



**Be Nice to Your Brain (🧠 A Brain Facts Story)
(4th Grade – 9-10 yrs)**

Because your brain does so much for you, this story describes things that you can do to protect your brain and make sure it is healthy.

- 🧠 Your brain is very squishy and needs your protection.
- 🧠 Your brain needs sleep – to take out the trash.
- 🧠 Your brain needs energy because there is no such thing as a fat head.

🧠 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 – feeling 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.

So, let's see how you can keep your brain healthy.

🧠 SLIDE #2 – BE NICE TO YOUR BRAIN

We know that our brain controls all the behaviors that we do all the time to stay alive.

Our brain knows when our body needs to breathe, needs to pump blood to our muscles so we can move, and helps to keep us warm when we are cold (we shiver) and cool when we are hot (we sweat).

Our brain knows when we are hungry, tired, and thirsty.

Our brain also helps us to learn new things and to remember things we have already learned.

So, given that our brain does so much for us, what can you do for your brain? Well, you can be nice to your brain.

Being nice to your brain means that you will protect your brain and give your brain the things that it needs.

Being nice to your brain helps your brain to stay healthy.

SLIDE #3 – YOUR HEAD PROTECTS YOUR BRAIN

The first thing that you need to know about your brain is while it controls a lot of what you do, your brain has a secret.

Your brain acts like a superhero – but, while it does behaviors to protect you – it needs protecting too.

Now, everyone knows that your brain is inside your head. This is a picture of what your brain looks like inside of your head.

Question: Does anyone know why your brain is inside of your head?

Well, your brain is actually all squishy.

Question: Has anyone ever helped make Jello before? Have you ever touched it before it had hardened?

That is kind of what your brain is like inside your head – all squishy.

Your head is made up of a very hard piece of bone...your skull. Inside your skull is your brain. Your hard skull protects your squishy brain.

SLIDE #4 – BRAIN FLOATS

Question: But, if your squishy brain were all alone inside your head what do you think would happen when you moved your head? (At this point, shake your head around.)

It would get smashed up!!! Your squishy brain would keep hitting the hard skull.

So, inside of your head – there is a watery substance.....it is called cerebrospinal fluid (That is a big long word, so we call it CSF for short).

Your brain floats around in the CSF that is inside your head – just like you can float around in water.

That way, the CSF can protect your squishy brain and it won't get hurt.

SLIDE #5 – HELP YOUR SKULL

So, you have a hard skull to protect your brain...but, that only works when your body is moving by itself.

When your body is moving because you are on a bicycle, skateboard, roller skates, scooters, hoverboards, snowboards or on skies, then your skull needs help to protect your brain.

This is because you are moving faster than your legs can carry you.

You can protect your brain when you are moving faster than your legs can carry you by wearing a helmet.

When you protect your brain, then you are being nice to your brain.

SLIDE #6 – SLEEP IS NICE

Another way that you can be nice to your brain is by getting the sleep that your brain needs.

Sleep is important because when you are sleeping, not only does your brain get some rest from all the work that it does during the day, but the brain also has some very special chores to do while your body is sleeping.

SLIDE #7 – CLEANING UP THE BRAIN WHILE YOU SLEEP

One of the big jobs that your brain has to do when you are sleeping is to take out the trash.

So, your brain puts on a janitor hat and gets rid of all the trash that is made when you are awake.

This is actually something that scientists just learned about recently.

It turns out that all of the work that your brain does during the day produces lots of “trash”.

SLIDE #8 – BRAIN TRASH

The “trash” that is made in the brain is different from normal trash.

The trash mainly consists of chemicals and proteins that are used when the neurons in the brain are talking to each other.

These proteins get “spit out” of the neurons and end up cluttering up the space between the neurons.

If these chemicals do not get washed away, then neurons have a hard time talking to each other.

Soon, you would not be able to do all the normal behaviors that you do.

Sometimes this trash builds up so much that it causes diseases in the brain.

So, while you sleep the brain “washes away” all of the waste chemicals that get built up in your brain during the day.

SLIDE #9 – BE NICE TO YOUR BRAIN - SLEEP

So, when you are sleeping, the brain washes away these chemicals and gets them out of your head and into the body where they can be broken down.

Making sure that you get enough sleep is another way that you can be nice to your brain.

Not only are you letting your brain rest and repair itself from all the work that it does when you are awake, but you are letting the brain clean out the trash to get ready for a new day.

SLIDE #10 – ENERGY

Another way that you can be nice to your brain is by making sure that your brain gets the energy that it needs to do all the work it needs to do.

SLIDE #11 – EATING RIGHT

QUESTION: How does your brain get energy?

One of the ways that you can make sure that the brain gets the energy that it needs is to eat foods that are good for you.

