

LINKING THE BRAIN, MIND, TEACHING, AND LEARNING

EDTC 631 - MIDTERM
SPRING 2016

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Second Grade Teacher



Target Audience

Second Grade Class - 21 students
Collins Elementary School
Livingston, NJ

Science:

Interdependent Relationships in Ecosystems Unit - Plants



<http://science.lotsoflessons.com/plants.html>

What's the *BIG IDEA*?

Students will understand that:

1. All living things change, grow and have basic needs.
2. Each part of a plant has a specific function.
3. Plants depend on animals.

Essential Questions

- How and what do plants need to grow?
- How do plants and animals depend on each other?



Goals & Objectives

Students will be able to:

1. Determine what plants need to grow.
2. Label and describe the functions of roots, stems, leaves and flower of a plant.
3. Sequence the stages of plant life.
4. Develop simple models that mimic the functions of how an animal disperses seeds or pollinates plants.
5. Work together to design a handheld system to pollinate flowers.

Assessment Tools

- KWL post its
- BrainPOPjr quizzes
- Labeled plant diagrams
- Group handheld pollinating tool
- Scientist Journal

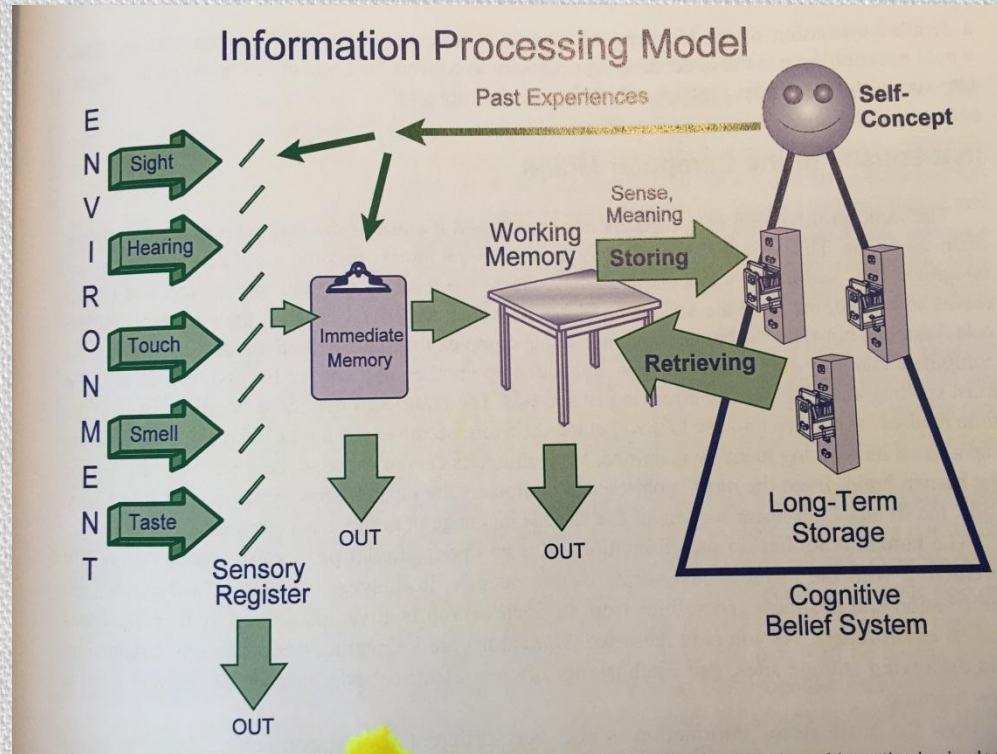


Technology

- Scientist Journals
- Pencils, crayons, scissors, glue sticks
- BrainPOPjr.com (videos, games)
- SMART Notebook lessons
- Short Video Clips

