

# ADVANCED LEARNING LABS

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

TO ENGAGE, ACTIVATE, AND GROW OUR STUDENTS

GRADES

K-1

## Structure



### ENGLISH LANGUAGE ARTS

Did you know that buildings and stories have a lot in common? They both have different structures within to hold them together and give them their unique shape or characteristics. All stories have some of the same elements in their structure: characters, setting, and the plot or major events.

Think of one of your favorite stories and change an element in the structure. Change a character, the setting, or a major event.

Rewrite the story. Use key details to describe the characters, settings, and events.

- What about your new version is interesting?
- Which version do you think your friends would like the most?
- How did the change you made to the structure impact the meaning of the story?



### SOCIAL STUDIES

Rules, routines, and procedures give our schools, communities, state, and nation a structure by defining the rights and responsibilities of the individual members. Think about the roles that authority figures play in maintaining structures.

List some rules, routines, or procedures that you know. Who is responsible for enforcing them?

Find someone to interview about their role in helping to maintain structure. It might be a parent, a teacher, or someone else you know that maintains structure by monitoring processes in place- maybe a doctor, a policeman, or a principal.

- What did you learn from the conversation?
- How do authority figures help provide structure in society?



### SCIENCE

Earth is made of different structural materials such as rocks, minerals, soil, and ice. Soils from different places have different structural composition.

1. Find two separate places to dig up a small cup's worth of soil and put each on a piece of white paper.
2. Make observations in your science notebook. Use words and diagrams.
  - What do you see in the soil?
  - How would you describe its color? texture?
  - Which soil do you think is better for growing plants? Why?

Experiment: Grow a seed in each soil. Use the same amount of light and water. Record the daily growth in your science notebook. Which soil was better for your plant to grow?



### MINDFULNESS

Mindful transitions can provide a peaceful flow to the structure of your day. Our days typically begin by waking up and getting out of bed. What comes next for you, maybe brushing your teeth? What other activities make up your day? Eating breakfast? Chores? Exercise? Playtime?

Choose a day to practice a technique called **STOP**, which stands for: **S**top, **T**ake a Breath, **O**bserve, **P**roceed. Use the STOP technique as you transition from one activity to another.

After practicing using STOP throughout the day, think about the following questions:

- How was the day different from a day when you don't use the STOP technique?
- What benefits are there from stopping to breathe and observe throughout the day?



## LOGIC PUZZLE

Four students each pick a number between 1 and 100. The numbers are fifty-six, ninety, forty-three, and twelve.

Use the clues below to determine which student picked which number:

- Kayla's number comes before 98 and after 20.
- Matt's number has a 4 in the tens spot and a three in the ones spot.
- Maria's number is the only number where the digit in the tens place is smaller than the digit in the ones place.
- The biggest number is Theo's.

Which student picked which number?

*Hint: With this type of problem, it is useful to read all the clues before attempting to solve it.*



## FIELD STUDIES

Engineers are people who use scientific thinking to design, construct, and maintain structures, engines, and machines. Watch this video to learn about different kinds of engineers: <https://www.youtube.com/watch?v=owHF9iLyxic>

- Which kind of engineering interests you the most? Why?
- What would you need to study and learn to become that kind of engineer?

Challenge: As you go about your day, make a list of all the things you see and use that engineers had to help create. Which kind of engineer helped with each thing?



## RESEARCH EXPLORATIONS

Design is very important in building structures.

Watch this video to explore how basic shapes are in designs all around us: <https://thekidshouldseethis.com/post/81593316828>

Design and build the tallest structure you can using only 20 strands of dry spaghetti and masking tape. You have a 10-minute time limit so think about the design of your structure before you start building.

When 10-minutes is up, measure the height of your structure.

Adjust your design to reach a taller height and try again. Challenge your family members to a competition. Who can build the tallest structure in 10 minutes?



## MATH

Place value provides a structure for creating numbers. It helps you understand the meaning of the number. You also need place value to understand number order. Because of place value, we can create many numbers with only 10 digits: 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. Answer the following questions to think about place value as a structure:

- Add the number 16 and 7. What is your answer? How does the structure of place value help you add these numbers?
- Is it easier or harder to add 2-digit numbers when there is a zero in the ones place? Why is this so?
- What is the largest 4-digit number you can create?
- What is the smallest 4-digit number? How did you figure this out?



North Carolina Department of  
**PUBLIC INSTRUCTION**



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K-12

## Structure Reference Guide

### **K-1 Logic Puzzle:**

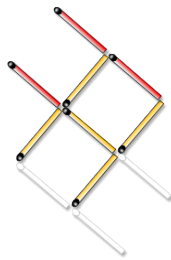
Solution: Kayla 56, Matt 43, Maria 12, Theo 90

### **2-3 Logic Puzzle:**

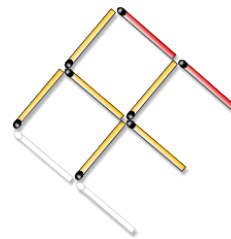
Watch the video for a solution: <https://mindyourdecisions.com/blog/2018/08/27/can-you-solve-these-matchstick-puzzles/>

### **4-5 Logic Puzzle:**

Turn the fish with 3 matches:

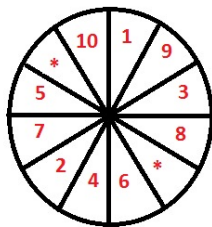


Turn the fish with 2 matches:



### **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
<b>K-1</b>	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
<b>2-3</b>	RL.3.5	3.E.1.2 3.E.1.2	3.L.2.2	NC.3.OA.8
<b>4-5</b>	L.5.5	5.G.1.1 5.G.1.1 5.G.1.4	5.P.3.2	NC.4.OA.1
<b>6-7</b>	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
<b>8-9</b>	RL.9-10.5	F.P.C&G.2.1 CL.C&G.4.1	8.E.1.4	NC.M1.A-CED.2
<b>10-12</b>	RI.11-12.5	F.P.C&G.1	P.Sc.3.1	NC.M3.G-MG.1