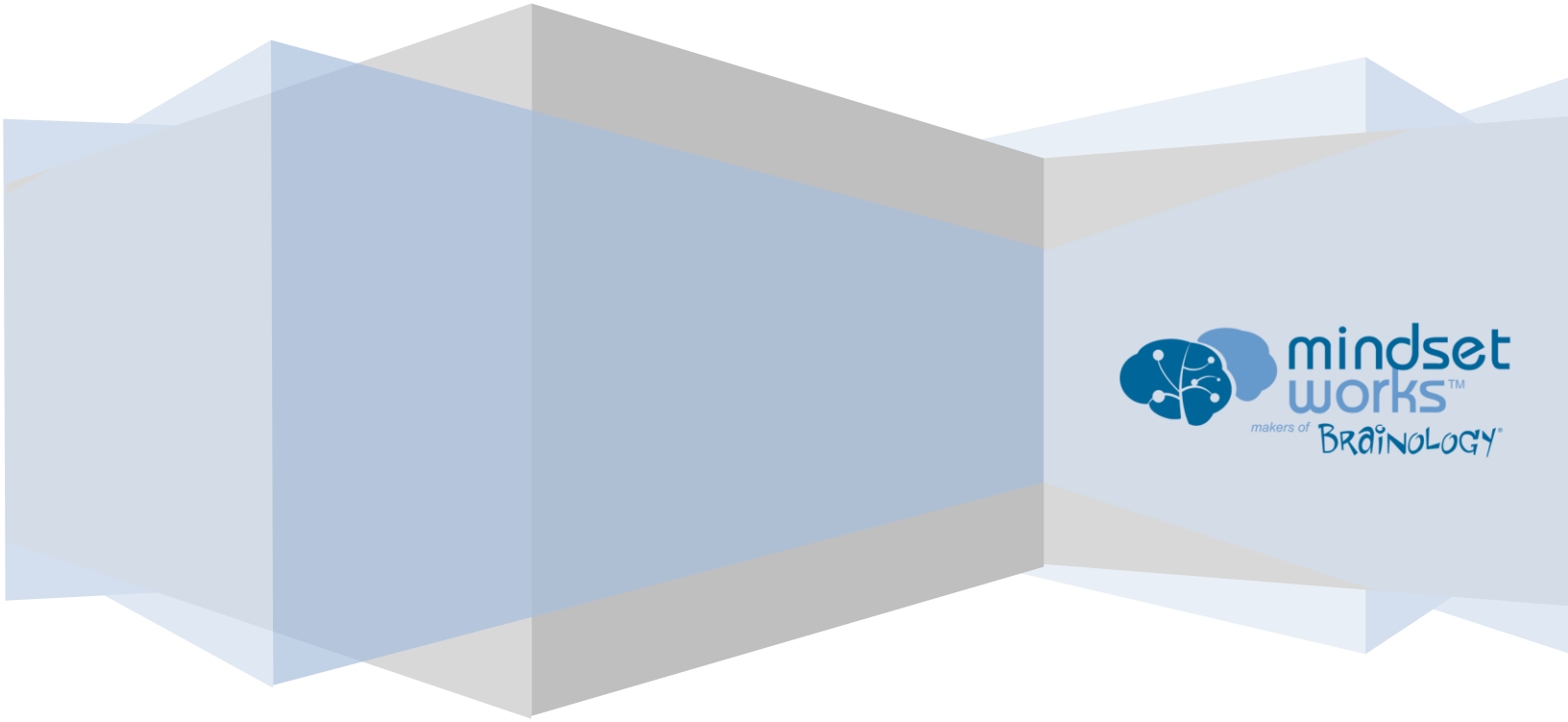
Brainology Downloads

Class activity: Brainology Popcorn

Introducing the Concepts from Brainology



Play ***Brainology® Popcorn before*** your class has begun the Brainology® Program to preview concepts, or introduce students to a discussion about malleable intelligence and the growth mindset.

Popcorn Directions:

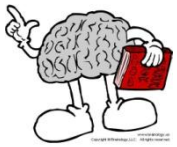
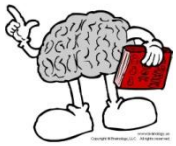
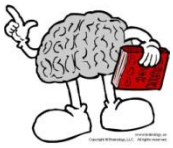
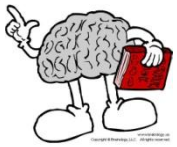
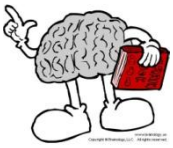
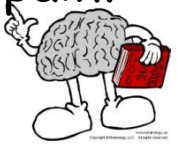
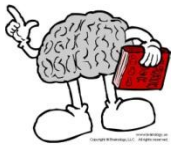
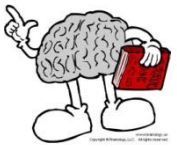
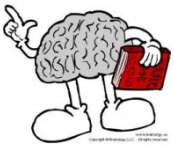
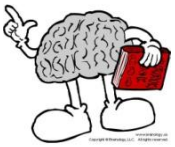
Use Brainology® Popcorn before your class has begun the Brainology® Program.

