





# Activate the Brain

UCFSD Wellness Conference  
February 5, 2019



# Agenda and Objectives

Activate the Brain

*Why we are here?*

To find ways to improve our teaching and help kids.

Know the Brain

*How will we do this?*

Grow the Brain

Based on work with the Franklin Institute, we will build a better understanding of mindset and the brain.



Building Time

# Build a Tower

Using the index cards and tape provided, build the tallest tower possible.



# Real News or Fake News

# Real News or Fake News

People use 10% of their brain.

# Real News or Fake News

Our brains can physiologically change based on our learning experiences.

# Real News or Fake News

People have specific learning styles (i.e. visual, kinesthetic, etc.)

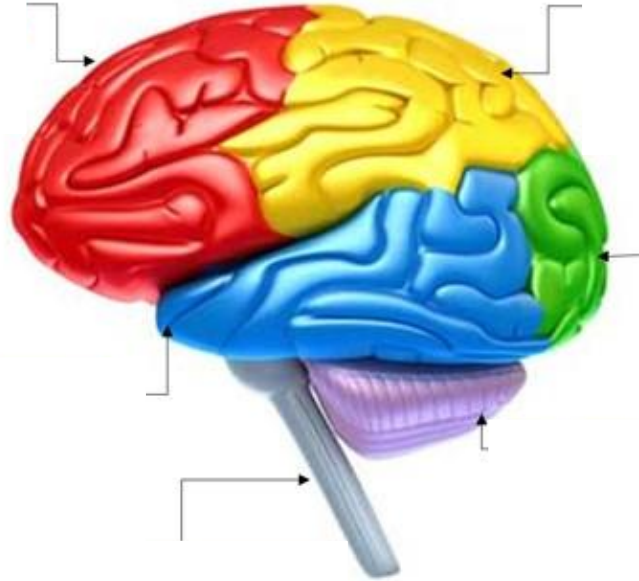


# Real News or Fake News

People can effectively multitask.



# The Brain

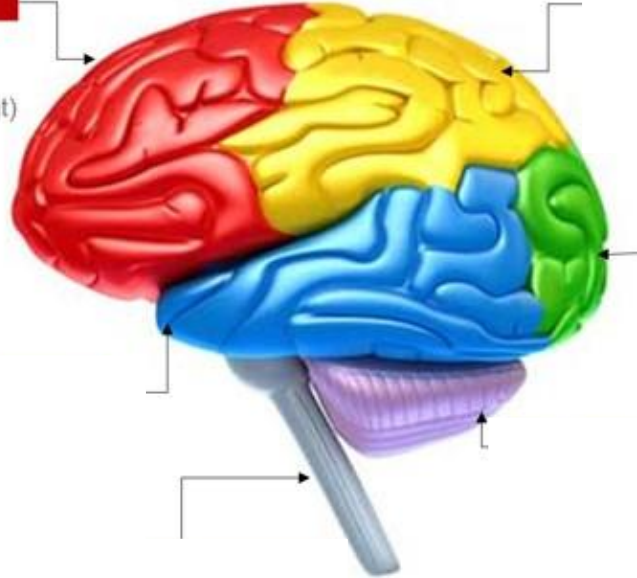


Parts of the Brain

<http://www.fanpop.com/clubs/science/images/40502716/title/parts-brain-functions-photo>

### Frontal Lobe

- Problem solving
- Emotional traits
- Reasoning (judgment)
- Speaking
- Voluntary motor activity

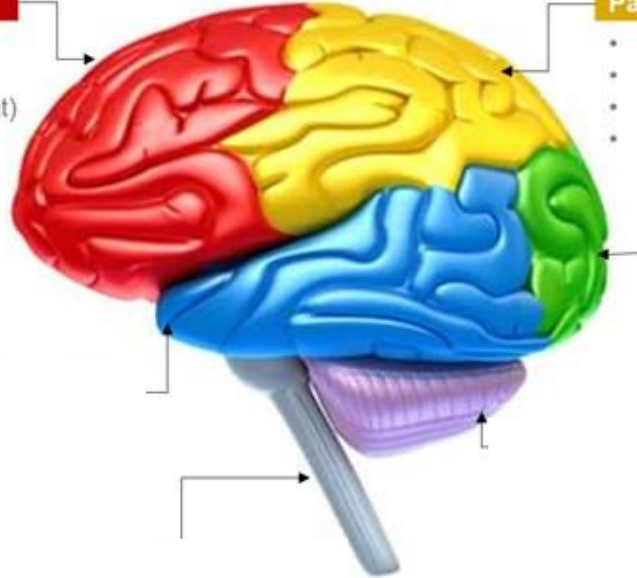


### Frontal Lobe

- Problem solving
- Emotional traits
- Reasoning (judgment)
- Speaking
- Voluntary motor activity