Sense & Meaning

“Past Experiences always influence new learning.” David A. Sousa

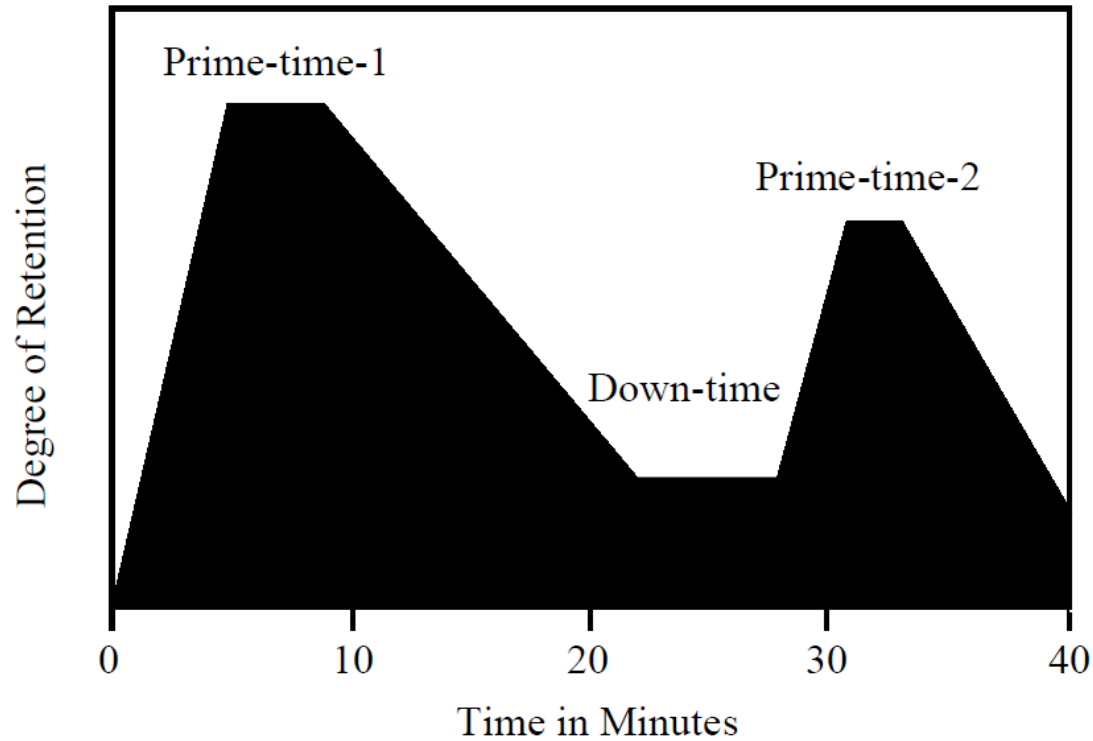


How the Brain Learns, Fourth Edition, David A. Sousa page 43, 2011

“Information is most likely to get stored if it has sense and meaning.” David A. Sousa

Primacy/Recency

Retention in a 40-Minute Learning Episode



<http://dataworks-ed.com/the-primacyrecency-effect/>

Multiple Intelligences



Every child is a star



<https://howardgardnerindiatour.wordpress.com/2012/01/19/an-introduction-to-multiple-intelligences/>

