

Making Neuroscience Fun

A Brain Awareness Program for All Ages

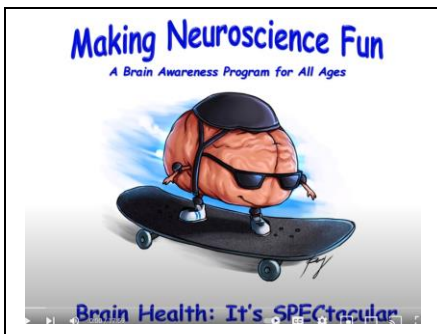


Brain Health: It's SPECTacular

What to do TODAY 2nd Grade (🧠 A Brain Facts Story)

This story talks about all the things that your brain does that helps you to stay alive.

- 🧠 There are lots of behaviors that you have to automatically do to stay alive. (breathing, pumping blood to your body, regulation of body temperature, digestion).
 - 🧠 Your brain gets information about what you need to stay alive and then it tells your body what to do. (eating, drinking, sleeping, going to the bathroom - you learn when and where to do these behaviors)
 - 🧠 These behaviors are so important that your brain rewards you for getting the things it needs – by making you feel happy.
- 🧠 For this presentation, you need to have the and the “My Brain Keeps Me Alive” Story Video. You will be doing Activity #2 - **Experiment: Heart Your Brain** (meaning we love our brain). You will need to have a cell phone with a timer, a watch with a second hand, or a timer.
- 🧠 Put up the Brain Facts video showing the intro slide.

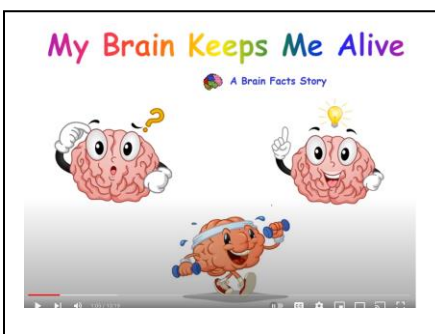


Introduce yourselves and tell the students that you are really excited to be with them to talk about Brain Health.

Tell the students the name of the program is Brain Health: It's SPECTacular because you will be sharing new stories that will help them take care of their brains.

Tell the students that **today** you are going to teach them about some Brain Facts. Brain facts are things that we know about the brain AND we have to know something about our brains to so that we can help our brains get and stay healthy!!!

- 🧠 Today's story is called – My Brain Keeps Me Alive. Play the video and stop after the title slide.



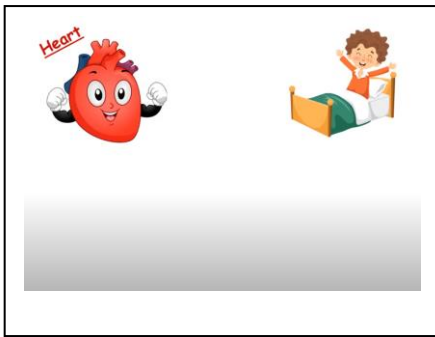
There are so many things that our brain does to help us stay alive and this story will tell us **HOW** our brain helps to keep us alive.

Because our brain does so much to help keep us alive, we have to work to keep our brain healthy.

This is called a **sympiotic** relationship – which is a BIG word. But, it just means that... You help your brain and your brain helps you.

- Continue playing the video. When there are questions, stop the video and ask the students that question.

Stop at this part of the video.

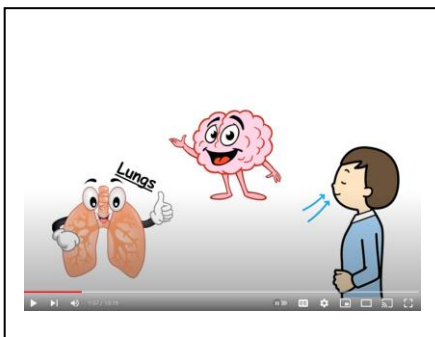


OK...remember...be silly to engage the students.

When you wake up in the morning, do you have to tell your heart to pump blood to your muscles so you can get out of bed?

No, of course you don't. Your brain takes care of that for you.

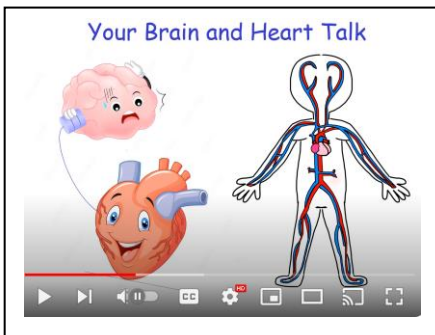
- Continue the video and stop when the next question is asked.



When you breathe, do you have to tell your lungs to breathe so you can get the oxygen that your body needs to survive?

No, of course you don't. Your brain takes care of that for you.

- Continue the video and stop after this following slide.



So, you brain and your heart work **automatically** to pump blood to the parts of body that needs it most.

Let's think about this a little bit more.

Tell the students that you are now going to do an experiment to prove that the heart and the brain work together **automatically**.

- You will now be doing Activity 2 - **Experiment: Heart Your Brain** (meaning we love our brain) – you can make a heart with your hands and have the students do it too–



The Story Video is at ~ the 3 minute mark, so there is still ~14 minutes left of the video. Keep this in mind and you can do more or less examples depending on when you presentation time ends.


- First, talk with students about activities they do and what they notice about how their heart beats during those activities.
 - For example: "Let's think about our hearts and how they work. When I am sitting down and reading a book my heart is beating slowly. When I am playing tag with friends, my heart is pounding rapidly. Can you share an activity and how your heart feels while you are doing that activity?"

