



Are a Bigger Brains Better? (🧠 A Brain Facts Story) (1st – 6-7 yrs)

We know that our brains are in our heads and we also know that some heads are bigger than others. In this story we will “look” to see if animals with bigger heads have bigger brains and if bigger brains are better.

- 🧠 Animals brains are designed to help them do behaviors that they need to do to stay alive. The more behaviors an animal does, the bigger brain they need to do these behaviors.
- 🧠 We will compare the behaviors that animals do to stay alive, along with their head and brain sizes.
- 🧠 At some point, the brain does not get bigger, it gets bumpier.
- 🧠 Bumpier is better than bigger in allowing animals to do more and more complex behaviors – but, keep smaller heads.

♥SLIDE #1 - INTRODUCTION:

Good Morning (Afternoon)!

My name is _____ and I (describe who you are and give your relation to neuroscience – ex. you are a Neuroscientist, you study neuroscience, you have a friend that is a neuroscientist or you have recently been learning a lot about neuroscience).

Neuroscience, that’s a really big word! But, a neuroscientist is a person who knows a lot about the brain.

I am here today to talk to you about how you can help to make your brain healthy – or make it feel good. It is REALLY easy and anyone can do it.

I love to talk about Brain Health because it’s SPECTacular!!! SPECTacular means “GREAT”. When your brain is SPECTacular, you are a happy and healthy person.

This is a Brain Facts story. We have to know and understand some things about the brain if we are going to understand how to keep our brain healthy.

♥SLIDE #2 – ARE BIGGER BRAINS BETTER?

Today we are going to look at some brains and try to decide if **bigger** brains are better than smaller brains.

Now, in order to decide if bigger brains are better – we are going to have to be scientists.

A scientist asks questions – do you ask questions? Of course, you do.

A scientist then tries to find the answers to the questions they ask – and that is what we are going to do.

♥SLIDE #3 – ALL ANIMALS HAVE A “BRAIN”

All animals have brains (or a nervous system) – even bugs like this bumblebee and worms!!!

“Brains” in different animals look different...hmmmmm...why do brains in different animals look different?

♥SLIDE #4 – BRAIN AND BEHAVIORS

Let's see...

The job of the brain is to help animals do **behaviors** that help to keep them alive.

Behaviors are just things that animals do.

QUESTION: What are some of the behaviors that your brain helps you do to stay alive?

♥SLIDE #5 - EATING

OK...one of the behaviors that helps us to stay alive is eating food.

Here is a cartoon of a boy eating spaghetti – he is a little bit messy.

Humans eat food – but do animals eat food?

Awwwww...here is a cute little kitty eating – oops looks like the kitty is spilling some – the kitty is messy too.

So...all animals eat and if brains help us to eat, then our brains and the brains of animals would be the same...right? (Be sure you say this with a questioning face.)

Hmmmm...

Here is a picture of a human brain and a cat brain – do they look the same? No.

A human brain is bigger and bumpier. A human brain is also rounder.

OK...Both humans and cats eat – they both have brains – but, they are different. What makes them different? Let's think about this...

QUESTION: What are some of the foods that you like to eat? Ok,,,do cats eat ***? (pick out a food that the children eat that cats would not eat)

So, people and cats (and other animals) eat different foods...maybe that is why their brains are not the same.

♥SLIDE #6 – DRINKING

OK...one of the behaviors that helps us to stay alive is drinking. We have to drink things to stay alive – water is really good, but we can drink other things too.

Humans drink water and other liquids – but do animals drink water?

Awwwww...he is cute little puppy drinking some water.

So humans and dogs both do drink water to stay alive. So, maybe human and dog brains are the same because they both drink water.

Hmmmm...

Here is a picture of a human brain and a dog brain – do they look the same? No.

A human brain is bigger and bumpier. A human brain is also rounder.

OK...Both humans and dogs drink water – they both have brains – but, they are different. Why?

QUESTION: Do you lick water out of a bowl on the floor? Of course, you don't!!!

Humans and dogs drink water differently, so maybe that is why human and dog brains are different.

♥SLIDE #7 - SLEEPING

Ok, another behavior that ALL animals have to do to stay alive is sleep.

Look at this cute little rat – yes, I think rats are cute!!!

Both humans and rats both lay down and close their eyes when they sleep – so maybe a human and rat brain is the same.

Here is a human and rat brain. Do they look the same?

Nope...a human brain is way bigger. A rat brain is in a straight line and a human brain is round.

OK...Both humans and rats lay down and close their eyes to sleep – they both have brains – but, they are different. Why?

QUESTION: When do you sleep? At night. Ok...Who knows when rats sleep?

Rats usually sleep during the day. Do you sleep during the day? Are you asleep now? Nooooo. We usually sleep at night.

Humans and rats both sleep at different times, so maybe that is why human and rat brains are different.

♥SLIDE #8 – BRAIN AND BEHAVIORS

So, our brains help us to do behaviors like eating, drinking and sleeping. These are behaviors that help to keep us alive. And, we saw that animals do behaviors like eating, drinking and sleeping to also stay alive too.

But, even though both animals and people do the same behaviors to stay alive – our brains are different than the brains of animals. Why???