### Parietal Lobe

- Knowing right from left
- Sensation
- Reading
- Body orientation



### Frontal Lobe

- Problem solving
- Emotional traits
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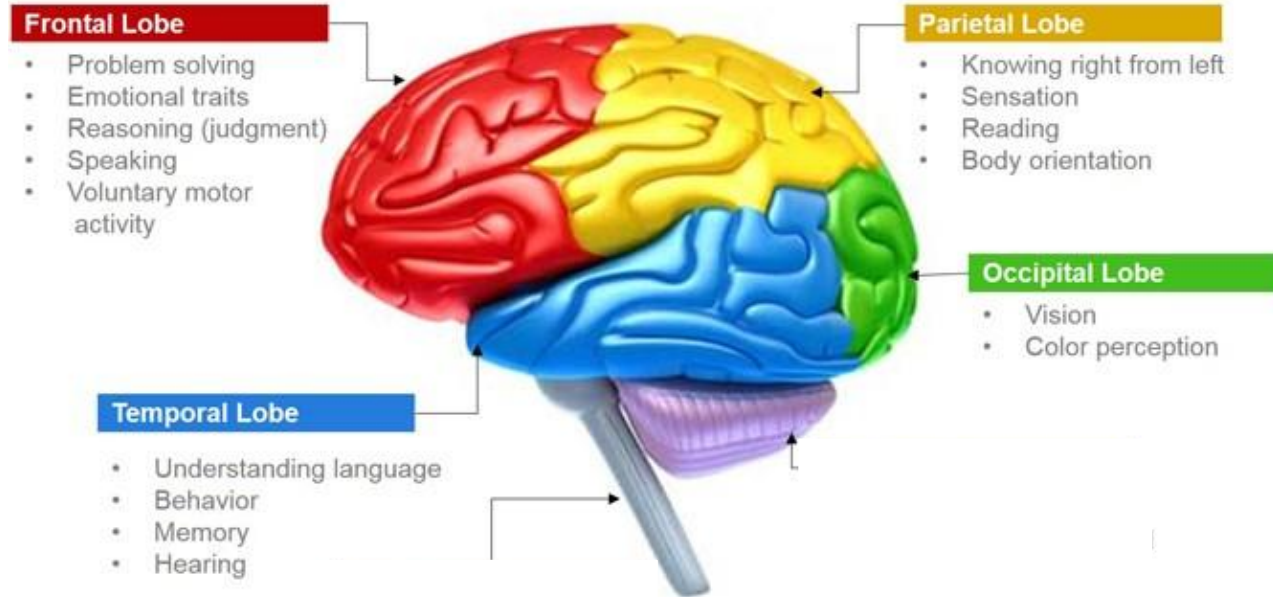
### Parietal Lobe

