

ADVANCED LEARNING LABS

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

TO ENGAGE, ACTIVATE, AND GROW OUR STUDENTS

GRADES

8–9

Creativity



ENGLISH LANGUAGE ARTS

Read a text that has a film adaptation on video. After watching the film, note the creative choices that the director or screenwriter used. How is the video adaptation similar to or different from the literary text?

Analyze why these creative choices were made. Consider the following:

- Do you think that it was because of budget restrictions?
- Was it to make the story move more quickly?
- Were scenes simply removed or were important parts of the plotline changed?
- What was the impact of these choices?

Send an email to the movie's screenwriter and/or the book's author to share your observations and ask for insight into the process.



SOCIAL STUDIES

During World War II, Albert Einstein and Leo Szilard warned President Roosevelt that Germany might try to build an atomic bomb. As a result, the United States began the Manhattan Project which impacted many communities. For example, some towns in Western NC were flooded to generate hydroelectricity for plutonium production.

Einstein, who won the Nobel Prize in Physics in 1921, is often considered a genius because of his contributions to theoretical physics, but a new book argues that his creativity is what made him successful.

Read the book review and write in your journal about what impact creativity had on Einstein's work: <https://www.npr.org/templates/story/story.php?storyId=11786053>



SCIENCE

While we often focus on the creativity involved in developing alternative energy products, it is interesting to think about how humans first began to utilize sources like peat and coal to meet their energy needs. Was there a person who saw peat in a bog and decided to set it on fire, or did it happen accidentally when lightning struck?

Research the following traditional energy sources: peat, coal, oil, natural gas, nuclear fission, and wood. Create a chart that shows each source's availability, geographic location, environmental impact, heating efficiency, and the cost to produce it. Share what you have learned with your family.

For fun, while you are researching see if you can find out the history of how it was first used as an energy source.



MINDFULNESS

Painting, gardening, writing, cooking, building, coloring, playing an instrument, and photography are all ways to be creative.

Pick a creative activity you would like to do and schedule it into your calendar. Give yourself plenty of time.

Practice good mindfulness by being in the present moment while you create. Think about the supplies you use and how they came to you. Think about the things that you find inspiring. Focus on the environment around you and your thoughts as you create. Display your creation to remind yourself to take time for creativity.

Visit this site for 5-minute craft ideas if you need to spark your creativity: <https://www.youtube.com/watch?v=HD27Arix3nl>



LOGIC PUZZLE

Lateral Thinking Puzzles are a combination of riddle and story. The solution is found by using a creative approach to fill in the missing parts of the story so they make sense. Try to solve this puzzle:

A woman walked up to a man behind a counter and handed him a book. He looked at it and said, "That will be four dollars." She paid her money but left the book behind. The man noticed the woman leave without the book but did not call her back. Why?

For more Lateral Thinking Puzzles, visit the Puzzles9 website: <https://puzzles9.com/18-challenging-lateral-thinking-questions-and-answers/>



FIELD STUDIES

The Cape Hatteras Lighthouse was built in 1870, and was in danger from beach erosion by 1935. Despite continuous work to stop it, storms and regular tides eventually undermined the structural integrity of the Lighthouse. In 1981 a "Save the Lighthouse" Committee was formed. After decades of research, debate, and creative problem-solving, the Cape Hatteras Lighthouse was moved in 1999. Watch the documentary of this historical event:

<https://youtu.be/mBXni7GtP30>

By 2019, scientists warned that the lighthouse could have to move again. Read more here:

<https://bit.ly/39n45l3>

Challenge: Create a lighthouse that can be close enough to the shore to be seen in the ocean but will not be vulnerable to the shifting sands of a barrier island.



RESEARCH EXPLORATIONS

During the 1960s, NASA was at the height of the space race, but documenting the journey was a problem. Pens needed gravity to drop the ink so they could write. Pencils flaked off, resulting in floating particles. Pencils are also flammable which is something the NASA engineers were trying to avoid. After many years and dollars, the invention of an anti-gravity pen became reality.

Engineers use their creativity to solve problems. Research a problem you would like to solve. It can be a small annoyance or a big problem. Use the creative problem-solving steps outlined in the MindTools article: <https://www.mindtools.com/pages/article/creative-problem-solving.htm>

Create a prototype for your solution and present it to a family member or friend.



MATH

Create a parabolic curve using straight lines. The tutorial link can get you started: <https://www.youtube.com/watch?v=PWMcENmCm28>

Upload your image into the Desmos Graphing calculator by either scanning the paper or taking a picture. Determine the function related to the curve of your design. Describe the different parts of your function and how it relates to the graph. For help uploading your picture you can watch the video: <https://www.youtube.com/watch?v=GwTVV4crgeY>

Like this project? You can create more art using Desmos and even submit your art to the Desmos Art Contest through the graphing calculator.

Check out this year's finalists here: <https://www.desmos.com/art>



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PUBLIC INSTRUCTION



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K-12

Creativity Reference Guide

K-1 Logic Puzzle:

Solution 4 cubes high = 10

6 cubes high = 21

8 cubes high = 36

2-3 Logic Puzzle:

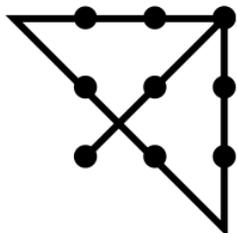
How to Create Your Own Sudoku: <http://www.sudokuessentials.com/create-sudoku.html>

4-5 Logic Puzzle:

Developing Your Own Logic Grid Puzzle:

<https://www.thesprucecrafts.com/how-to-make-solve-logic-puzzle-2809337>

6-7 Logic Puzzle:



8-9 Logic Puzzle:

Solution to Lateral Thinking puzzle: She was returning an overdue library book.

<https://puzzles9.com/18-challenging-lateral-thinking-questions-and-answers/>

10-12 Logic Puzzle:

Solution: start, finish, F, C, G, start, C, B, A, D, F, E, A, finish.

<https://www.mathsisfun.com/puzzles/path-plodding-puzzle-solution.html>

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Creativity NC Standards Alignment

Grade Span	English/ Language Arts	Social Studies	Science	Math
K-1	RL.1.4	1.H.1.3	1.E.2.1	NC.1.G.2
2-3	SL.3.5	3.E.2.1 3.I.1.10 3.E.1.1	3.P.1.1	NC.2.G.1
4-5	W.5.3	5.C&G.1.1 5.I.1.7 5.I.1.8 5.I.1.9 5.B.1.2	5.P.1.1	NC.4.MD.6
6-7	W.6.3	6.H.1.3	6.E.2.4	NC.7.SP.7
8-9	RL.8.7	8.H.3.2 8.H.3.3	EEn.2.2.2	NC.M2.A.SSE.1
10-12	W.11-12.3	USH.H.3.4 B.CX.1.3	Bio.2.2.2 ITSE 4a	NC.M3.A-APR.3