

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

Creativity



ENGLISH LANGUAGE ARTS

Creativity is displayed in many forms. Writers show creativity through words that people can read. Every writer is first a reader. Reading books by great authors and studying their craft can spark an idea or provide inspiration for your own writing.

For inspiration read *Hailstones and Halibut Bones* by Mary O'Neill, a collection of poems about color.

Begin with a brainstorm about your favorite color:

- What things are that color?
- What would that color sound like?
- What would that color taste like?
- What would that color feel like?
- What emotions does that color make you feel or symbolize for you?
- What would that color smell like?

Put your thoughts together and write a poem. Use words that suggest feelings and describe the senses.



SOCIAL STUDIES

Create your own national holiday!

National holidays reflect events that have patriotic significance in a people's history. Think about something important in your life that you feel should be celebrated each year.

- What will you name your holiday?
- What traditions will be a part of your holiday?
- What types of food will you eat?
- What activities will you do?

Draw a picture of the holiday you created being celebrated.



SCIENCE

Water can serve as a vehicle for movement. Pigments in a black marker will separate when water hits them because they have different shapes and sizes. This is called chromatography.

Creative Chromatograph Activity:

1. Use a black marker to design and color the outer edge of a coffee filter.
2. Fold the coffee filter in half. Fold it in half again. Fold it in half once more.
3. Pour $\frac{1}{4}$ cup of water into a bowl.
4. Place only the pointed tip of the folded coffee filter into the water.
5. Observe what happens when the water reaches the black marker.

Now open the filter, and record answers to the following: What do you notice? What colors do you see? How did the water move the color? Why did a black marker make color?



MINDFULNESS

Rainbow Walk!

Show your creativity as you walk through your house, backyard, or neighborhood. Try to find an object for each color of the rainbow as you are walking. Look for something red, orange, yellow, green, blue, and purple.

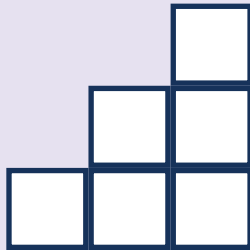
Now try to connect an emotion to each color. For example, maybe you feel peaceful when you look at a certain color. Create a book to show your thoughts. Draw the object you found for each color and write the emotion word you feel fits it.



LOGIC PUZZLE

Use a set of blocks or legos that are the same size to help you solve this puzzle.

The highest step in a set of stairs is 3 cubes high. It takes 6 cubes to make the stairs. They look like this:



- How many cubes will it take to make stairs where the highest step is 4 cubes high?
- What about 6 cubes high?
- What about 8 cubes high?
- Can you find a pattern?



FIELD STUDIES

An art museum is a place people visit to see work that others have created. Paintings, drawings, sculpture, textiles, and photographs are all ways to show creativity. Pick one work of art from the virtual display at the North Carolina Museum of Art: <https://learn.ncartmuseum.org/artwork/>

Reflect on the following questions:

- How does the art make you feel?
- What lines and shapes do you notice in the artwork?
- What questions do you have about the artwork?

Challenge: Use the artwork as a spark for your own creativity. Create a piece of art in a similar style OR write a story that uses the artwork as inspiration.



RESEARCH EXPLORATIONS

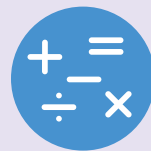
There are different ways to be creative.

- You can think of many ideas fast.
- You can think of unique ideas no one else thinks up.
- You can think of many uses for one idea.
- You can think of lots of details about your ideas.

Think about an everyday object you might find in your house, maybe a spoon, cup, rock, or string.

Brainstorm new uses for this object.

- How many ideas can you think of?
- Pick one unusual way to use the object.
- Make a plan to carry out this idea. You might need to create a diagram, gather materials, or add details.
- What are other ways to be creative with what you have around you at home?



MATH

Let's go on a scavenger hunt for shapes around your house that you can trace. Ideas include a coaster (circle or square), cup bottom (circle), picture frame (rectangle), bowl (circle). Can you find something that is shaped like a triangle?