- Knowing right from left
- Sensation
- Reading
- Body orientation

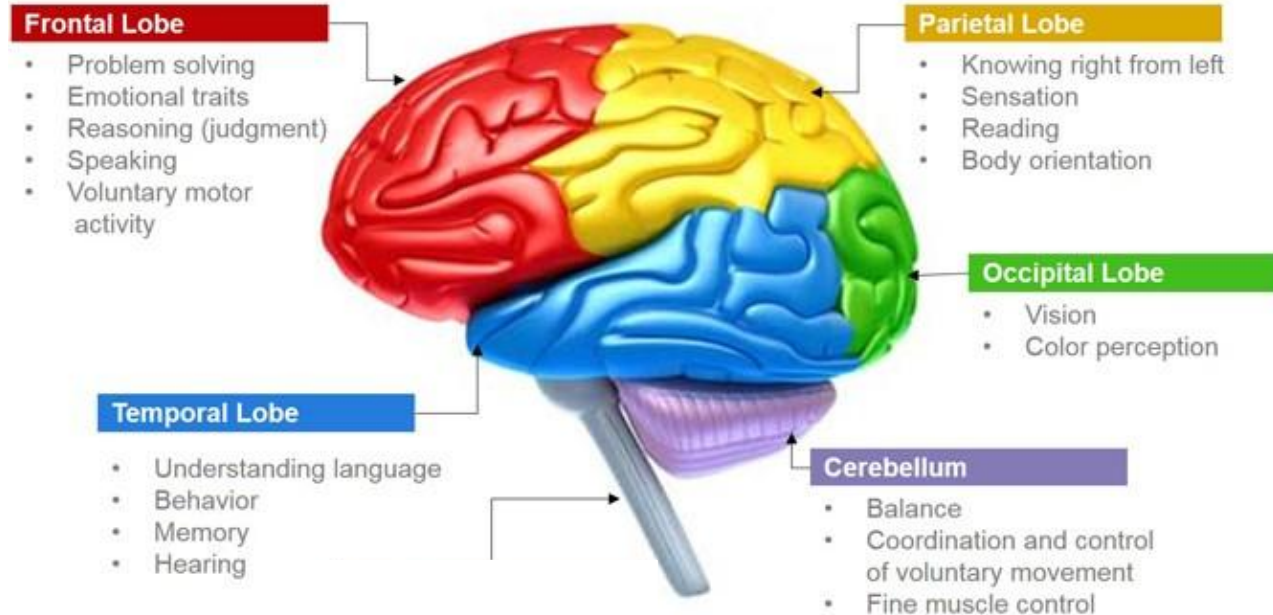
### Occipital Lobe

- Vision
- Color perception



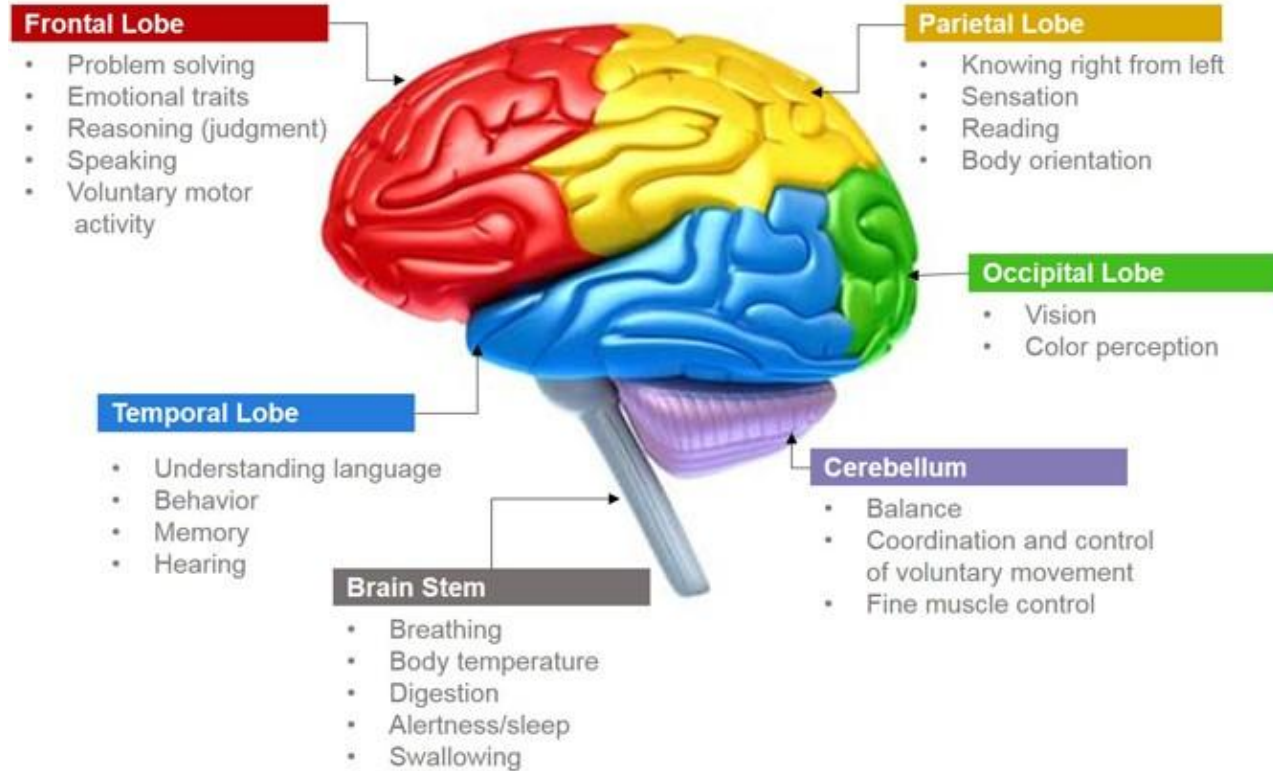


Parts of the Brain



Parts of the Brain

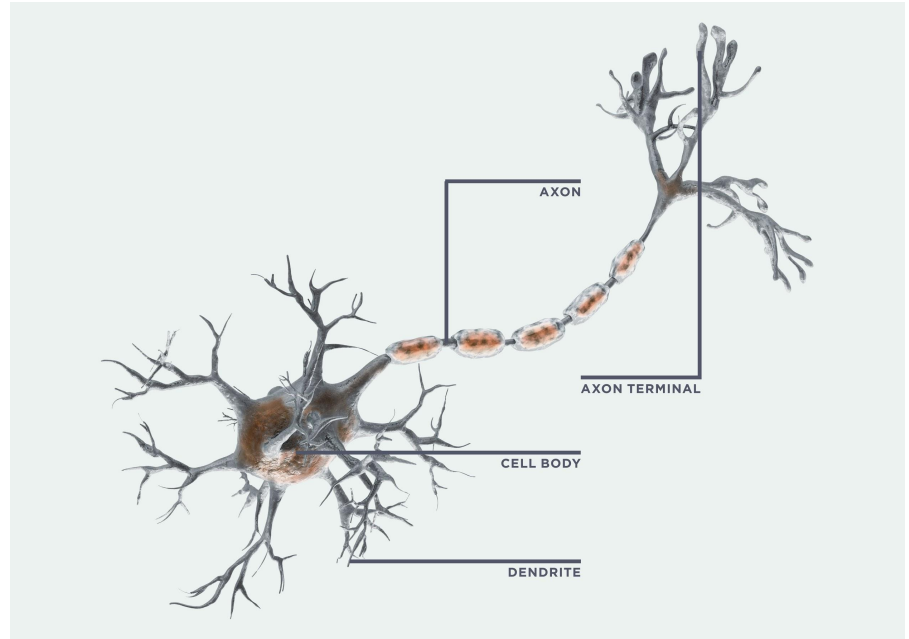




Parts of the Brain

# Neurons and Synapses

The Franklin Institute  
Your Brain: Build Your Network



<https://www.fi.edu/your-brain/interactives/build-your-network>

# Synaptic Plasticity

*“Every time you learn something, you form connections between neurons. Over time, important neural connections strengthen, while less-used pathways fade away. We create new neurons and new pathways between neurons throughout our lives.”*