Students can sit at their desks, sit or stand in a circle, or stand in any spot they choose in the classroom.

Teacher has the downloaded cards (photocopy front-to-back and cut into cards). The answer to each question should be on the back of a DIFFERENT card.

One student starts off with the card that reads: "I have the first card." Every other student has his/her card facing up on the side with an answer. The first student reads his/her card to class. After everyone has heard it, the student with the ANSWER to that card reads his/her card. This student flips his/her card over, and reads the next question.

The next student reads the answer, and then also flips his/her card over to read the next question. This continues until the last student reads the card that says: "I have the last card."

Name the three types of memory. 	What is the sensory memory? 
How much information can your Working Memory hold? 	What must happen first for something to stay in Long-Term memory? 
What made the "Summer Camp" rats different from the "Cage Potato" rats? 	**I have the FIRST card:** Does your brain feel pain? 
How much energy does your brain use? 	What is the brain made up of? 
What does the frontal lobe do? 	About how much does a brain weigh? 

The brain weighs about 3 pounds (the same as a large dictionary!)

Sensory memory is the type of memory that every experience goes through. It processes the 5 senses (sight, hearing, touch, taste and smell)

A person needs 9-10 hours of sleep each night to grow a stronger brain. Memory is built while a person sleeps.

For anything to get into long-term memory, it must first go through the sensory memory and working memory.

First card

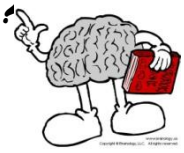
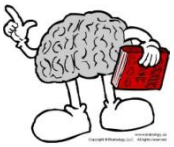
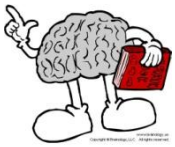
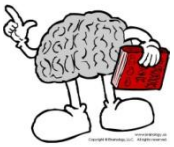
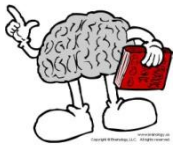
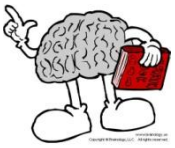
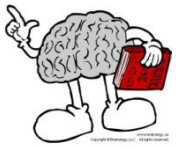
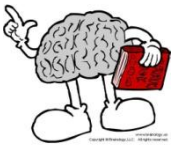
The brain itself does not feel pain. It senses pain and tells our body. If you could poke your brain, you would not feel it!

We say the brain is like a muscle because it gets stronger when we exercise it. It gets denser (more mass) just like lifting weights make muscles denser.

Some examples of **things the brain does** are: plans for the future, solves problems, moves the body, hears, sees, tastes, feels, and smells, makes memories, etc).

If a person were using **several senses** to study a new language, s/he could read the new words, say them out loud, and draw pictures to represent what they mean. S/he could also color-code groups of words into categories (food words, actions words, etc.)

The **brain is made** up of a network of neurons that are all connected. The more learning that the brain has, the denser and heavier it is (more connections)

What is the color and size of the brain? 	What are two good ways to build your neural network when you are learning something new? 
Name 2 foods that will help grow your brain. 	Name two things the brain does. 
What is "fight or flight" syndrome? 	How much sleep does your brain need? 
Describe "Square Breathing" 	Why do we say the brain is like a muscle? 
What is positive "self-talk"? 	Describe how to use two senses to study. 

When **we learn something new,** we are creating changes in the neural networks of the brain. It's more than information storage! Your brain becomes faster and more creative. The ability of your brain to change through learning is called plasticity.

The three types of memory are: sensory memory, working memory, and long-term memory.

A **neuron is made** up of a cell body (gray), dendrites, an axon (sends messages), and synaptic buttons (connects neurons to one another)

A human's working memory can hold about 3-7 bits of information at a time. This is why phone numbers are chunked into 3 bits: (555) 222-1414.

A person's attitude makes a big difference in his/her success. When a person is willing to be persistent, put a lot of effort into a new task, and practice, then s/he will be more successful than someone who gives up easily, barely tries, and hides from challenges. Have a growth-minded attitude!

