

ADVANCED LEARNING LABS

Collaboration between NC Department of Public Instruction and AIG Teachers across the state

TO ENGAGE, ACTIVATE, AND GROW OUR STUDENTS

GRADES

2-3

Structure



ENGLISH LANGUAGE ARTS

Stories, dramas and poems all have different structural elements that the writers choose purposefully, as each successive part builds on earlier sections to provide meaning.

Choose a story, drama/play or poem that you enjoy (an old favorite would be best). Break it down into the important elements or moments found in the various chapters, scenes or stanzas. Write each important moment on a block, paper cup, index card, or playing card. Build the structure of the story, drama or poem by structuring and stacking the chapters, scenes or stanzas in their original order.

Now create a different structure entirely - structuring and stacking the chapters, scenes or stanzas in new ways. How does this impact the progression of the story? The meaning? Which structure do you prefer? Why?



SOCIAL STUDIES

Locations of regions and natural resources help to structure the economic development of areas. Water, land formations, soil, climate and location are important "calling cards" that attract different businesses to areas. Research environmental impact using these links:

- <https://bit.ly/3hjvw8A>
- <https://wonderopolis.org/wonder/how-does-earths-surface-affect-culture>

Become a business scout and research businesses influenced by water, land formations, soil, climate and location in NC. Create "business calling cards" to recommend areas based on what you discover. For example – "Have a business interested in camping, kayaking and other water sports? Come to the Dan River in Danbury, NC, the foothills of the Blue Ridge Mountains. Get the business of adventures on land or water!" Share the calling cards with friends and family.



SCIENCE

How do the parts of the ear work together to process sound? How are the structures and functions of the outer, middle, and inner ear different? Read more about the structure of the ear: <https://bit.ly/2P5pCeK>

When certain parts of the structure are damaged, hearing loss can occur. Cochlear implants can be an option for people with severe hearing loss. What structures of the ear work with a cochlear implant to help people hear? For more information on cochlear implants: <https://www.mayoclinic.org/tests-procedures/cochlear-implants/about/pac-20385021>

Share the information you have learned with a family member, and try this hearing test to learn more about yourself: <https://www.hear-it.org/Online-Hearing-Test>



MINDFULNESS

Did you know that mindfulness is so powerful that it can change the structure of your brain?

Read the following article: <https://blissfulkids.com/mindfulness-and-the-brain/>.

What are ways that mindfulness impacts the structure of the brain? What impact can this have on people's actions/choices?

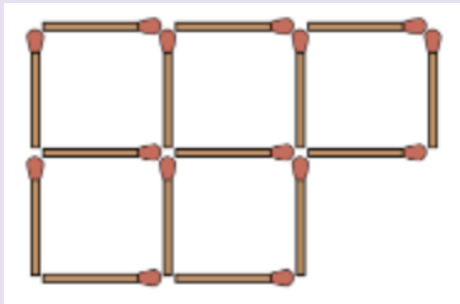
The author of the article creates "alter-egos" for various parts of the brain to help explain their purpose. Create a comic strip with these characters in action during a time of stress - both from the perspective of someone who does not practice mindfulness and the perspective of someone who practices mindfulness regularly.

Use the two comic strips to teach a friend or family member about how mindfulness impacts the structure of the brain and our responses.



LOGIC PUZZLE

Remove matches to solve a, b, and c:



- Remove 3 sticks to leave 3 squares.
- Remove 3 sticks to leave 5 squares.
- Remove 5 sticks to leave 2 squares.



FIELD STUDIES

Architecture is the art or practice of planning, designing and constructing buildings or other structures. Frank Lloyd Wright is a famous American architect.

Take a virtual tour of at least three of Wright's famous buildings/structures: <https://savewright.org/news/public-wright-sites-swap-virtual-visits/>

As you tour the buildings, take notes on structural elements that you notice, such as columns, beams, tension, connections, etc. as well as location, materials, style, colors. Create a list of similar elements you notice in the structures.