Gather these things and trace them on a large sheet of paper. You can overlap your tracings. Label the shapes. Did you make any new shapes by joining the shapes?

Color your tracings any way you want or turn the shapes into things like animals, cars, and people. You now have some mathematical art to share with family and friends.



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GRADES

2-3

Creativity



ENGLISH LANGUAGE ARTS

Stories and poems are examples of creative works. The beauty of these examples is that each reader can picture them differently and can take from them different lessons, messages or feelings. Stories and poems allow for individual responses and interpretations from their readers. It is in this individuality and originality that creativity is found.

Find a short story or poem that you love, and create a multimedia presentation to creatively capture the meaning of the story or poem from your perspective. Here are some ideas to spark your creativity:

- combine the words
- record a voice over
- add music and/or pictures
- create animation or a video relating to the text and what you picture in your mind.



SOCIAL STUDIES

An entrepreneur is defined as one who organizes, manages and assumes the risks for a business or enterprise. Such responsibility sounds serious and not much fun. So why do people become entrepreneurs? Read about these 12 child entrepreneurs: <https://www.fundera.com/blog/kid-entrepreneurs>

As you read, create a list of the reasons they became entrepreneurs and a list of what inspired their business ideas. In looking at the list and thinking of their stories, what do creativity and entrepreneurship have in common?

Create an analogy connecting the relationship between the two. Creativity is to entrepreneurship as _____ is to _____. Explain the reasoning behind your analogy.



SCIENCE

A chain reaction is a series of events that are self-sustaining. Once started, each action sets off the next. Rube Goldberg is famous for his inventions that did just that. Though his inventions were on paper, real working machines have been made.

Watch as the *Guinness Book of World Records* Largest Rube Goldberg Machine lights a Christmas Tree: <https://www.youtube.com/watch?v=RBOqfLVCDv8>

As you watch, write down as many simple machines as you can, and note all the changes in direction utilized. See if you can keep track of all the machines, even some household appliances, being used for a purpose other than for what they were intended.

To read more about Rube Goldberg: <https://www.rubegoldberg.com/>



MINDFULNESS

A mantra is a word, phrase or sound that helps to keep your mind focused during meditation and to interrupt negativity. Mantras have been around for thousands of years and though very simple, they are incredibly powerful, as they speak to what each individual person needs. Read the article to learn more about and find examples of mantras: <https://www.sonima.com/meditation/mantras/>

Create your own mantra and a beautiful way to display it - a poster, banner, painting, photograph or another creative way to showcase it. Post your mantra where you can see it often and repeat it to yourself daily when needed. Reflect upon its impact on your sense of well-being and focus.



LOGIC PUZZLE

Create your own Logic Puzzle-Sudoku

Steps:

1. Create the solution by filling in a 9x9 grid, following the rules of Sudoku.
2. Begin removing "mirror pairs." These are the pairs that would touch each other if the grid was folded in half diagonally. For example: Row 1 Cell 1 is a mirrored pair to Row 9 Cell 9.
3. Test your puzzle.
4. Share with others by asking them to solve your puzzle.

Sudoku Rules: http://www.sudokuessentials.com/sudoku_rules.html



FIELD STUDIES

What is creativity? It's often hard to put into words. Let's find out in real talk.

Ask at least 10 people the following questions:

- How do you define creativity?
- What elements or characteristics are necessary parts of creativity?
- How can one show creativity?

After surveying ten people, look at your data and sort/categorize the answers.

Do you notice common definitions of creativity? Are there certain elements or characteristics of creativity that show up consistently? Or ways people can show creativity?

Using the information you gained from the 10 people, construct your own definition of creativity.



RESEARCH EXPLORATIONS

"With age, comes wisdom." This famous quote from Oscar Wilde might be true, but science tells us that children are naturally creative geniuses. In a study by NASA, 98% of children tested for creativity scored in the "Genius Level." As they aged, their scores decreased. Read more about this research here: <https://twentyonetoys.com/blogs/teaching-21st-century-skills/creative-genius-divergent-thinking>

Using information from this article, create a schedule of activities for practicing creativity for yourself and one for your parents to practice being creative. Read for tips to use with your parents: <https://www.inc.com/rohini-venkatraman/4-ways-to-get-back-creativity-you-had-as-a-kid.html> Share your findings and schedules with your family.



