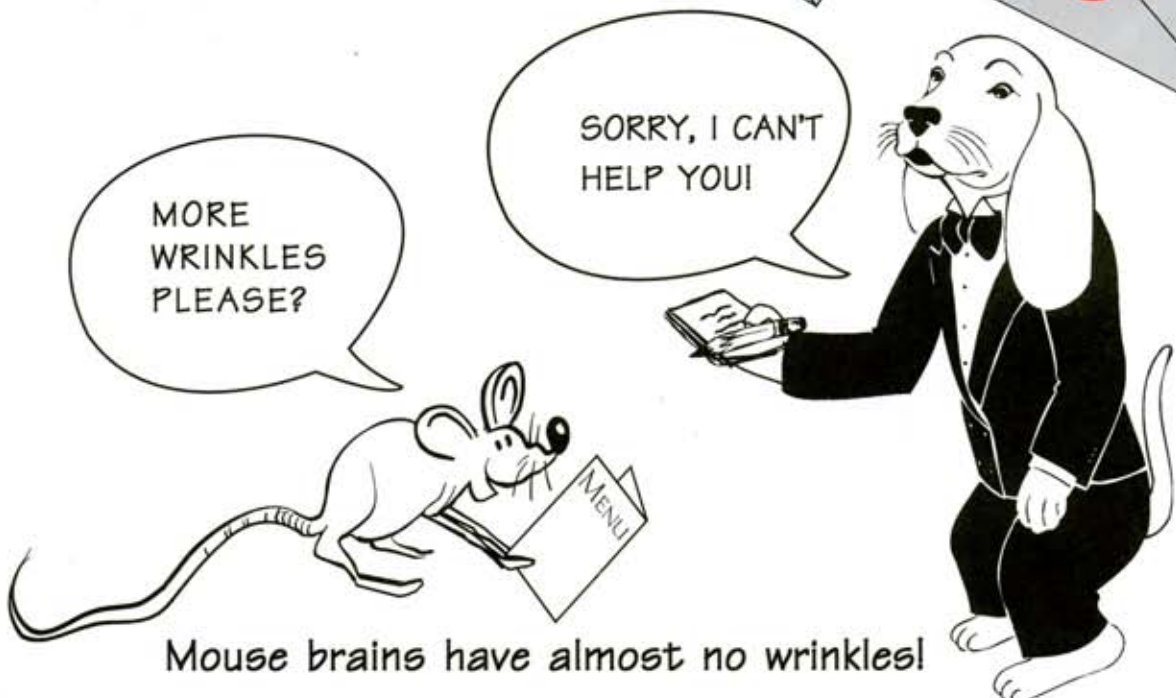


Human brains have lots of wrinkles. If you could unfold your brain, your head would have to be bigger than a beach ball.

ME, when my brain has wrinkles

ME, if my brain had no wrinkles

How do you fit a letter in an envelope? You fold it.