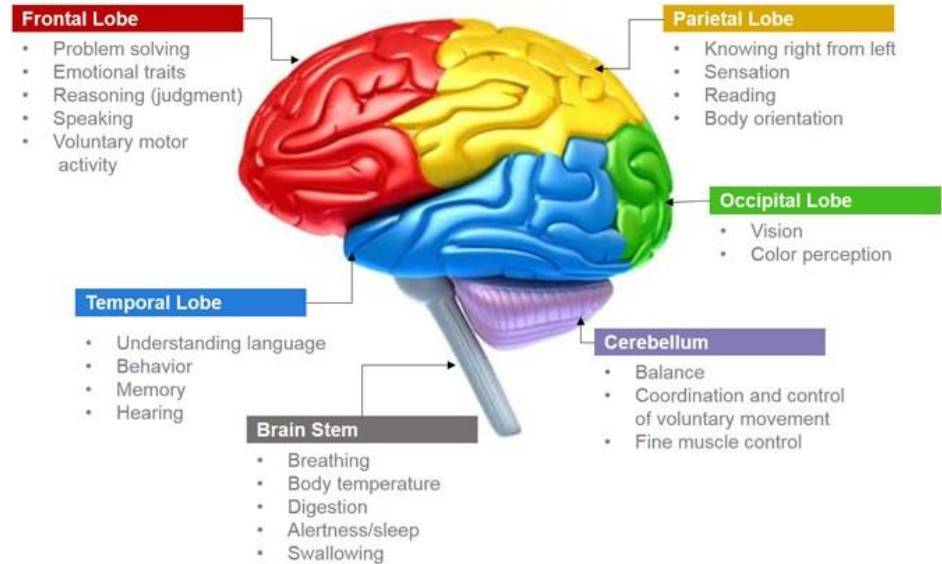
*-The Franklin Institute, Your Brain*

# Back to the Activity

What parts of the brain were activated?

What messages were being delivered?

In which scenario did the brain have more opportunities to grow?



Students, write your response!



Grow the Brain

# What do we celebrate?

Grades or Learning

Growth or Achievement

Process or Product

Errors

What do we celebrate?

Grades or Learning

What do we celebrate?

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What do we celebrate?