MATH

Geometric shapes are used to create art and design. Triangles are used in bridge design, circles are used for wheels, and rectangles are used in windows and doors.

Now it's your turn to get creative. Choose a shape to feature in a "Top Ten Uses For" list. Use your imagination and think outside the box. Be sure to include illustrations or pictures, and explanations where necessary. Share with classmates and family members.

Challenge: What are some creative and unusual ways you could use 2D or 3D shapes?



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GRADES

4-5

Creativity



ENGLISH LANGUAGE ARTS

Creativity is the use of imagination or original ideas, especially in the production of an artistic work, such as writing. Narratives are written about real or imagined experiences, but have descriptive details, well-developed characters, and clear event sequences.

Choose five images. These images can be found online, cut from newspapers or magazines, old photographs, or a combination of these. Use these images to write a narrative.

Your narrative can be mini-stories for each image integrated into a full narrative with clear event sequences or the images can be connected to create one story or full narrative. Use the five images to add detail, character development, and clear event sequence to your story.



SOCIAL STUDIES

Creativity is often described as thinking "outside the box" and having innovative ideas. Did you know that the ideas of the Roman, Greek, Iroquois, European and British governments influenced the development of our own?

Research the governmental structures and philosophies of the above cultures to discover which ideas our Founding Fathers replicated as part of our own government.

After completing your research or study, consider the following question: Were the Founding Fathers showing creativity in their replication of governmental structures and ideas from other cultures or were they just copying? Support your opinion with reasoning, and create a video or advertisement either praising the creativity of the Founding Fathers or giving a negative review as to their lack of creativity.



SCIENCE

"Please stay seated. Keep your arms and legs inside the vehicle. Enjoy your ride!" This might sound familiar if you've ever ridden a roller coaster. Engineering, creativity, and science meet up resulting in a thrilling ride. Using gravity and friction, your body is hurled through twists and turns, sometimes even upside down. Read more about the science of roller coasters: <https://www.worldsciencefestival.com/2015/06/roller-coaster-science-thrills-chills-physics/>

Now create your own roller coaster. You could use a small toy car or even a marble. Make sure to test your coaster with objects that have a difference in mass. What changes did you notice?

Visit these links for inspiration:

- <https://www.msichicago.org/science-at-home/hands-on-science/roller-coaster/>
- <https://www.youtube.com/watch?v=Of9ZBP9Dizo>



MINDFULNESS

In many meditation practices when you notice your mind wandering, you refocus on your breathing to get rid of distracting thoughts. However, there is another form of mindfulness called open-monitoring meditation. In this meditation your brain is allowed to wander and as you become aware of these thoughts, follow them with curiosity.

A recent study indicated an increase in divergent/creative thinking during open-monitoring meditation. Visit this link to follow the steps of open-monitoring mindfulness: <https://chopra.com/articles/mindfulness-and-creativity-do-they-mix>. After your meditation session, take a moment to write down all the ideas and thoughts that came to your mind. Practice this process for a week and reflect on your ability to think creatively and problem solve.



LOGIC PUZZLE

Create your own Logic Puzzle-Logic Grid

Steps:

1. Draw a grid.
2. Make up a scenario. Use a group of 3 characters, and 3 descriptors for each character-example: 3 teachers - grade level, number of students in class, favorite subject.
3. Fill in the grid headings with all categories.
4. Write clues to help the solver get all of the answers. Write clues that tell what the character does and does not do. For some, use words related to the categories without explicitly saying the category. (Ex: The 4th grade teacher loves teaching multiplication.)
5. Try to keep the number of clues to at least 5, but fewer than 7.
6. Test solve your puzzle to make sure it works!