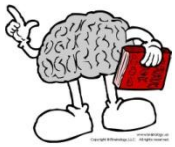
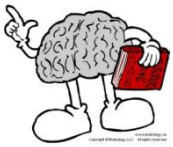
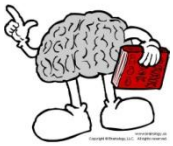
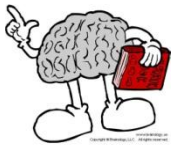
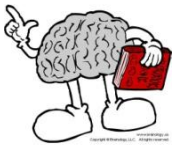
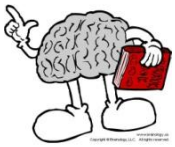
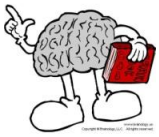
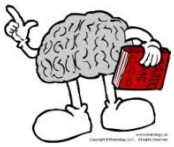
The "Summer Camp" rats lived in an environment where they got to play, exercise, and interact with toys. They ended up with brains up to 10% heavier than the "Cage Potato" rats.

When taking a **big tests**, these are good performance strategies: Do the easiest ones first; do a "memory dump" (write down things you know on scratch paper); pace yourself (don't spend too much time on one question); and always check your work!

The brain uses about 30% of the food/calories/energy that a person needs in a day.

When **reading a text** for school, there are three good tips for studying well: 1. read for mastery, i.e. read expecting the text will make sense, if you work hard enough to understand. Ask questions, make connections, and predict! 2. If you are still confused, do an information search!

The frontal lobe is the part of the brain that humans have (and animals don't). It helps us to plan for the future and understand consequences of choices.

What happens in the brain when we learn something new? 	How does the brain grow? 
What are the parts of a neuron? 	What is a Growth Mindset? 
How does a person's attitude affect his/her success? 	What is a Fixed Mindset? 
What are good performance strategies for taking a test? 	How can you best set yourself up for studying a new concept? 
What is a good study tip for reading from a book, textbook, or article? 	**I have the last card!** 

The brain is about the size of two fists and is a soft, gray mass of folds.

There are three types of brain growth: dendrite growth, stronger, faster axons, and more sensitive or numerous synaptic buttons. Whether you keep this growth or not depends on whether you stretch yourself, practice and learn.

Some foods that are good from your brain are: eggs, fish, nuts, and whole fruit (brains need protein, omega-3, and glucose)

A Growth Mindset refers to choices that help a person embrace challenges, put in lots of effort to learn and grow, and bounce back from set-backs and mistakes.

"Fight or flight" syndrome happens when a person feels threatened (by a stressful situation). A person might sweat, shake, have trouble thinking, want to leave, have stomach pains, etc.) Adrenaline released into the blood stream causes this syndrome.

A Fixed Mindset refers to choices that keep people from growing to their fullest potential. In this case they tend to hide mistakes and avoid challenges. Working hard to learn a new thing is seen as undesirable and so this person does not grow.

Square-breathing: Breathe in slowly for the count of four. Hold your breath gently for the count of four. Breathe out slowly for the count of four. Hold your breath gently for the count of four. Use this to reverse stress symptoms.

If you want to **build your neural network**, there are two good study strategies: 1. make multiple connections to the information. Think of all the ways that the new concept is similar to AND different from other concepts you already know. 2. Use the power of many brains! Work with other learners to combine strategies for practice, for memorizing, and for creative ways to solve or analyze tasks.

Positive Self talk is something a person does to make a challenge more do-able. When you hear yourself saying that you can't do something or the task seems too big, use positive self-talk to give yourself a positive message!

When you have a **new concept to study for**, connect the concept to what you already know! You can do this by: 1. getting back to the basics and make sure you understand the foundational ideas of the concept and 2. break it down into do-able chunks. Create small steps to learn one-at-a-time so that the larger task feels less intimidating.

Teacher's Key: Brainology Popcorn

Each number below represents one card that your students hold. If you photocopy the cards according to the directions, these questions and answers will match up (front-to-back). Use this key as a reference as your students play the game!