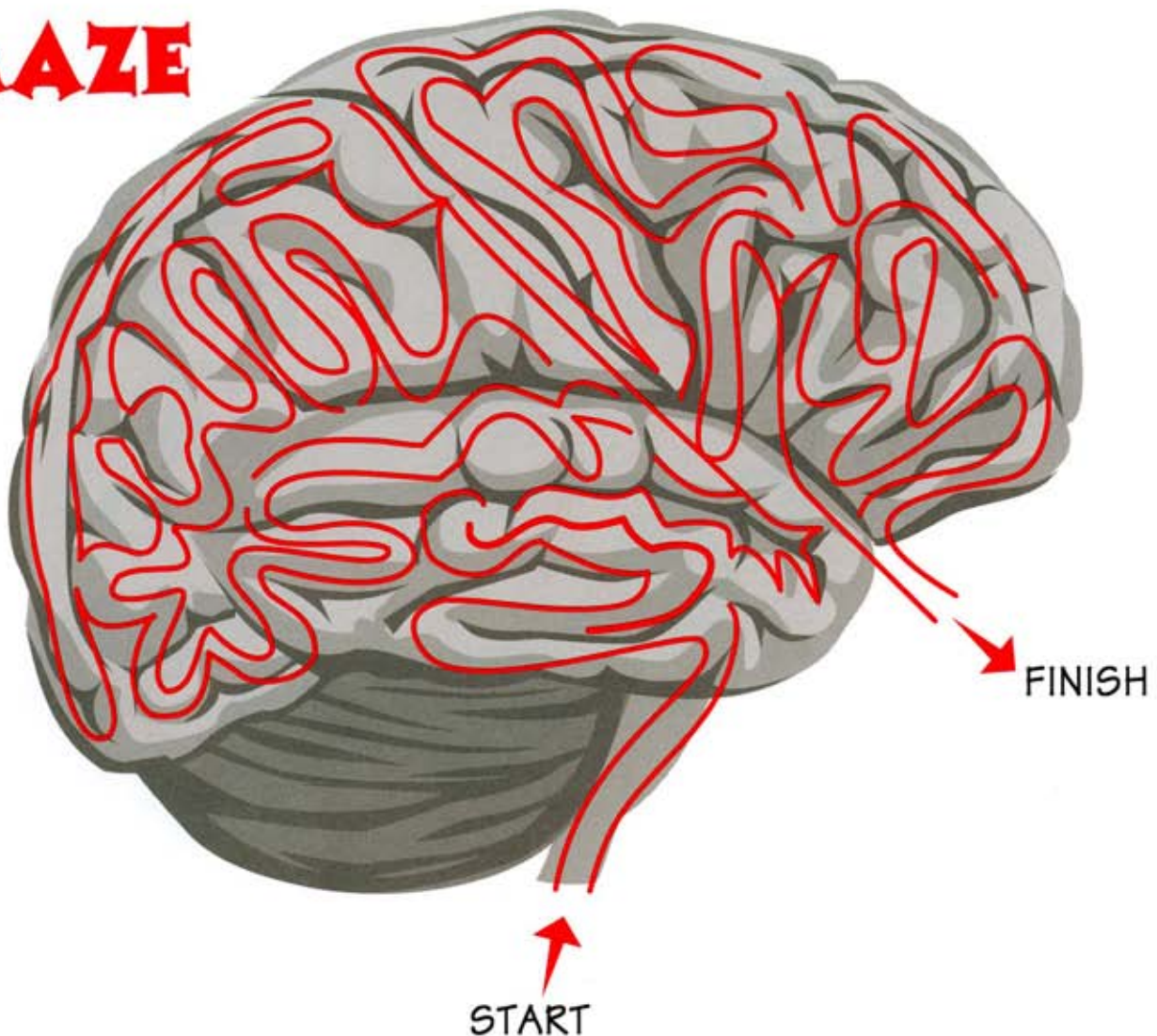


Mouse brains have almost no wrinkles!

Are animals with bigger brains smarter than humans? No! Humans do not have the biggest brains but they have large brains for their size. The brain is 2 percent of the weight of a human. The brain is 0.025 percent of the weight of the elephant! Human brains also have many folds and a large number of neurons (brain cells) because the brain is packed tight with cells.

**YOUR BRAIN NEEDS EXERCISE JUST LIKE YOUR BODY.
HERE IS YOUR FIRST BRAIN EXERCISE!**

MAZE



LEARNING IS A GREAT WAY TO EXERCISE YOUR BRAIN!

HERE IS YOUR SECOND BRAIN EXERCISE!

PUZZLE

Unscramble the letters to make a word.

KAER
○ ○ □ □

INJO
□ ○ □ ○

DENB
○ □ ○ □

SIMS
□ ○ □ □

Arrange the circled letters to answer this question.
What do you call a skull without 100 billion neurons?

A ○ ○ ○ ○ ○ ○ ○ ○ - ER