FIELD STUDIES

Creative thinkers often have the most original ideas. What does it mean to be original? What elements or characteristics are needed to be original? Answer these questions yourself and then ask five other people what they think. Sort and categorize the data, grouping like responses together.

Now watch the TEDTalk about creative thinking called, "The Originals:" <https://bit.ly/2CCUkJj>

What do procrastination, fear and doubt, and bad ideas have to do with creativity? How do these elements present themselves in the answers you received from the five people? What does it tell you about the capabilities we all have in terms of creativity?



RESEARCH EXPLORATIONS

Rube Goldberg was famous for his comics that showed silly inventions using the force and motion of a chain reaction to accomplish everyday tasks. He is the only person listed in Merriam Webster's Dictionary as an "adjective."

See examples of his machines here: <https://www.rubegoldberg.com/image-gallery-licensing/>

Create your own working Rube Goldberg machine! Using your knowledge of force and motion and simple machines, experiment with chain reactions to pop a balloon.

Before you try the whole machine for the first time, make a prediction: how many times do you think it will fail before it succeeds? Keep track of your data and trials.



MATH

Geometric shapes are used to create art and design. Houses are built using many right angles, playground slides use obtuse angles, a wedge of cheese is an acute angle, and a tabletop is an example of a straight angle at 180 degrees.

Now it's your turn to get creative. Choose an angle and make a "Top Ten Uses For" list. Use your imagination and think outside the box. This could be done in comic book style, like an advertisement, or even a restaurant menu. Be sure to include illustrations or pictures, and explanations where necessary. Share with classmates and family members.

What are some creative and unusual ways you could use angle measurements?



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GRADES

6-7

Creativity



ENGLISH LANGUAGE ARTS

Imagine a year in which many strange and historical events take place. The year is 2020.

Write a narrative of real and/or imagined experiences that take place during this year. Engage your reader by establishing a context and introducing a narrator or character. Organize an event sequence that unfolds naturally and logically.

Include narrative techniques such as dialogue, pacing, and description to develop experiences, events, and/or characters. Seek guidance from peers or adults to strengthen the paper through revising, editing, rewriting, or trying a new approach.



SOCIAL STUDIES

During a historical event there may be ten eyewitness accounts. A historian has to comb through these accounts to determine which ones to include in written history. While historians can use creativity in how they present the information, it is important that all stories are shared in an unbiased way.

Think of a historical event that interests you and find primary documents about that event. Two excellent sources are the Library of Congress (www.loc.gov) and the National Archives (www.archives.gov).

Try to find multiple perspectives. What if one of the accounts was not true? How would that impact the writing of history? Compare and contrast the accounts in a chart. Below the chart state which information you feel confident adding to a social studies website for students.



SCIENCE

Earth stewardship means a responsibility to take care of the earth. There are many environmental challenges that must be overcome: water pollution, waste management, deforestation, urban sprawl, acid rain, and air pollution, to name a few.

Select one of these challenges and research proposed solutions. What is the most creative solution that has been proposed to the problem so far? One step in the creative problem-solving process is generating ideas (e.g., brainstorming).

Set a timer for ten minutes and brainstorm other possible solutions to this challenge. Do not worry about the expense or feasibility, just get the ideas down on paper or into a digital document. After you are finished, share your ideas with a friend or family member.



MINDFULNESS

If butterflies are thoughts, then notebooks are the nets. Journaling helps with creativity while documenting your thoughts. You do not have to use text to journal. It is okay to draw, doodle, make tables, or even leave blank space. Organize your journal with notes on one side and reflections on the other, or don't organize it at all. It is up to you. Journals do not need to be expensive. Decorate the front of your journal. Keep your journal close by so that you can jot down ideas whenever they come to you.

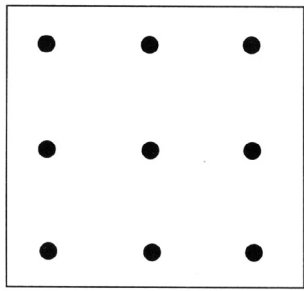
Set aside time each day to add to your journal. For the next two weeks, spend at least 15 minutes in your journal. You can write or draw anything you wish. If you need inspiration, try some of the prompts at this website: <https://bit.ly/39oIVtT>



LOGIC PUZZLE

Creative thinking is the key to some logic puzzles. The nine dot problem is one of those.

