

Making Neuroscience Fun

A Brain Awareness Program for All Ages



Brain Health: It's SPECTacular

It's a SPECTacular Jungle Out There (🌍 A Brain Health Story) (4th Grade – 9-10 yrs)

The world of a 4th grader is complex and has the potential to be frustrating and stressful. This is a time when children need to focus on taking care of their SPEC health, so that their brains can help them navigate through the challenges they are facing.

- 🌍 Understanding that we have a reciprocal relationship between our brain and our behaviors will help us to face these challenges to our SPEC health. We need to take care of our brain, so that our brain can take care of us.
- 🌍 As a 4th grader you are facing lots of challenges to your SPEC health, it can be a virtual jungle out there.
- 🌍 Just like the animals in the jungle, we need to learn how to live in a world that is always changing. Focusing on SPEC health will allow how to survive and thrive our world.

🌍 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).

A neuroscientist studies the brain. So, I am here today to talk to you about how you can help make your brain healthy. It is REALLY easy and anyone can do it.

This program is called Brain Health: It's SPECTacular. You feel SPECTacular when your brain is healthy. You can be a happy and healthy person by knowing more about your brain and how it works!!

Plus, to spell SPECTacular you need...S – P – E – and C.

To keep your brain healthy, you also need S – P – E – and C.

The 1st thing that helps your brain stay healthy is loving yourself and loving others – being **Social**. That is the **S**.

“Being social” means you love yourself and you are nice to yourself. It also means that you are building relationships with friends and other people who make up your support system.

The 2nd thing that helps your brain stay healthy is taking care of your body – that is being **Physical**.

That is the **P**.

Being physical means, you move your body, you eat for fuel, and you sleep to rest and restore your body and your brain to get ready for the next day.

The 3rd thing that helps your brain stay healthy is understanding about how you “feel” – **emotions**. That is the **E**.

Good emotional health means you can identify your emotions and not let them control your behaviors. It means you can balance how you feel and how you act.

The last thing that you can do to make your brain healthy is to think...and not just when you are in school. **Cognition** - that is the **C** – is a big word that means being able to think.

Your brain is thinking all the time!

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

SLIDE #2 – IT'S A JUNGLE OUT THERE

Being in 4th grade can sometimes feel like you are animal in the jungle. Everywhere you look there are challenges.

Some of the challenges are testing your...

- Social Health – relationships with your peers are getting more complex -
- Physical Health – gym class and sports teams are getting more competitive -
- Emotional Health – all of the challenges are causing you to be stressed out - and
- Cognitive Health - school is getting harder.

But, just like animals in the jungle, you can handle these challenges by making sure that your brain stays healthy. A healthy brain can help you – and animals in the jungle – to deal with the world you live in.

SLIDE #3 – RECIPROCAL RELATIONSHIP

We already know that it is important to focus on our SPEC health in order to maintain our brain health.

Keeping our brain healthy is important for making sure that we are able to survive in the world that we live in.

We need a healthy brain because our brain is what allows us to do all the behaviors that we have to do to survive – eating, drinking, sleeping, thinking, learning, remembering, etc. We need our brain to do all the behaviors that we do. The behaviors get the things that our brain needs to survive.

Because the world we live in is always changing, the brain and behaviors need to change. The brain changes the behaviors and the behaviors change the brain.

We need our brain to do the behaviors we need to do to keep our brain and our body alive. This is what is known as a **reciprocal** relationship.

SLIDE #4 – BRAIN CHANGES SO YOU LEARN AND REMEMBER

We also know that when you do any kind of behavior, that the behavior changes your brain.

The world is constantly changing, so our brain has to change our behaviors so that we survive. The brain then needs to remember when to do the behaviors.

Let's say that you live in the country where there is not much traffic. You learn that when you want to cross the street, you look both ways and then if no vehicles are coming you cross.

Then, you visit your aunt in New York City. A place with LOTS of traffic. You want to cross the street, you look both ways and you do not see any cars – so you start to cross the street. WHOSH!!! Out of nowhere comes a car. Luckily, your aunt pulled you back when you started to cross the street.

Apparently, in cities they have crosswalk lights that tell you when you can cross the street. So, even if no cars are coming – if the crosswalk sign says “Don't walk” – you cannot cross the street.

Your need to learn and remember this to avoid getting hit by a car. There are different rules for how to cross a street depending on what part of the world you are in. So, how you cross a street is different in the country than it is in the city.

Your brain learns and remembers this information, so that you cross a street anywhere.

SLIDE #5 – SPEC CHALLENGES

Given that we are going to be facing challenges to our Social, Physical, Emotional and Cognitive (SPEC) health, let's see how we can best deal with those challenges to promote a healthy brain.

Let's also see how those jungle animals can help us.

