ADVANCED LEARNING LABS

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

TO ENGAGE, ACTIVATE, AND GROW OUR STUDENTS

GRADES 10-12

Growth

ENGLISH LANGUAGE ARTS

Read the words of Dr. Martin Luther King, Jr.:

- *"I have decided to stick with love. Hate is too great a burden to bear."* From his sermon at the 11th annual SCLC in Atlanta, Georgia.
- *"Injustice anywhere is a threat to justice everywhere."* - "Letter from a Birmingham Jail"
- *"In the process of gaining our rightful place we must not be guilty of wrongful deeds."* - "I Have A Dream" speech

Select two of the quotes and read the entire script of the sermon, letter, or speech. Analyze the differences and similarities between how Dr. King approaches the same theme with each text.

Discuss what you have learned with family or friends and answer the following question: How can knowing our past prosper growth for our future as a nation?

SOCIAL STUDIES

"The Star Spangled Banner" is more than just a song. It is the name of the famous American flag that inspired our National Anthem. It is on display at the Smithsonian Museum of American History. Check out the symbolism and history of this national artifact using this link: **https://amhistory.si.edu/starspangledbanner/**

Analyze our National Anthem for its historical meaning and symbolism. Prepare for a classroom debate determining if the anthem has helped us grow or unify as a nation. As you prepare for your debate, consider the following:

- Evidence to support your opinion.
- High-quality information from reputable sources.
- Arguments created using your research.

SCIENCE

Aviation was born in Kitty Hawk, NC and has grown into a multi-million dollar industry that impacts the entire world. Orville Wright made the first successful flight on December 17, 1903 traveling 120 feet in 12 seconds.

Using the Wright Brothers flight simulator, attempt to fly the first plane: **http://smithsonianeducation.org/flight3/index.html**

Create a graph recording the headwinds, time, and distance for each of your flights.

- What conclusions can you draw about these variables?
- How did the velocity of the flight affect the distance?
- What role did the headwinds play in the time?

MINDFULNESS

Your body needs protein, fat, carbohydrates, vitamins, and minerals for proper growth and development. Healthy eating habits are essential for older teens and adults who rely on nutrients for lean tissue development and cell growth.

Pick Your Plate! A Global Guide to Nutrition is a game that will help you learn about building healthy meals while using nutritional guidelines from other countries. Have some fun exploring meals from America, Australia, Lebanon and other places: **https://ssec.si.edu/pick-your-plate**

Create a family meal plan for next week, being sure to include healthy eating habits that align with the Global Guide to Nutrition. For fun, creat your weekly meal plan based on the dietary guidelines of another country.

LOGIC PUZZLE

According to jigsaw puzzle makers, Perfect Fit: *"Playing with jigsaw puzzles helps to enhance mental and intellectual growth."*
Piece together jigsaw puzzles of iconic portraits from the National Portrait Gallery. Choose a favorite, and then choose the number of puzzle pieces you want to tackle. Drag and fit the pieces together to watch the portrait grow!

https://www.jigsawplanet.com/smithsoniannpg/the-portraits

FIELD STUDIES

NASA's Chandra X-ray Observatory is a telescope specially designed to detect X-ray emission from very hot regions of the universe such as exploded stars, clusters of galaxies, and matter around black holes. From this telescope you can watch galaxies collide, and stars survive collisions with black holes.

Peruse the student page on the Chandra website: https://chandra.harvard.edu/index_students.html

Select 'Galaxies' then explore the photos, animations, and podcasts about our ever-expanding universe.

After exploring this information, create 10 follow-up questions that you still have for scientists about our expanding universe.

RESEARCH EXPLORATIONS

What is the difference between an epidemic and a pandemic? Find out by exploring here: https://www.britannica.com/video/215272/Top-questions-answers-epidemic-versus-pandemic

Research the ways an epidemic can grow into a pandemic using the Center for Disease Control (CDC) website: https://www.cdc.gov/globalhealth/healthprotection/fieldupdates/winter-2017/why-it-matters.html

Explore three pandemics that have impacted our world in the past century. How can learning about these pandemics help our research regarding future pandemics? Create a pamphlet explaining how these past epidemics have grown into worldwide problems.

MATH

Mathematicians often use sinusoidal curves on a graph to show growth. Using graph paper or the online Desmos calculator, create a sinusoidal curve.

Maximum and minimum average daily temperatures of two cities are shown below:

City	January 15 (15th day)	July 16 (197th day)
Montreal, Quebec	-10 C	21 C
Orlando, Florida	15 C	28 C

a. On the same graph, sketch a sinusoidal curve (day of the year, temperature) for each city and create an equation to represent each curve.

b. Explain differences between the curves and any correlations you see in the temperature growth.

North Carolina Department of
PUBLIC INSTRUCTION

AIG
ALL DAY, EVERY DAY

Growth
Reference Guide

K-1 Logic Puzzle:

Solution:

In order, first through fifth:

Carlos

Ali

Ben

Dan

Emani

10-12 Logic Puzzle:

Online jigsaw puzzles

https://www.jigsawplanet.com/smithsoniannpg/the-portraits

ADVANCED LEARNING LABS

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

TO ENGAGE, ACTIVATE, AND GROW OUR STUDENTS

Growth
NC Standards Alignment

Grade Span	English/ Language Arts	Social Studies	Science	Math
K-1	W.1.3 K.H.1.3	K.H.1.1	1.L.2	NC.1.OA.1 NC.1.OA.4
10-12	RL.11-12.9	AH1.H.1	Phy.1.1.3	PC.F.1.3