Mark through all nine dots using only four straight lines. You may not pick up your pencil.



For more puzzles and riddles which take creative solutions check out this video "16 Brain Teasers to Test Your Creativity:" <https://youtu.be/Q5On3Qzgu1c>



FIELD STUDIES

Fluency, flexibility, originality, and elaboration are considered the cornerstones of creative thinking.

- Fluency - the ability to generate numerous ideas
- Flexibility - stretching the way something is used
- Originality - creating a unique or novel idea
- Elaboration - building off already existing ideas to use in a new way

Every person or idea that is considered creative is not necessarily creative in each of these ways. Watch this TED Talk by Jack Andraka who describes the creative process he used as a teenager to develop a medical innovation: <https://youtu.be/g-ycQufrgK4>

What cornerstone(s) of creativity did he use?

Use at least one of these cornerstones of creativity in your daily life and reflect about it in your journal.



RESEARCH EXPLORATIONS

Why do we take notes? What is the best way to do so? Read the article from NPR to research the best way to take notes: <https://www.npr.org/2016/04/17/474525392/attention-students-put-your-laptops-away>

You may take notes by hand or on a computer. You may use Sketchnotes or Cornell style notes. Sketchnotes add creativity and visual interest to your notes. Watch the video to learn the basics of sketchnoting: <https://youtu.be/gY9KdRfNN9w>

Research the structures and life functions of single-celled organisms. Use sketchnotes to take notes in your science notebooks. Did you enjoy this technique? What were the pros and cons of sketchnoting?



MATH

Is Rock, Paper, Scissors a fair game? How do you know? What is the theoretical probability of winning the game? Play a game of Rock, Paper, Scissors with a friend. Be sure to collect data on who wins each round. Need a refresher on how to play? Watch the video: <https://youtu.be/cDwK-29meMI>

Instead of playing with a friend, you could try playing against the computer by following the directions here: <https://www.afiniti.com/corporate/rock-paper-scissors>

How did the theoretical probability of winning Rock, Paper, Scissors compare with the experimental probability of your game?



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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.

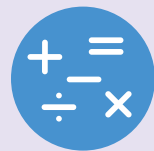


RESEARCH EXPLORATIONS

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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GRADES
10-12

Creativity



ENGLISH LANGUAGE ARTS

Think of a heartbreak you have experienced.

Write a short story about this experience through creative writing. Use your imagination and emotions to tell your intriguing story. The story should include:

- the key elements: character, setting, conflict, plot and theme
- the underlying theme of heartbreak
- visual descriptions
- an empowering ending

Follow up by developing a playlist to compliment your story. Select 5-7 songs (that are appropriate for school) to take your readers through the emotions felt in your story. You can use Spotify, Apple Music, Youtube, or go old school and create a CD.

Share your story with your teachers and classmates. If you would like to share your playlist, include the link.



SOCIAL STUDIES

Your family tree is your history, telling the story of how your family came to be. Do you have an old family album somewhere or a box full of pictures?

Using the photos, create your own family tree. Place pictures of your immediate family around your photo and then add pictures of extended family. Once it's finished, share the visual with your family.

Talk with a family member and reflect on your tree. What makes your family history unique or interesting? Do you have family who migrated from another country to achieve the American Dream? Do you have family members who fought in a historical war?

Using what you now know about your family's history, design a new visual representation of your family tree. For some creative ideas, visit this site: <https://www.youtube.com/watch?v=tYsuGplUJcY>



SCIENCE

Scientists do more than just work in a lab. They also use their scientific minds to create new and innovative ideas. Introducing the Futurecraft.Loop™ by Adidas. Learn about how the recyclable shoe was designed to eliminate the use of plastic for a more sustainable future: <https://www.adidas.com/us/futurecraft>

For tips on how we all can join the fight to create a more sustainable future, visit this link: <https://www.greendotbioplastics.com/6-tips-to-make-your-products-more-sustainable/>

Design a poster for a future product that can be recycled and/or reused. Some products already created are straws, phone cases, and solid shampoo bars. Explain how the product benefits Earth and its natural resources. Include on the poster the name and picture of the product, materials used to create it, and how it will impact the environment. Share your poster with your teacher and classmates.