SLIDE #6 – SOCIAL HEALTH

Your Social Health gives you the tools you need to handle challenges to your social life.

As you are getting older, your friends and your peers tend to become more important to you than people than your family. This is also a time when relationships with your friends and peers are getting more complex.

Kids are starting to do things on their own and in smaller groups. Sometimes you are invited to join and other times you are not. This can make you feel bad about yourself.

So, how do you deal with it?

Just like gorillas in the jungle. Gorillas in the jungle have a very complex social structure. Because of that, these animals also have to have good Social Health to be a part of the social group.

SLIDE #7 – SENSE OF SELF

So, let's see what we remember about our Social Health.

Before we can be part of a social structure – part of a group with our friends – we first need to have a good sense of who we are – our sense of self.

We then need to be comfortable with ourselves – both our strengths and weaknesses – and we need to be nice to ourselves.

Wait a minute, what does a gorilla have to do with that?

A gorilla is not as complex cognitively as we are – but, gorillas that live in a complex social structure need to have a sense that they are different from the other gorillas. They probably do not think as much about it as we do, because their social structure (nor their cognitive abilities) – even though it is complex – is not as complex as humans.

So, if you are having a hard time making friends, remember that it is easier to find other people who will want to be with you when you are comfortable with yourself, when you know the kinds of things you like to do and when you know what you can and cannot do.

SLIDE #8 – DEALING WITH CHALLENGES

When you are facing challenges with your social life, remember there are other things that you can also do.

Talking to people in your support system helps. They know you and they may have some good advice to offer you about improving your social life.

Think about something that you like to do and that is fun to do. Then, invite someone to do it with you. Chances are if you did not get invited to something that there are other people who also did not get invited. By asking them to do something with you, then you are not only helping your brain health you are helping theirs too.

Talk to your parents or caregiver about maybe joining a volunteer group. Again, helping others also helps you and your brain health.

All of these are ways of dealing with challenges to your social health and they will make your brain healthy.

SLIDE #9 – COMPETITIVE CHALLENGES

Next, your Physical Health gives you the tools you need to handle physical challenges. Every day you seem to be having to deal with more physical challenges.

In gym class, there are certain skills that you need to master. On the soccer team, you are now responsible for knowing plays instead of just running around after the ball.

Your friends are playing tennis, going fishing, doing yoga, going hiking, etc.

In all of these cases, there seems to be this competitive vibe.

How do you deal with all of this competitiveness?

Just like tigers and leopards in the jungle, both eat the same things and so they are always competing for food. Because the law of the jungle is survival of the fittest, tigers and leopards both have to take care of their Physical Health. Just like we do.

SLIDE #10 – PHYSICAL HEALTH

So, let's see what we remember about our Physical Health.

We know that we have to eat right, get enough sleep, and keep our bodies moving. If we do those things, then the parts of our brain that control those behaviors will be healthy and our body will be healthy too.

Wait, do the tigers and the leopards have to do that too?

Yes, the tigers and the leopards have to do those behaviors as well, and the animals that take care of their Physical Health tend to be the ones that survive and win the competition for the food.

The difference between us, the tigers, and the leopards are that animals spend most of their time during a day just doing behaviors that will help them survive – eating, sleeping and moving. They do not go to school, play video games, or go to after school activities.

People have lots of other behaviors that take up their time, so we need to make sure that we are eating right, getting enough sleep and moving our bodies.

SLIDE #11 – DO YOUR BEST

When it comes to all the physical competitive challenges that you may be faced with, remember you want to always try to do your best.

People are different and they have different skills and talents, so try your best and be happy with your accomplishments when you have to participate in a physical challenge.

Do everything that you can do to prepare. Talk to the gym teacher, maybe there are helpful hints on how to best do it. See if you can do anything to strengthen your arms or legs.

So, shoot the basketball, run a mile, learn ballet, do push-ups, or whatever other physical challenges you want to try.

As long as you know that you are doing everything you can to do your best, then be happy with your efforts and accomplishments. And, that will make your brain happy.

SLIDE #12 – LOTS OF PHYSICAL ACTIVITIES TO TRY

When it comes to other physical activities, like joining a soccer team or a dance class, these are usually physical activities that are not necessarily required – but, good to try.

We all know that everyone has skills and talents. Trying different things is a good way to find yours. Plus, joining groups is also a good way to make friends. So give soccer or dance a try – you might like it and you will be making your brain happy.

Just make sure you are trying your best and that you are practicing and doing everything you can do be prepared. If you find that you still are not good, then again – be happy with your efforts and accomplishments.

Then you can decide if you should continue or go on to find something else....like volley ball or karate. That will make your brain healthy.

Plus, be happy that your competitive physical challenge is not life or death like the tigers and the leopards.