Now, channel your inner Frank Lloyd Wright and design a structure inspired by his architectural style.



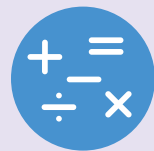
RESEARCH EXPLORATIONS

Educators know that children first learn through play. One popular toy for learning through play is LEGO. The name LEGO comes from abbreviating two Danish words, "leg godt," which mean "play well." Most people build small structures with LEGO and learn how the fit and design affects the stability of the structure they have created. Through trial and error, you build and rebuild until you have a creation that stands on its own. There are some, however, that go beyond everyday play.

Use the links to research some of the biggest structures made with LEGO -one man even made a whole house! Then try the 30 days of LEGO challenge builds.

Research LEGO Structures: <https://bestlifeonline.com/lego-structures/>

LEGO Challenges: <https://thatbricklife.com/wp-content/uploads/2020/03/LEGO30daysofplay.pdf>



MATH

Math problems with words are called "Story Problems." But what would you call a math problem that is told through silent video?

Graham Fletcher uses a unique structure to pose his math story problems. He calls them "3 Act Tasks." Take a look at Dill 'er Up: <https://gfletchy.com/dill-er-up/>

It takes $7\frac{1}{2}$ seconds to fill the small jar, but the question asks how long it will take to fill up all four. How could you break apart the size, or add up sizes multiple times to find the answer? Did you get the same answer shown in the video? Why or why not?

Is it possible to have more than one right answer? Why or why not?



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PUBLIC INSTRUCTION



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K-12

Structure Reference Guide

K-1 Logic Puzzle:

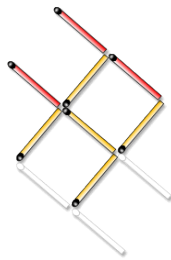
Solution: Kayla 56, Matt 43, Maria 12, Theo 90

2-3 Logic Puzzle:

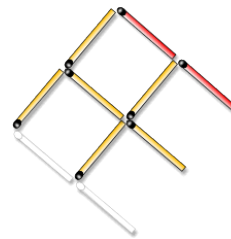
Watch the video for a solution: <https://mindyourdecisions.com/blog/2018/08/27/can-you-solve-these-matchstick-puzzles/>

4-5 Logic Puzzle:

Turn the fish with 3 matches:

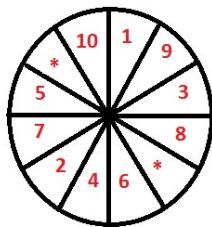


Turn the fish with 2 matches:



6-7 Logic Puzzle:

Solution:



WHEEL OF MATH

8-9 Science:

Infographic Resource link: <https://piktochart.com/blog/how-to-create-an-infographic-and-other-visual-projects-in-5-minutes/>

8-9 Logic Puzzle:

Solution: 4

10-12 Logic Puzzle:

Solution: 24

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Structure NC Standards Alignment

Grade Span	English/ Language Arts	Social Studies	Science	Math
K-1	RL.1.3	K.C&G.1.2 1.C&G.1.2 K.C&G.1.1 1.C&G.1.4	1.E.2.2	NC.1.NBT.3 NC.1.NBT.4
2-3	RL.3.5	3.E.1.2 3.E.1.2	3.L.2.2	NC.3.OA.8
4-5	L.5.5	5.G.1.1 5.G.1.1 5.G.1.4	5.P.3.2	NC.4.OA.1
6-7	RL.7.5	6.C&G.3 6.C&G.1.1	6.P.2	NC.6.EE.2 NC.6.EE.3 NC.6.EE.4 NC.7.EE.2 NC.7.EE.3
8-9	RL.9-10.5	F.P.C&G.2.1 CL.C&G.4.1	8.E.1.4	NC.M1.A-CED.2
10-12	RI.11-12.5	F.P.C&G.1	P.Sc.3.1	NC.M3.G-MG.1