MINDFULNESS

When we find things we are grateful for, we develop a more positive attitude. Some days may be harder than others, and that's okay. A fun way to find these items is with a Gratitude Scavenger Hunt. Read more about it here: <https://bit.ly/2WMB9E2>

Let's practice by finding:

- something outside you enjoy looking at
- something someone else would enjoy
- something that makes you happy
- something that makes you feel safe
- something that make you laugh

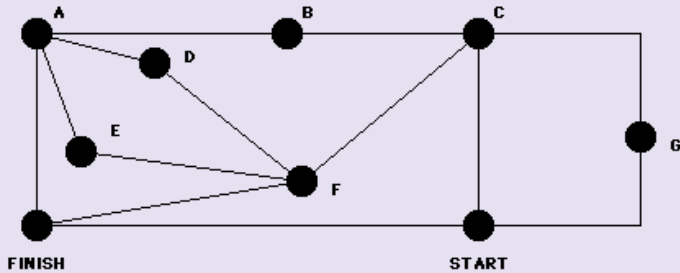
Dedicate one day of the week to each item and journal the reasons why you chose it. Store your journal somewhere close, for easy access.

For those days you are feeling stressed or overwhelmed, reflect on your reasons of gratitude.



LOGIC PUZZLE

The idea is to plod your way along all the streets on this map without going down a street you've been down before. Starting and finishing in the places indicated, in what order would you visit the letters on the map? Did you find more than one route?



FIELD STUDIES

Have you ever wanted to live abroad, like in Mongolia, Brazil or the Netherlands? What about another city in the United States, like Charlotte or Las Vegas? 360Cities designed a creative way to view cities all over the world. Type your city in the search box and explore the city views: <https://www.360cities.net/>

Let's consider two different cities in which you would like to live and work. Compare and contrast them in the following areas: <https://www.city-data.com/>

- Population and size
- Job market
- Cost of living (rent/mortgage, utilities, taxes)
- Climate
- 360 view of each city (places to explore)
- Educational opportunities
- Entertainment (things to do)

Which city has the most potential for you? Why?



RESEARCH EXPLORATIONS

There are many jobs that require a creative mind. Read the information about careers for creative workers: <https://www.bls.gov/careeroutlook/2015/article/creative-careers.htm>

Find 3 potential careers that fit your creative mind. Research additional information using the US Labor of Statistics website: <https://www.bls.gov/ooh/>.

1. What type of education is required?
2. How could you incorporate creativity in work?
3. What developments could affect your future opportunities (technology, resources)?
4. What are the major companies or industries in these fields?
5. Where do you see yourself 5-10 years into your career?

Keep a running record of your career interests as they may often change.



MATH

Mnemonic devices are creative techniques used across many disciplines to better encode and recall important information, like mathematical formulas. Math teachers create them to aid students in memorizing formulas. The most commonly used math mnemonic is PEMDAS - Please Excuse My Dear Aunt Sally - to remember the order of operations.

Create your own mnemonic devices using the 9 types provided by UCF. Select three techniques and explain how to apply it to a math problem. https://sarconline.sdes.ucf.edu/wp-content/uploads/sites/19/2017/07/9_Types_of_Mnemonics_NF1.pdf

Share your mnemonic devices with your teachers and classmates.



North Carolina Department of
PUBLIC INSTRUCTION



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-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:

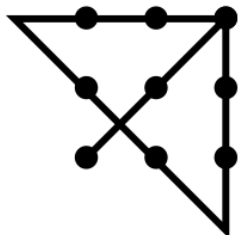
How to Create Your Own Sudoku: <http://www.sudokuessentials.com/create-sudoku.html>

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