SLIDE #13 – EMOTIONAL HEALTH

Next, your Emotional Health gives you the tools you need to handle all kinds of challenges. This is because all challenges are potentially stressful, and we know that stress affects the emotional parts of our brain.

Because there are so many challenges and things are not always the way that we want them to be, we will definitely react to challenges with heightened emotions and inappropriate emotional behaviors.

Having a temper tantrum in class is not a good idea. It is disrespectful to the class – as it is disrupting – and it is a highly embarrassing thing to do.

In this case, we are acting no better than an elephant in the jungle. Say what?!?

That is right, elephants are highly emotional animals. When they are angry, they will crash into villages and cause mass destruction. (Good thing to remember, do not get an elephant mad!)

SLIDE #14 – WHAT IS EMOTIONAL HEALTH?

Let's see what we remember about our Emotional Health, so we do not behave like an elephant.

You need to remember that it is ok to feel all kinds of emotions. But, the thing that you need to be able to do is identify what emotion you are feeling and then control that emotion.

You may need to figure out how to “channel” your emotions or express them in a more appropriate way.

You may need to talk to someone in your support system or you may need to come up with coping mechanisms (choose your own personal escape) to deal with whatever challenge you are facing that is causing your heightened emotional feeling.

Being able to identify and control your emotions is what will separate you from the elephants. This is also what is going to make the emotional parts of your brain healthy, which will make it easier to handle challenges in the future.

SLIDE #15 – COGNITIVE HEALTH

Finally, your Cognitive Health gives you the tools you need to handle all kinds of intellectual challenges. And, let's be honest 4th grade is definitely getting harder.

First, you are being given more responsibility for doing work on your own, you also have a lot more homework. This means that you have to learn how to organize your time.

Because you now know how to read and write you are being asked to read more materials and then to write about what you have learned.

In math and science classes, you are not only being asked to learn the material – but, to use what you have learned.

So, how do you handle the challenges that harder classes bring?

Just like a chimpanzee – WHAT???- only take it a step further.

Chimps tend to learn from watching others – by example – because they cannot read. Chimps do, however, have very good memories and they are very good at using objects in creative ways – as tools. In this way, chimps are applying what they learn to solve problems that they encounter.

SLIDE #16 – WHAT IS COGNITIVE HEALTH?

Let's see what we remember about our Cognitive Health. As with any other challenge we are faced with, we want to do everything we can to do our best.

When you are learning something new, it is best to try and understand what you are learning rather than just memorizing it. This makes the information more relevant to you and that makes it easier to think about the information.

It is always better to learn information over time, rather than just trying to cram it all in at once. Every time you think about something you have learned; you strengthen the connections in your brain that is storing the information.

Everyone learns differently – so try to figure out the best for you learn. Also remember that you may be able to learn some things one way – but, you may need to use other ways to learn other things.

Try to make learning fun. If you have to learn something and you cannot make it fun, then remember learning what you do not like to learn may be helping you to be a better thinker.

Finally, you are not alone. When you cannot understand something that you are trying to learn, then ask for help.

SLIDE #17 – READING AND WRITING

Now even though chimpanzees are capable of doing some really amazing cognitive behaviors, you do not see any chimps sitting next to you in the classroom.

While chimps can learn and they do have good memories and they are able to be creative with what they learn about using objects for tools, chimps cannot read and write.

While reading and writing may not be fun for you, it is something that separates humans from all other animals. Because we can read and write we do not have to relearn information that our ancestors learned. We can read about it. This saves us time and energy and it allows us to further our understanding about what we know about the world.

We can write about all the new things that we learn about the world for future generations of people.

Our ability to read and write is truly a gift that we need to be grateful for because it – more than anything else – allows the cognitive – thinking – part of our brains to be healthy.

SLIDE #18 – SPEC HEALTH

So, while 4th grade does present us with a number of challenges to our social, physical, emotional and cognitive health, focusing on our SPEC health will allow us to maintain a healthy brain.

Our brain and behaviors have a reciprocal relationship.

Our brain makes us do certain behaviors – such as eating, drinking, sleeping, thinking – so that we can stay alive in a world that is always changing.

Our behaviors change our brain, which then changes how we do the behaviors we need to do to survive.

We have seen how challenges to our social, physical, emotional and cognitive health can be handled when we know how to promote our SPEC health. Paying attention to our SPEC health will ensure that we have a healthy brain.

And, because we know that there is a reciprocal relationship with the brain (which controls our behaviors) and our body (which produces the behaviors), this means that we will be able to not only survive – but, thrive – in this world that we are living in.

SLIDE #19 – CONCLUSION

Thank you all for letting me talk to you about how to survive the challenges to your SPEC health.

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, just like animals in the jungle we have to focus on maintaining our SPEC health. Good SPEC heath means a healthy brain and helping your brain stay healthy is SPECtacular.

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