Grades or Learning

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Process or Product

# What do we celebrate?

Grades or Learning

Growth or Achievement

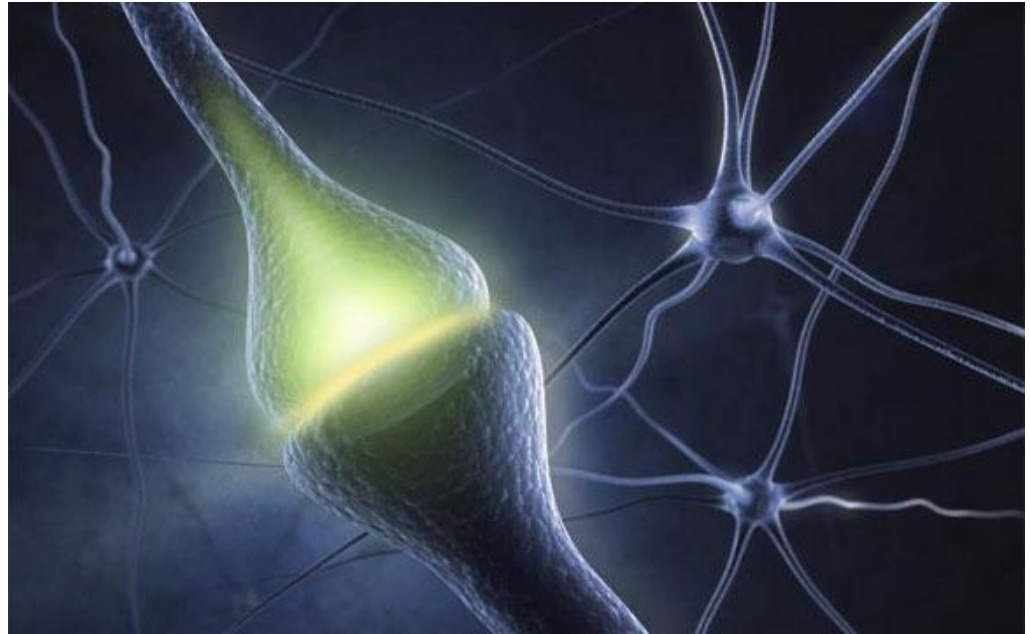
Process or Product

Errors

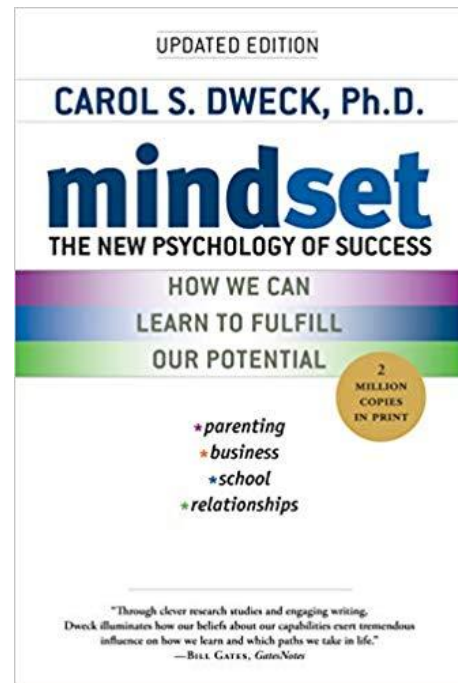
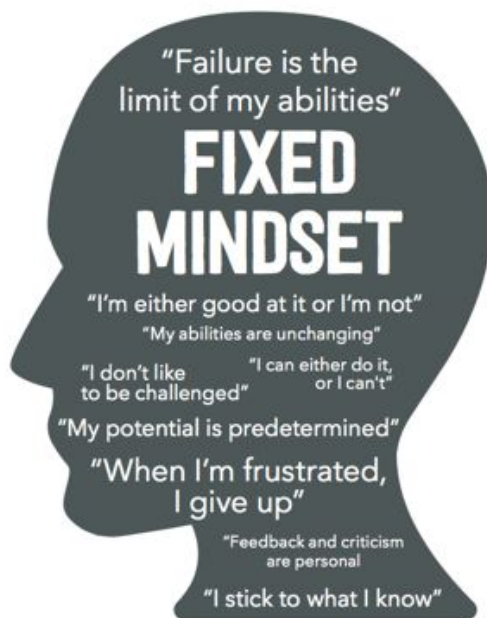
# Growth Mindset

## Synaptic Plasticity

Neural pathways  
change based on  
experiences.



