

ADVANCED LEARNING LABS

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

TO ENGAGE, ACTIVATE, AND GROW OUR STUDENTS

GRADES

4-5

Structure



ENGLISH LANGUAGE ARTS

The structure of stories, dramas and poems are chosen purposefully by the writer, as each successive part builds on earlier sections and provides meaning.

Choose an important moment from a chapter of a book you've already read or are currently reading. A moment of action or dialogue would work best. Transform the moment into a poem or scene in a drama. Include the following in your dramatic scene: setting description, cast of characters involved, script of dialogue and stage directions. Your poem should include the following: title, verses, stanzas, rhythm and meter.

After completing your dramatic scene or poem, compare it to the actual moment from the book. How effective was the structure you chose in terms of capturing the moment?



SOCIAL STUDIES

Research the areas that were first settled in the "New World" and the dwelling structures that were built by indigenous people as well as the structures built by the European settlers.

- How were the structures influenced by the physical environment?
- How did the physical environment impact the location, design and materials used in the creation of the structures?

Compare and contrast the structures built by indigenous peoples and the colonists:

- <http://nationalhumanitiescenter.org/pds/amerbegin/settlement/settlement.htm>
- <https://bit.ly/3hg6o2a>
- <http://www.native-languages.org/houses.htm>

Look at the physical environment in which you live and design a dwelling structure utilizing the natural resources available in your area.



SCIENCE

Through the years, the structure and engineering of the refrigerator has changed. Take some time to research "history of the refrigerator" and talk with family members to see what kinds they remember having in their homes: <http://www.historyofrefrigeration.com/>

What improvements do they think refrigerators have now?

Try creating your own mini refrigerator. What materials will you need to keep cold in and heat out? How will the structure of your refrigerator mimic those of the past and present? How long does your refrigerator keep its temperature?

DIY Mini Fridge: https://youtu.be/l4bo_aCbmY

DIY Mini Fridge with electricity: <https://youtu.be/8DYSj3cHyIU>



MINDFULNESS

One way to make sure our brain has time to rest and recharge is to include mindful moments into the structure of our day.

Create an organizational plan to structure mindfulness into your daily routine or schedule. Think of the best times of day in which it might make the most sense, as discussed in this article: <https://www.therapistaid.com/worksheets/family-mindfulness-schedule.pdf>.

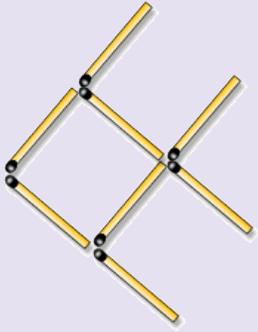
After creating your mindfulness organizational plan, share it with a family member or friend to see if they would like to join you in your daily practice. Reflect with each other on how it is going and if there are adjustments or additions that might positively impact the structure.



LOGIC PUZZLE

Swimming Fish

Turn the fish around by moving only 3 matches, no overlapping.



Then try and turn the fish by moving only 2 matches, no overlapping.



FIELD STUDIES

Architecture is the art or practice of planning, designing and constructing buildings or other structures. There are many famous architects throughout the world.

Take a virtual tour of at least three architecturally famous buildings or structures: <https://brightnomad.net/virtual-travel-architecture/>

As you tour the buildings, take notes on structural elements that you notice (columns, beams, tension, connections, etc.) as well as location, materials, style, colors. Compare and contrast the different styles you observe. Then choose your favorite structure and research the architectural elements that make it interesting or memorable.

Design a structure inspired by the style of the architect of your favorite structure.



RESEARCH EXPLORATIONS

Primates' body structures have evolved to adapt to their environment and needs over time. One structural adaptation is the opposable thumb. Humans are not the only ones. Chimpanzees, gorillas, some frogs, many birds, as well as a lot of dinosaurs (to name a few), have an opposable thumb. For more information on this topic, visit: <https://bit.ly/3igyWsR>

What if humans didn't have opposable thumbs? How would our daily lives be different? Consider how animals without thumbs eat, drink, and perform other necessary functions?

Try taping each of your thumbs down to the palm of your hand, then go about your normal daily activities. How well did you function? What would you need to adapt in your environment so that you could function as efficiently as you do with thumbs?



MATH

Graham Fletcher uses a unique structure to pose his math story problems, called "3 ActTasks."

- Act 1- introduction to the "story" with a short video. Estimation.
- Act 2- specific information to help you solve the problem through pictures
- Act 3- final video or picture to share the answer.

Take a look at the Fish Tank and solve: <https://gfletchy.com/the-fish-tank/>

Plan a 3 ActTask of your own. Make a plan: What is the problem you want your audience to solve? What pieces of information will you give away, and what parts will be up to the solver to figure out? Think about what props you will need to show the story. Share with others to see if they can solve it!



North Carolina Department of
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:

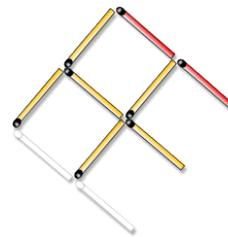
Watch the video for a solution: <https://mindyourdecisions.com/blog/2018/08/27/can-you-solve-these-matchstick-puzzles/>

4-5 Logic Puzzle:

Turn the fish with 3 matches:

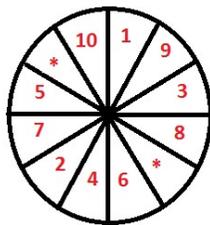


Turn the fish with 2 matches:



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