Sheep brain dissection

Objectives: for visitors to become interested in how their brain works. Learn some parts of the brain. Do not overwhelm with content.

Materials:

- sheep brains
- dissecting tray
- Gloves
- dissecting kit
- All our brain collection

Activities:

First play a guessing game so visitors can guess which brains are in the jars. Give hints like, farm animal, pet etc.

Dissection:

Questions to Ask Visitors:
What farm animal do you think this brain is from? do you think human brains are the same shape? why? talk about how they walk on 4 legs and we walk on 2 so the spinal cord comes out at a different angle.
Have you ever touched a brain before? what does it feel like? Is it harder or softer than you thought?

Outside of brain:
Depending on their age, you can describe regions for them and only have them say 2-3 big words.

Which part is the front of the brain? which part is the back of the brain?

olfactory bulbs (sniff for them)
optic chiasma (where optic nerve crosses) where the eyes send messages to your brain about what you're looking at.

talk about how the brain is curly-the more curls, the more intelligent/smart you are.
Who do you think has more curls, a human or a fox?

Cerebellum (sounds like the name Sara) Can you stand on one leg? that controls your balance, your vomiting/throwing up, hiccuping.

brain stem: goes all the way down your back to your spinal cord. do you feel your spine? it protects that spinal cord so your brain can tell your toe to wiggle.

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Frontal Lobe: personality: ask them if they're funny or shy. Tell them Phineas Gage story. Motivation, Goals, Planning: size is smaller in sheep than humans etc. Good vs bad idea. controls how we move around and run and play.

Temporal Lobe: where messages about hearing and inside it controls all of our senses except smell (what are our 5 senses?) in the Thalamus. understand language, emotion

Parietal Lobe: touch senses. where is our arm? how do we know its sitting on the counter or down by our side?

Occipital lobe: vision: 1/4 of our cortex because sight is so important for us to survive. try getting around without using your eyes!

cut the hemispheres and talk about how there are 2 sides of your brain. Some people live with only one side (it's taken out when they're young and their brain compensates-they can do everything normal.

Inside of brain:
corpus callosum: talk about how your brain has a bridge so both sides can talk to each other. some people have their bridge cut (if they have severe epilepsy)

ventricles: Did you know you had holes in your brain? there's fluid (cerebrospinal fluid) that protects the brain. What else protects your brain? (skull) what protects your brain when you ride a bike? (helmet)

Thalamus: decides what you'll pay attention to because your skin is touching the seat but you're not really paying attention to it. all senses except smell go through this so when you're sleeping your thalamus is still working. our smoke alarms are sound and flashing lights to get your attention because the smell of smoke doesn't go through your thalamus to wake you up.

Hippocampus: memory. do you remember what you ate for breakfast this morning? do you remember what you ate for breakfast last week? do you remember what you got for your birthday last year? so your brain remembers only certain things and you remember things that were really special to you for a long time.

white and gray matter: show them a neuron and talk about the cell body is the gray and the axon is the white. Do you know that your brain uses electricity? see how fast I move my finger? that's fast so to get really fast, this is insulated with fat. in spinal cord, white matter is on the outside and gray matter is on the inside, it's reversed.

Review websites:

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http://www.gwc.maricopa.edu/class/bio201/brain/brshpx.htm

http://brainu.org/sheep-brain-movie-full-movie