<https://scitechdaily.com/neuroscientists-observe-signs-of-synaptic-plasticity-emerging-in-a-living-brain/>

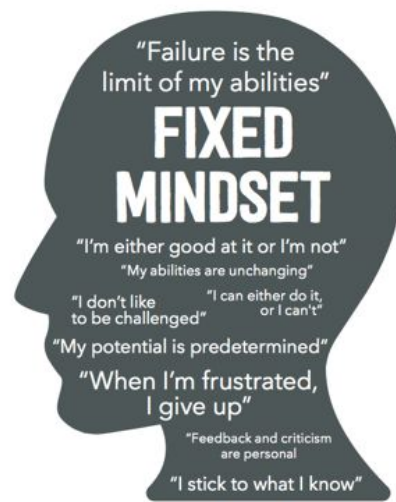


# Back to the Activity

In which group was a growth mindset supported?

In which group was a fixed mindset supported?

How did that impact the overall learning experience?



Students, write your response!



# Takeaways

# Takeaways

Activate the brain

Hands On → Minds On

Mindset Matters

Grade Level: \_\_\_\_\_ Unit/Lesson: \_\_\_\_\_

Essential Question: \_\_\_\_\_



## Research-Based Strategies Guide

*A template for aligning teaching and curricula with research on learning and memory.*

### Piquing Curiosity

How will students' curiosity be piqued?

*A curious brain learns better.*

### Prior Experiences

How will students' share their related knowledge and experience?

*Connecting to long-term memories helps retain new memories.*



### Hands-on & Minds-on

How will students be physically & mentally engaged in learning?

*Visual & tactile learning lasts longer than auditory, and breaks allow students to focus better.  
Higher-order thinking challenges the frontal lobe and creates deeper learning and engagement.*

Multisensory & Breaks

Higher-Order Thinking



### Growth Mindset & Perseverance

How are students given opportunities to wrestle with complex ideas, persevere, and demonstrate a growth mindset?

*Perseverance and growth mindset lead to higher achievement & resilience.*

### Plans to Revisit

How will these ideas be revisited in the future and in different contexts?

*Revisiting ideas over time and contexts reinforces memories so they're not forgotten.*



Course Name: \_\_\_\_\_ Grade Levels: \_\_\_\_\_ Teacher Name: \_\_\_\_\_  
 Lesson Title: \_\_\_\_\_ Length of Time: \_\_\_\_\_

### Motor Cortex

#### *Moving their bodies*

Minutes region is engaged: \_\_\_\_\_

Tasks that engage this region:

- 1)
- 2)
- 3)

### Frontal Lobes

#### *Decision-making, problem-solving, critical thinking, figuring things out on their own or with peers*

Minutes region is engaged: \_\_\_\_\_

Tasks that engage this region:

- 1)
- 2)
- 3)

### Temporal Lobes

#### *Listening*

Minutes region is engaged: \_\_\_\_\_

Tasks that engage this region:

- 1)
- 2)
- 3)

### Amygdala

#### *Feeling emotions about what they are learning*

Minutes region is engaged: \_\_\_\_\_

Tasks that engage this region:

- 1)
- 2)
- 3)

### Parietal Lobes

#### *Touching something*

Minutes region is engaged: \_\_\_\_\_

Tasks that engage this region:

- 1)
- 2)
- 3)

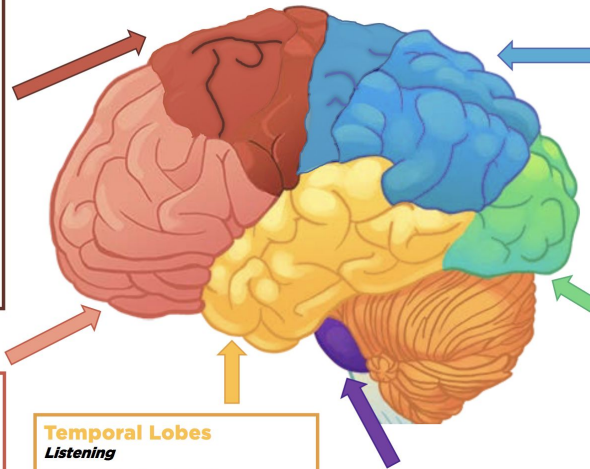
### Occipital Lobes

#### *Seeing*

Minutes region is engaged: \_\_\_\_\_

Tasks that engage this region:

- 1)
- 2)
- 3)



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# Application Time

How can the ideas discussed today impact your role and students?



Students, write your response!