QUESTION: What are some of the OTHER behaviors you do? (Remind the children that behaviors are just things that you do.)

Ok... We can (repeat some of the behaviors – choose ones that animals do not do.) Wow, we can do LOTS of behaviors. And, your brain helps you do ALL of those behaviors.

But, do you think animals can do ALL of the behaviors that we can do?

Hmmmm...let's see....

♥SLIDE #9 – READING

Ok...so, I can read. And in school, people learn how to read. Pretty soon all of you will be able to read. Can animals read?

QUESTION: Do you think this little cat is reading? It looks like the cat is reading – but, cats can't read.

Brains help you to read, humans and cats both have brains – but, cats cannot read.

♥SLIDE #10- WRITING

Ok...how many of you have used a pencil or pen or crayon to write or draw something?

Humans can hold pens, pencils and crayons to write...I don't think this cute little puppy can write, do you? No... dogs cannot write.

Brains help you to write, humans and dogs both have brains – but, dogs cannot write.

♥SLIDE #11 – PLAYING VIDEO GAMES

Ok...how many of you like to play video games? Do you think this little rat can play video games? No... rats cannot play video games.

Again, brains help us to play video games and even though both humans and rats have a brain, rats cannot play video games.

♥SLIDE #12 – BEHAVIORS

We now know that brains help us to do behaviors. There are some behaviors that both humans and animals CAN do – do you remember what behaviors both humans and animals can do?

That is right...humans and animals all have to eat, drink and sleep to stay alive. The brain helps us do things that help us stay alive.

But, humans can do behaviors that animals cannot. These are things like reading, writing and playing video games. Dogs, cats and rats cannot read, write or play video games.

Now, I am going to tell you that the more behaviors you do – the bigger your brain needs to be.

♥SLIDE #13 – BRAINS

QUESTION: Who do you think has the bigger brain? That's right humans have bigger brains than cats (dogs) or rats. Why?

Humans do more behaviors, so they need a bigger brain.

♥SLIDE #14 – BRAINS

Let's look at some real brains. Here is a human brain and a rat brain.

QUESTION: Who do you think has the bigger brain? That's right...the human.

Let's make the rat brain bigger.

QUESTION: Looking at the human brain and the rat brain, what is different about them? (Repeat their good ideas – if no one says smoother ask – which brain looks smoother?)

Ok...the rat brain looks smoother and the human brain looks bumpy.

QUESTION: Does the human or the rat do more behaviors? That's right, the human and read, write and play video games – the rat cannot.

Hmmm...if you do more behaviors you have a bigger AND bumpier brain. I wonder why.

♥SLIDE #15 – BRAINS

Let's look at the other animals. Here is the human, dog, cat and rat brain.

QUESTION: Who do you think has the bigger brain? That's right...the human. And who does the most behaviors? That's right the human.

QUESTION: Who do you think has the bumpier brain? That's right...the human. And who does the most behaviors? That's right the human.

Then compare cat and rat, dog and rat, and dog and cat.

The rat is always smaller and smoother (less bumps) – but, dogs and cats do more behaviors than rats.

Lots of arguments about dogs and cats – dogs are bigger, but both are bumpy. (Depending on time you can talk more about this.)

So, doing more behaviors means you have to have a bigger brain – but, why is the brain bumpy?

♥SLIDE #16 - HEADS

Let's look at the heads of the animals we have been talking about.

QUESTION: Who has the biggest head? The human. Does anyone remember who had the smoothest brain? Right, the rat.

If the human's brain was smooth, it would be a lot bigger. The human would need a HUGE head – like this.

If our brain was smooth, our head would have to be HUGE. (Have the students raise their arms and make a circle around their heads – touching their fingertips.) This is how big YOUR head would be if your brain was smooth – because of all the behaviors that you can do.

QUESTION: Why don't we have HUGE heads? Too hard to walk around on 2 legs! (not to mention the whole giving birth to a child with a HUGE head – but, concept is too advanced for 1st graders!!!).

So, in order to do all the behaviors that people need to do to stay alive – eating, drinking, sleeping – and to do all the other behaviors that we do – like reading, writing, playing video games, playing musical instruments, playing sports, etc - we need a big brain. But, we also need a small head – so we can walk around - so our brain is big AND bumpy.

I like to do lots of behaviors, so I think that big and bumpy brains are definitely better.

♥SLIDE #17 – CONCLUSION

Thank you all for letting me talk to you about whether or not bigger brains are better.

I have enjoyed spending time with you today talking about the brain. I hope that you have had some fun and learned something about your brain.

REMEMBER, bigger and bumpier brains mean that the animal can do more behaviors. It does not mean that the animal is smarter – they just do more behaviors.

All animals have a brain (nervous system) because the brain keeps the animal alive. When animals do more behaviors, like reading, writing and playing video games, they need a bigger brain.

Because humans can't have HUGE heads (or they would fall over all the time), they have bumpier brain – which would make them even bigger.

So...bigger AND bumpier brains are better for an animal IF they want to do more behaviors.

AND...behaviors can be lots of fun!!! Doing lots of behaviors helps your brain stay healthy and that is SPECTacular!!!

THANK YOU SO MUCH FOR ALL OF YOUR HELP!!! Brain Health is not just SPECTacular...it is FUN!!!