

ADVANCED LEARNING LABS

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

TO ENGAGE, ACTIVATE, AND GROW OUR STUDENTS

GRADES

6-7

Adaptation



ENGLISH LANGUAGE ARTS

Select a book to read that also has a film adaptation. After reading the book, watch the film. How are the movie and book similar? How is the movie different from the book? Take note of the creative choices that were made by the director or screenwriter. Keep the following in mind:

- Analyze why these choices may have been made.
- How might the budget have impacted these creative choices?
- How was the film adapted to make the story move more quickly?
- Were scenes simply removed or were important parts of the plotline changed?
- How did the decisions that were made impact the story?

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



SOCIAL STUDIES

Throughout history humans have made adaptations to weapons to meet their ever changing needs.

Watch this video about the history of weapons:

<https://youtu.be/chWOqVqQTa0>

Choose three of the weapons to research in more detail. Consider the following questions:

- What weapons were used prior to the development of each weapon?
- How did the weapon change warfare?
- Did the weapon change society? If so, how?
- Has war adapted because of the weapon? Explain.
- Is the weapon still used today? If so, how? If not, why not?
- What are your thoughts on adapting weapons for modern warfare

Create a presentation to share your findings.



SCIENCE

Some diseases are linked to environmental factors. In some cases, lifestyle choices, such as a choice to use tobacco products are what create these environmental factors. In these cases, individuals can make adaptations to their lifestyles in order to prevent or reduce the likelihood of developing the disease.

Check out the National Institute of Environmental Health's document about environmental diseases: <https://bit.ly/2CzU1in>

As you read about the diseases, create a chart with a column listing each disease, possible factors leading to it, and then a third column with suggestions for prevention. Consider if there are any lifestyle choices you can make changes as to while you are young which will help you stay healthy for a long time.



MINDFULNESS

During the Covid-19 pandemic, many of us had to adapt to a new learning environment. What are some things you had to change due to remote learning?

Spend at least three minutes brainstorming the ways remote learning was different from learning at school. Be sure to include benefits as well as drawbacks. Read the article to see how different students adapted to remote learning: <https://www.edutopia.org/article/why-are-some-kids-thriving-during-remote-learning>

What can we learn from the experience? Write a letter to your school board members suggesting changes to how schools teach based on what you have learned.



LOGIC PUZZLE

1. Write the numbers 1 to 6 in a horizontal row. You will play the Big Bad Wolf.
2. Every time it is your turn, take any number in the list, as long as at least one factor of that number is also in the list.
3. You get your number and the Big Bad Wolf gets all of the factors of that number that are on the list. If you take a 4, the Big Bad Wolf would get 1 and 2.
4. The Big Bad Wolf must get something every time. You cannot choose a number if no factors of the number remain in the list.
5. When no number in the list has any factors, the game is over and the Big Bad Wolf gets all the numbers that are left in the list.
6. Whoever has the highest sum is the winner.

Can you devise a winning strategy? Try the game with the numbers 1-10 or 1-12. Can you win for any string of numbers? Explain.



FIELD STUDIES

The Americans with Disabilities Act (ADA) became law in 1990. It is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life. This means that while a public school must be ADA compliant, someone's personal home does not. In most cases, buildings that were built before 1990 have to be adapted in order to be compliant.

Imagine you have bought a 1925 home and you would like to open it as a venue space. Assume that it has no ADA compliant features. Use the ADA Design Standards for Existing Facilities (link below) to list the changes that must be made before your business can open. Make a drawing of the changes.

<https://www.adachecklist.org/doc/fullchecklist/ada-checklist.pdf>



RESEARCH EXPLORATIONS

Humans often take advantage of nature's ability to adapt to its changing environment. For examples of engineering solutions from nature read the article: <https://news.mongabay.com/2005/07/biomimetics-technology-that-mimcs-nature/>

Research how the feathers of several types of birds have changed to become better at flying, using the links below. What has this taught scientists and engineers as they develop airplanes and other flying aircraft?

- <https://bit.ly/20OACxd>
- <https://bit.ly/3hsLJI9>
- <https://cnet.co/2OM3cz4>

Draw an illustration of a species of bird and an aircraft. Label their similarities emphasizing how engineers utilized the adaptation from the bird to the object.



MATH

Industrial melanism is the term used to describe the adaptation of an organism due to industrial pollution. Before the Industrial Revolution, the trees around Manchester, England were a light grayish-green due to the lichen that grew on its bark. As the revolution progressed the trunks became dark. To complete the task below, use this data table: <https://bit.ly/2CwvQlr>

Create scatter plots comparing the numbers of each variety of Peppered moths. Use color to represent each type of moth.

- What does your data suggest?
- As fewer light moths were captured what happens to the number of dark moths captured?
- What do you believe would happen if the data was recorded for 20 years?

Explain your thinking.



North Carolina Department of
PUBLIC INSTRUCTION



Adaptation Reference Guide

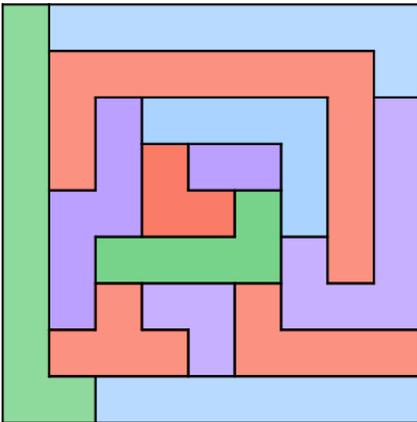
2-3 Logic Puzzle:

Six Toothpicks problem:

Source: <https://www.1001mathproblems.com/p/spatial-puzzles-3d.html>

4-5 Logic Puzzle:

Solution:



10-12 Logic Puzzle:

Solution: The sheep would remain untouched.

In fact, the sheep would remain untouched if there is an even number of lions on the island and would be eaten immediately if there is an odd number of lions on the island.

Further details can be found: <https://www.braingle.com/brainteasers/teaser.php?op=2&id=9026&comm=0>

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K-12

Adaptation NC Standards Alignment

Grade Span	English/ Language Arts	Social Studies	Science	Math
K-1	RL.1.9	K.G.2.1	1.L.1.3	NC.1.MD.5
2-3	3.L.3.5	3.G.1.3 3.G.1.2 3.G.1.3	3.L.2.2	NC.3.MD.3
4-5	5.L5.5	5.G.1.3 5.G.1.3	4.L.1.3	NC.5.NBT.7
6-7	RL.7.7	6.H.2.3	7.L.2.3	NC.6.SP.3b NC.7.SP.3b
8-9	RL.8.7	8.G.1.2	8.L.4.2	NC.M1.S-ID.8 NC.M1.S-ID.9 NC.M2.S-CP.4 NC.M2.S-CP.5
10-12	RI.11-12.2	FPC&G.3.1	Bio.2.1.2	CCSS.HSA.REI