1. First Card	I have the first card; Does your brain feel pain?
2. The Brain itself does not feel pain. It senses pain and tells our body. If you could poke your brain you would not feel it.	What made the "summer camp rats" different from the "cage potato rats"?
3. The "Summer Camp" rats lived in an environment where they got to play, exercise, and interact with toys. They ended up with brains up to 10% heavier than the "Cage Potato" rats.	What is "fight or flight syndrome"?
4. "Fight or flight" syndrome happens when a person feels threatened (by a stressful situation). A person might sweat, shake, have trouble thinking, want to leave, have stomach pains, etc.) Adrenaline released into the blood stream causes this syndrome.	What is a Fixed Mindset?
5. A Fixed Mindset refers to choices that keep people from growing to their fullest potential. In this case they tend to hide mistakes and avoid challenges. Working hard to learn a new thing is seen as undesirable and so this person does not grow.	How does a person's attitude affect his/her success?
6. A person's attitude makes a big difference in his/her success. When a person is willing to be persistent, put a lot of effort into a new task, and practice, then s/he will be more successful than someone who gives up easily, barely tries, and hides from challenges. Have a growth-minded attitude!	How much sleep does your brain need?
7. A person needs 9-10 hours of sleep each night to grow a stronger brain. Memory is built while a person sleeps.	What must happen first for something to stay in Long-Term memory?
8. For anything to get into long-term memory, it must first go through the sensory memory and working memory.	How much information can your working memory hold?
9. A human's working memory can hold about 3-7 bits of information at a time. This is why phone numbers are chunked into 3 bits: (555) 222-1414.	Name two foods that will help your brain grow.
10. Some foods that are good from your brain are: eggs, fish, nuts, and whole fruit (brains need protein, omega-3, and glucose)	What is a growth mindset?
11. A Growth Mindset refers to choices that help a person embrace challenges, put in lots of effort to learn and grow, and bounce back from set-backs and mistakes.	What are the parts of a neuron?
12. A **neuron is made** up of a cell body (gray), dendrites, an axon (sends messages), and synaptic buttons (connects neurons to one another)	Name two things the brain does.
13. Some examples of **things the brain does** are: plans for the future, solves problems, moves the body, hears, sees, tastes, feels, and smells, makes memories, etc).	How much energy does your brain use?
14. The brain uses about 30% of the food/calories/energy that a person needs in a day.	Describe "Square Breathing."
15. Square-breathing: Breathe in slowly for the count of four. Hold your breath gently for the count of four. Breathe out slowly for the count of four. Hold your breath gently for the count of four. Use this to reverse stress symptoms.	How can you best set yourself up for studying a new concept?

16. When you have a **new concept to study for**, connect the concept to what you already know! You can do this by: 1. getting back to the basics and make sure you understand the foundational ideas of the concept and 2. Break it down into do-able chunks. Create small steps to learn one-at-a-time so that the larger task feels less intimidating.	What is a good study tip for reading from a book, textbook, or article?
17. When **reading a text** for school, there are three good tips for studying well: 1. read for mastery, i.e. read expecting the text will make sense, if you work hard enough to understand. Ask questions, make connections, and predict! 2. If you are still confused, do an information search!	Describe how to use two senses to study.
18. If a person were using **several senses** to study a new language, s/he could read the new words, say them out loud, and draw pictures to represent what they mean. S/he could also color-code groups of words into categories (food words, actions words, etc.)	About how much does the brain weigh?
19. The brain weighs about 3 pounds (the same as a large dictionary!)	What is the sensory memory?
20. Sensory memory is the type of memory that every experience goes through. It processes the 5 senses (sight, hearing, touch, taste and smell)	Name the three types of memory
21. The three types of memory are: sensory memory, working memory, and long-term memory.	What is the color and size of the brain?
22. The brain is about the size of 2 fists and is a soft, gray mass of folds.	How does the brain grow?
23. There are three types of brain growth: dendrite growth, stronger, faster axons, and more sensitive or numerous synaptic buttons. Whether you keep this growth or not depends on whether you stretch yourself, practice and learn.	What happens in the brain when we learn something new?
24. When **we learn something new,** we are creating changes in the neural networks of the brain. It's more than information storage! Your brain becomes faster and more creative. The ability of your brain to change through learning is called plasticity.	What are two good ways to build your neural network when you are learning something new?
25. If you want to **build your neural network**, there are two good study strategies: 1. make multiple connections to the information. Think of all the ways that the new concept is similar to AND different from other concepts you already know. 2. Use the power of many brains! Work with other learners to combine strategies for practice, for memorizing, and for creative ways to solve or analyze tasks.	What are good performance strategies for taking a test?
26. When taking a **big tests**, these are good performance strategies: Do the easiest ones first; do a "memory dump" (write down things you know on scratch paper); pace yourself (don't spend too much time on one question); and always check your work!	Why do we say the brain is like a muscle?
27. We say the brain is like a muscle because it gets stronger when we exercise it. It gets denser (more mass) just like lifting weights make muscles denser.	What is the brain made up of?
28. The **brain is made** up of a network of neurons that are all connected. The more learning that the brain has, the denser it is (more connections)	What does the frontal lobe do?
29. The frontal lobe is the part of the brain that humans have (and animals don't). It helps us to plan for the future and understand consequences of choices.	What is positive self-talk?
30. Positive Self talk is something a person does to make a challenge more do-able. When you hear yourself saying that you can't do something or the task seems too big, use positive self-talk to give yourself a positive message!	I have the last card!