- When we can feel our hearts beating, it is called a **pulse**.

Your pulse is the pressure in your arteries going up briefly as your heart pushes out more blood to keep circulation going. Between beats, your heart relaxes, which brings the pressure back down again (<https://my.clevelandclinic.org/health/diagnostics/17402-pulse--heart-rate>).

Our pulse can be found on our wrists.

- Show the students how to feel their pulse by placing their pointer and middle fingers on the inside of their arm on the thumb side where their hand meets their arm. Tell them to push down with their fingers until they feel a “throbbing” – that is their pulse.
 - Remind student(s) that they must be still and quiet to make it easier to find their pulse. Help any student(s) who are struggling.
- While the student(s) are sitting still, tell them you are going to time them for 30 seconds. During those 30 seconds they are going to count how many times they feel their pulse and write it on a piece of paper.
- Now, have student(s) double that number or add the number together twice—this is a second-grade math skill. This is their heart beats per minute at rest.
 - Ask the students if they are making their heart beat – NO, their brain knows that to keep you alive, blood needs to go to lots of parts of your body – so it pushes the blood.
- After everyone has their number recorded, have the student do some type of physical activity for one minute. This can be running in place, jumping up and down, jumping jacks, etc. – you choose. (Depending on time – you can do a couple of different physical activities – be sure to rest in between)
- At the end of the one minute, have student(s) check their pulse for another 30 seconds, write it down, and double this new number. This is their heart beats per minute after vigorous exercise or activity.
- Talk about the comparison between the two heart rates by asking student(s) the questions below and have them respond.
 - How does your first number compare to your second number? (The second time they checked their pulse, the number should have been higher.)
 - Why do you think your number was higher after doing the physical activity? (This is because the heart needed to work faster and harder to pump more oxygen-rich blood to your body since you were working harder.)
- Remind student(s) that our hearts and our brains work together to keep us healthy. It is important to take care of our heart by eating right and exercising so it is healthy and able to do what our brain tells it to do. This makes our heart and our brain happy.

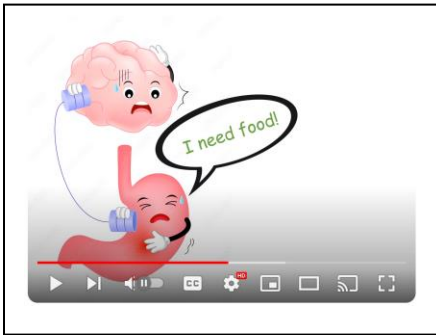
 Continue playing the video and stop after the question on the following slide.



Ask the students, “How long can you hold your breath?” – solicit answers.

Let’s see what Dr. Gorman says.

Continue playing the video and stop after the following slide.



Ok...how do YOU know when your body needs food?

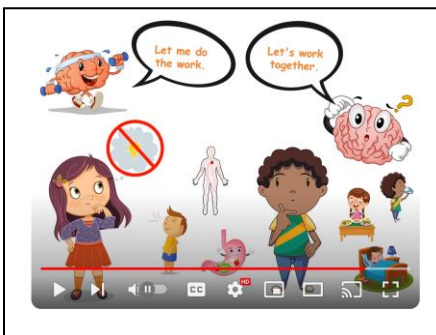
Answers may be...stomach growls – makes noise, or you start thinking a LOT about food.

Some people might feel dizzy and other people get angry when they are hungry. There is a word for that – **HANGRY** – for hungry and angry.

Ask the students...How many of you get **HANGRY** when you are hungry? Raise your hands. Comment on this...ex. ME TOO!

Your brain needs food for energy so it can work properly and stay healthy – so we need to listen to our bodies.

Continue playing the video and stop after the following slide.



So, there are behaviors that our brain does **automatically** for us. They are things like pumping your blood, breathing, and getting energy from our food.

Can anyone think of something else our brain does automatically?

Blinking – to keep our eyes from getting dry to help us see better, or to keep our eyes clean

Sweating – to help us cool off when we get too hot

Sneezing – to get any nasty stuff that gets up into our noses out

Ok...there are also some behaviors that our brain does for us, but it **needs help from our bodies**. Like, eating, sleeping, and drinking water.

There are some things that your brain needs, like food, that your brain can not get by itself. It needs your body to help.

Like getting food. Your brain needs food, but your body has to help. Your body helps you to get food and put it in your mouth, chew and swallow – then the brain takes over.

Can anyone think of something else our brain does where your body has to help?

Temperature – your brain can make you sweat when you are hot and shiver when you are cold – automatically. BUT, you can help by wearing the right clothes – coats when you are cold.

Getting information about the world – your brain needs your sensory systems – eyes, nose, mouth – to give it information like **what to eat**. If something tastes bad – it might be bad for you so you should not eat it. If something **smells bad** – like smoke, there could be a fire that could hurt your body. If you **see** a lion and you are not at the zoo – then RUN.

At this point, you should be pretty much out of time. You can play the video to the end and then reiterate some of the things that the students have learned.

Your brain does some things that we need to do to stay alive automatically for us – like pumping blood to our muscles so we can move, breathe, and digest our food. These are things we don't even have to think about.

There are other behaviors that we do to stay alive that we need to think about. So, your brain also gets signals from your body and then tells your body to do other behaviors to stay alive – like getting and eating food, drinking water and sleeping.

If you understand how important your brain is to keeping you alive, then you will understand why helping your brain stay healthy is SPECTacular.

Be sure to thank them for listening and the Brain Health Team of JHU students will see them soon.