Learning Styles

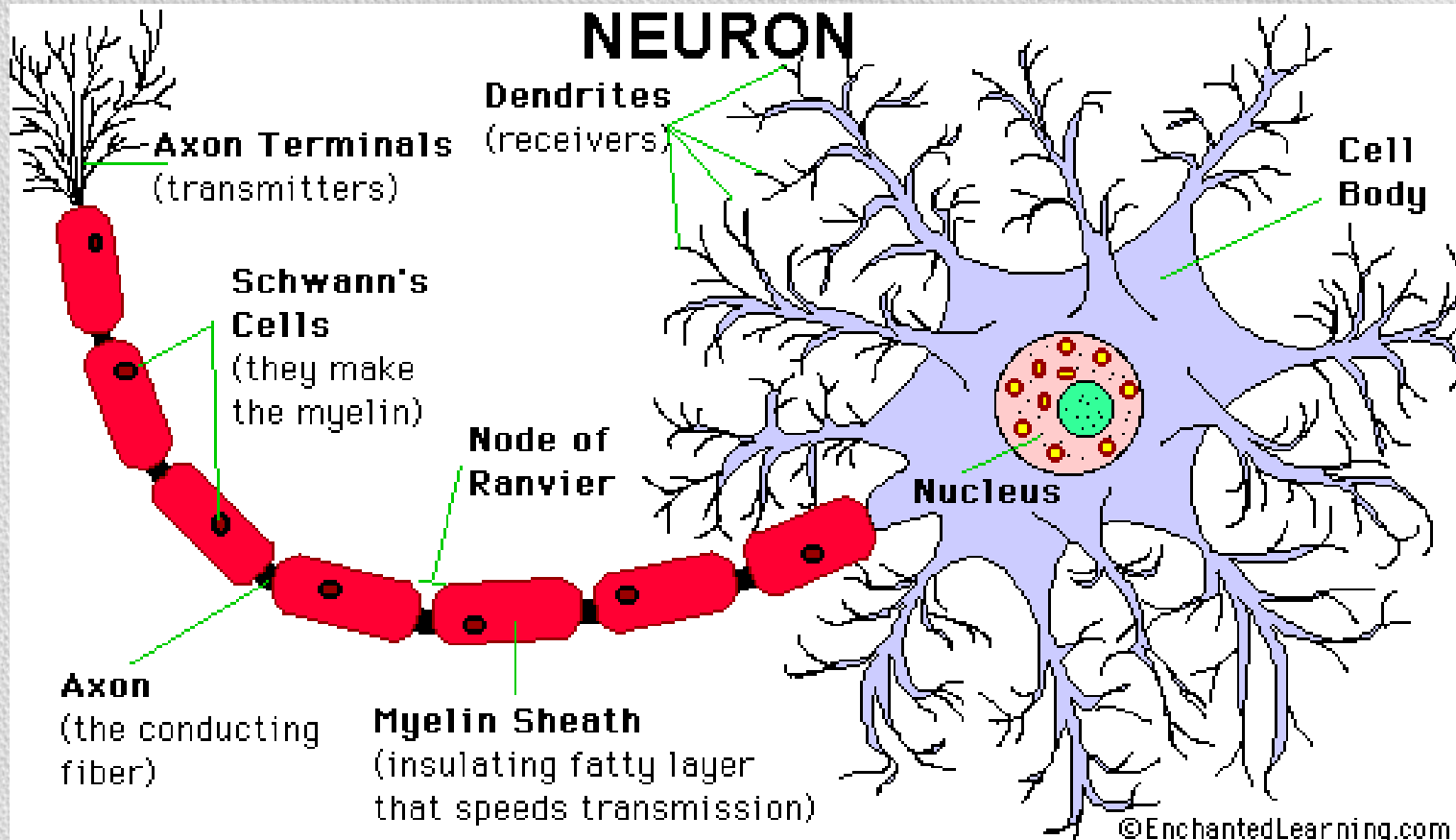
Learner Type	Learning Channel	Learning Preferences	Dislikes
Concrete Sequential	Physical senses	Computers, demonstration, guided practice	Long lectures
Concrete Random	Intuition and trial-and-error	Simulations, games, independent study	Structured lessons
Abstract Sequential	Intellect	Lectures, reading, slide shows	Hands-on projects
Abstract Random	Emotions	Short lectures, media, the arts	Structured assignments, drills

How can group work address all learning styles?

