

LET'S EXPERIMENT

Sponges and brains... are they alike?

Materials: Worksheets, experiment template with answer key (Adviser only), experiment templates (for Team Leaders and youths), half-filled containers with water (one per team), small sponges (one per team), pencils, timer

Directions: Read the worksheet, complete the activity and discuss with the Group.

What's faster than a computer?

What has around 86 billion microscopic cells?

What sends more messages every day than all the texts and emails in the world?

Your brain!

That's right. Our brains are the most complex tools in the entire world. But believe it or not, three-quarters of your brain is water.

For today's activity, we're going to conduct an experiment using a sponge and water. Let's read the steps and get started.

STEP ONE

Divide into teams of two to three, depending on the number in the Group. Give each team a half-filled container of water and a sponge.

STEP TWO

Read each question and record your answers on the template. You'll have 10 minutes to complete the experiment. When the timer sounds, each team will share their findings with the Group.

(Set the timer for 10 minutes.)



Template with answer key (Adviser edition only)

Experiment: Sponge vs. human brain

(Key with possible answers)

Place the sponge in the water. What happens to the sponge?

- It soaks up the water.
- It swells up with the water.
- The sponge is growing and getting bigger.

Pick up the sponge and hold it over the water container. What's happening to the sponge?

- The sponge is holding the water.
- The sponge is dripping with the water.
- It's slowly releasing the water.

Look at the holes in the sponge. How are the sponge holes like brain cells?

- The sponge holes soak up water, just like the brain soaks up information.
- Some sponge holes are full, while others are empty — just like the brain.
- There are lots of sponge holes and brain cells that can fill up.

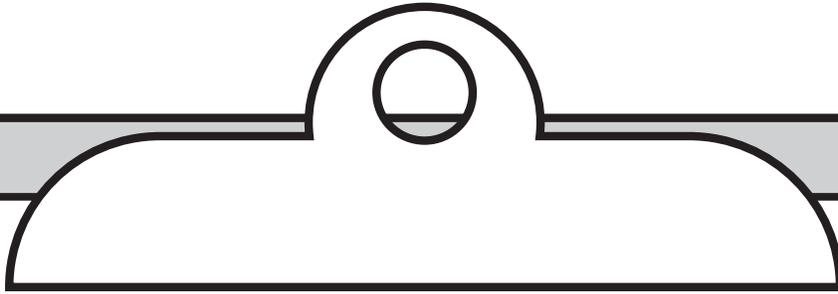
Now, squeeze all the water from the sponge. How is the dry sponge like a human brain?

- The dry sponge is empty when it's squeezed. The brain can be empty if we don't learn.
- The dry sponge and a brain have the ability to hold a lot.
- The dry sponge and brain are both bumpy.

How is the dry sponge different from a human brain?

- The dry sponge can't think, while the brain can recall and process information.
- The dry sponge will eventually fall apart, while the brain can be used every day for years.
- The dry sponge has hundreds of tiny holes, while the brain has millions of brain cells.

Template with answer key (Identical to Team Leader edition)



Experiment: Sponge vs. human brain

Place the sponge in the water. What happens to the sponge?

.....

.....

.....

Pick up the sponge and hold it over the water container. What's happening to the sponge?

.....

.....

.....

Look at the holes in the sponge. How are the sponge holes like brain cells?

.....

.....

.....

Now, squeeze all the water from the sponge. How is the dry sponge like a human brain?

.....

.....

.....

How is the dry sponge different from a human brain?

.....

.....

.....