QUESTION: What does it mean when I say “eating foods that are good for you”?

To be honest, there are lots of different opinions about what foods are good for you.

SLIDE #12 – NUTRIENTS

We know that your brain (and your body) need certain nutrients in order to do the work that needs to be done to keep you alive.

The six essential nutrients are **vitamins, minerals, protein, fats, water, and carbohydrates**

There are some nutrients that our body needs that it cannot make – so we need to eat.

SLIDE #13 – HEALTHY FOODS

We know that foods designated as “healthy” contain some of these nutrients.

Whole fruits — like apples, berries, oranges, mango, and bananas

Veggies — like broccoli, sweet potatoes, beets, okra, spinach, peppers, and jicama

Whole grains — like brown rice, millet, oatmeal, bulgur, and whole-wheat bread

Proteins — like lean meats and chicken, eggs, seafood, beans and lentils, nuts and seeds, and tofu

Low-fat or fat-free dairy — like milk, yogurt, cheese, lactose-free dairy, and fortified soy beverages (soy milk) or soy yogurt

There are also **Oils** — like vegetable oil, olive oil, and oils in foods like seafood, avocado, and nuts

Right now, we can think of “MyPlate” as the foods that we need to eat to give our brain the energy and the nutrients it needs to be healthy.

<https://health.gov/myhealthfinder/topics/health-conditions/diabetes/eat-healthy>

SLIDE #14 – NOT AS HEALTHY FOODS

Some foods that we like to eat may not be all that healthy because they contain ingredients that we may not need.

Sodium is found in table salt — but most of the sodium we eat comes from packaged food or food that's prepared in restaurants.

Added sugars include syrups and sweeteners that manufacturers add to products like sodas, yogurt, and cereals.

Saturated fat comes from animal products like cheese, fatty meats and poultry, whole milk, butter, and many sweets and snack foods. Some plant products like palm and coconut oils also have saturated fat.

SLIDE #15 – ENERGY

Another problem with these foods is that because some foods taste so good, we may eat them instead of the healthier food that we need to eat.

Plus, you eat food to get energy and ALL foods will give you energy.

In fact, sugar which is less healthy – but tastier – gives you lots of energy. The problem is you burn that energy really fast.

SLIDE #16 – FIRE AND FOOD

Let's think about this...fire needs fuel to burn just like you (and your brain) needs food for energy.

QUESTION: If you were to burn a pile of dry leaves or a log of wood, which do you think would burn faster? Which do you think would burn longer?

The leaves would burn fast – fueling the fire, but it would not fuel the fire for that long. The fire would go out.

If you burned the log, it would burn slower, but it would burn longer.

Sugar is just like the leaves. It gives you lots of energy fast, but the energy you get does not last long.

SLIDE #17 – MODERATION

Now, just because some foods are not as healthy – meaning they don't give you the nutrients that you need, that does not mean that you cannot enjoy them.

Just remember, it is better for your brain to eat foods that your body needs.

And, a good rule of thumb is that when eating – just like lots of things – moderation is the key to healthy eating.

SLIDE #18 – LISTEN TO YOUR BRAIN

When you are hungry, you tend to eat whatever foods are available.

You eat whatever is available because your brain needs energy. So, you may not make good choices about what you eat.

If we were to listen to our brain and eat food before we got really hungry, then we would eat healthier.

Unfortunately, most people do not listen to their brain when it comes to eating food.

SLIDE #19 – FAT HEAD?

Another thing to know about the brain, is that it does not store energy.

People may say someone is a “fat head” – but, your brain does NOT store energy as fat like the rest of the body.

But, because your brain controls all of your behaviors, it needs a LOT of energy to do its job.

You can be nice to your brain by making sure you pay attention to the signals you get that you are getting hungry.

If you pay attention to when your brain needs food, you will make healthier choices about what to eat.

Eating healthier foods will keep your brain healthy.

SLIDE #20 – BE NICE TO YOUR BRAIN

There are lots of ways that you can be nice to your brain, we have just talked about some of them.

Wearing a helmet when your body is moving faster than your feet can carry you is one way you can help your skull protect your brain.

Sleeping when you are tired, will help your brain to rest and repair itself AND it allows your brain to clean up all the trash that is made while you are awake.

Eating foods that will give your brain the energy (and nutrients) that it needs to do its job.

These are some of the ways that you can be nice to your brain.

SLIDE #21 – CONCLUSION

Thank you all for letting me talk to you about how you can be nice to your brain.

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, protect your squishy brain by wearing helmets. Get some sleep so your “janitor” brain can get to work. Eat when your brain tells you that you are hungry and make healthy food choices. All of these things will help you to be nice to your brain and will help your brain stay healthy which is SPECTacular.

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