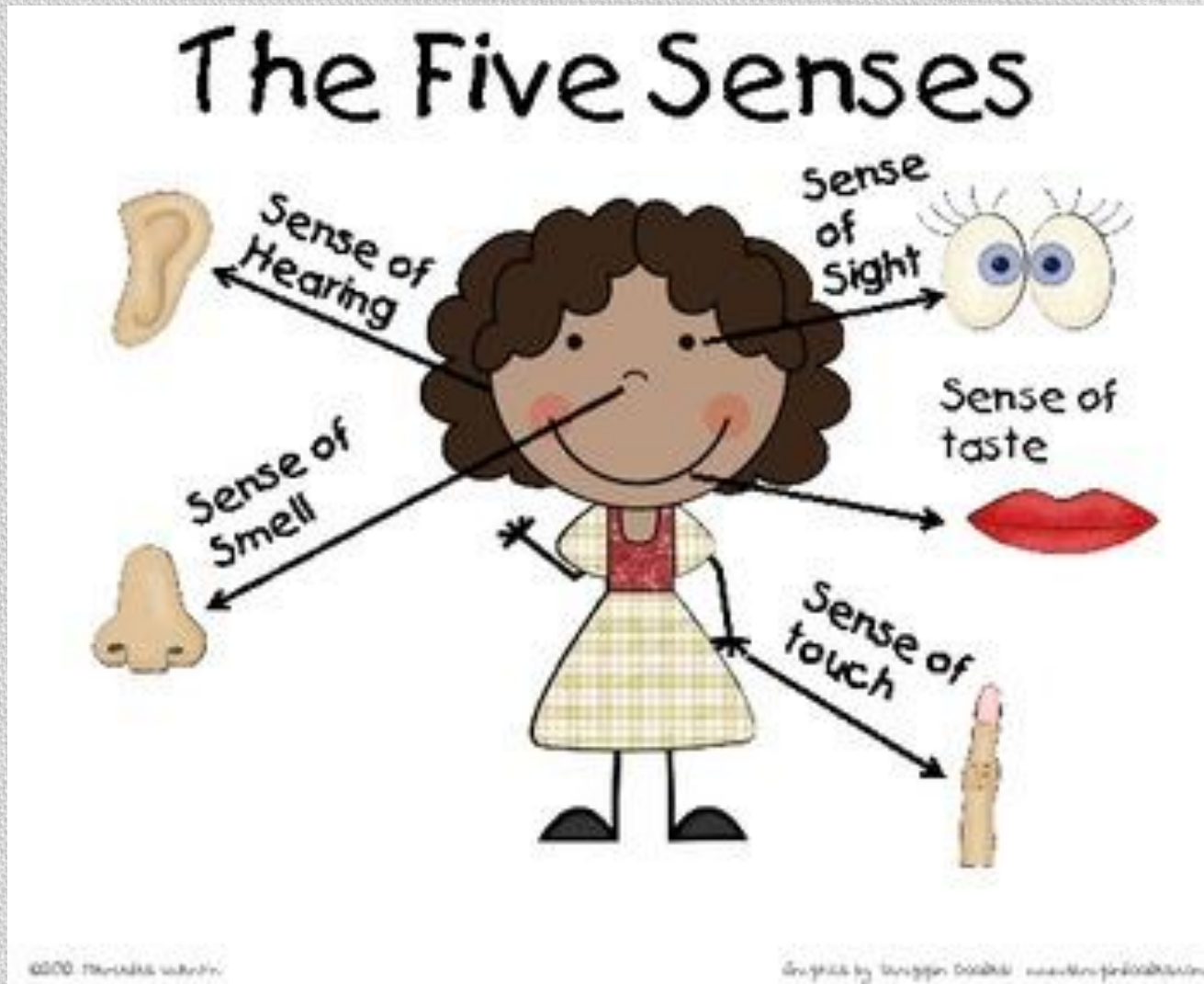


<http://www.stepinto2ndgrade.com/2012/03/group-work-jobs-and-sale.html>

Neurons



Sensory Input



Cerebral Lobes

Frontal Lobes:

higher order thinking, directing problem solving, emotional

Temporal Lobes:

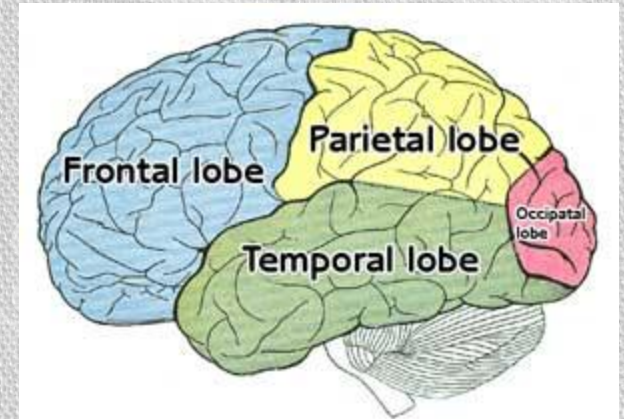
sound, music, face & object recognition, speech

Occipital Lobes:

visual processing

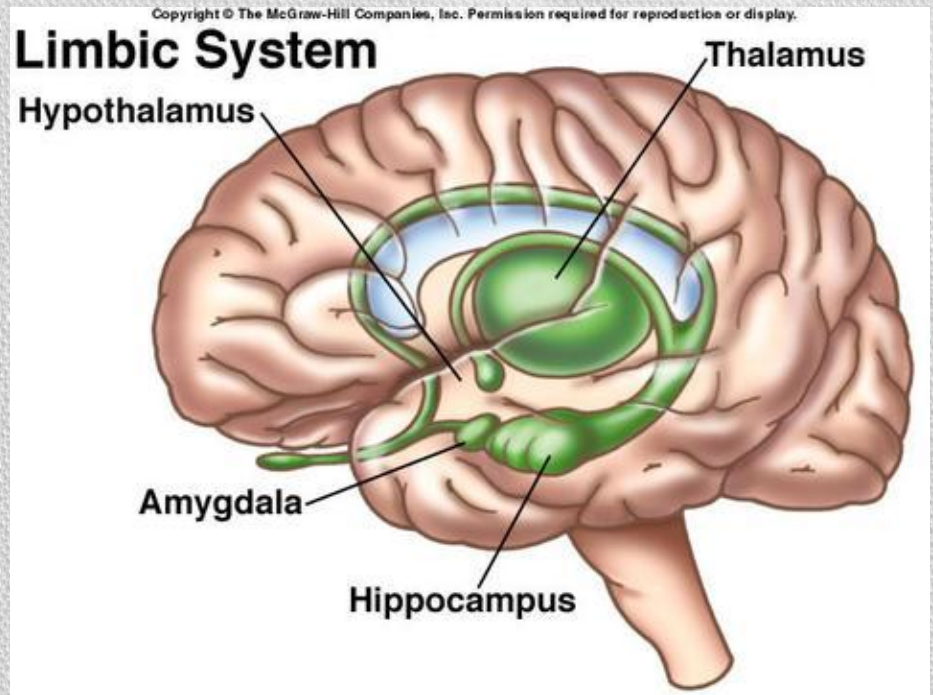
Parietal Lobes:

spatial orientation, calculation, some recognition



<https://scienceofstudy.wikispaces.com/The+Brain>

The Limbic System



Thalamus: directing 👁️ 🗑️ 👂 🖐️

Hypothalamus: needs sleep, food and water.

Hippocampus: Essential in creating meaning and long-term memory

Amygdala: humor and fun needed

Citations

Professional Resources

1. Sousa, D. A. (2011). *How the Brain Learns* (Fourth ed.). Thousand Oaks, CA: Corwin.
2. Lane, C. (n.d.). Gardner's Multiple Intelligences. Retrieved February 27, 2016, from <http://www.tecweb.org/styles/gardner.html>
3. Mind Styles - Anthony Gregorc. (n.d.). Retrieved February 27, 2016, from <http://web.cortland.edu/andersmd/learning/Gregorc.htm>
4. FREUDENRICH, C., & BOYD, R. (n.d.). How Your Brain Works - Basic Neuron Types. Retrieved February 27, 2016, from <http://science.howstuffworks.com/life/inside-the-mind/human-brain/brain2.htm>

Read Alouds

5. Gibbons, G. (1991). *From Seed to Plant*. New York, NY: Holiday House.
6. Carle, E. (1987). *The Tiny Seed*. New York, NY: Simon and Schuster Children Publishing Division.

Videos

7. Parts of a Plant. (1999-2016). Retrieved February 27, 2016, from <https://jr.brainpop.com/science/plants/partsofaplant/preview.weml>
8. Plant Life Cycle. (1999 - 2016). Retrieved February 27, 2016, from <https://jr.brainpop.com/science/plants/plantlifecycle/preview.weml>
9. Owerko, D. (2011, March 9). Plant Life Cycle. Retrieved February 25, 2016, from <https://www.youtube.com/watch?v=2fmrgsp9oEA>
10. Nakaya, R. (2011 - 2016). Time lapse radish seeds sprouting. Retrieved February 25, 2016, from http://thekidshouldseethis.com/post/18800462609?utm_source=feedburner
11. Sims, H. (2014, March 2). The Plant Song. Retrieved February 25, 2016, from <https://www.youtube.com/watch?v=N-l-gsWOKzk>

Activities

12. A, J. (2012, April 28). Kinder Corner. Retrieved February 27, 2016, from <http://kinder-corner.blogspot.com/search?updated-max=2012-05-15T17:58:00-07:00>
13. Lennert, N., & Whiteside, K. (2013, April 24). The Classroom Creative. Retrieved February 25, 2016, from <http://www.theclassroomcreative.com/2013/04/plant-life-cycle-unit-ideas-activities/>
14. Stohr-Hunt, P. (2011, December 4). Bookish Ways in Math and Science. Retrieved February 25, 2016, from <http://bookishways.blogspot.com/2011/12/unit-resource-portfolio-plants-sol-14.html>
15. Fun Science Experiment! - Learning how plants absorb water! - Paging Fun Mums. (2013). Retrieved February 27, 2016, from <http://pagingfunmums.com/2013/07/09/fun-science-experiment-learning-how-plants-absorb-water/>