

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

Identity



ENGLISH LANGUAGE ARTS

Your identity is who you are. Many things help tell the story of who you are, including your actions, characteristics, style, and more. Listen to *The Big Orange Splot* by Daniel Pinkwater:

https://youtu.be/iRL8d_6FEHw

- What changed on the street? How did the neighbors react?
- Why does Mr. Plumbean say his “house is him”?
- What clues in each house illustration tell you about the dreams of its owner? What does each house show about the inhabitant's identity?

Design a building that would show your dreams and teach someone about who you are. Use color and details. Write a few sentences to explain your design. Explain to someone what your design shows about your identity.

(Note: In Field Studies, you will build a cardboard home. You can use your design here to decorate that home.)



SOCIAL STUDIES

Exploring your identity helps you understand who you are. Learning to love yourself can give you confidence. Watch this video about being happy with who you are:

<https://youtu.be/R7G2QQ1XgnY>

- What did the characters in the story learn about themselves?
- How do the characters in the story support each other?

Make a list of things that make you unique. How can you use your gifts to help others?

Discuss the following scenario with a parent or trusted adult: Pretend a friend comes to you and says they aren't good at anything.

- How would you help your friend discover his/her special qualities?
- How can finding similarities between yourself and others help you get along?
- How can we learn from our differences?



SCIENCE

Sink or Float? Different objects have unique properties. One property is whether objects sink or float. Gather some objects like a rock, foil that is flat and also in a ball, a bar of soap, paper clip, cork, wood, straw, popsicle stick, ping pong ball, rubber ball, ice cube.

1. Predict which items will sink and which will float. Sort them into groups.
2. Place the items into water.
3. Describe your observations in your science notebook.
 - What sinks? floats?
 - What do you think it is about these items' properties and structure that cause them to sink or float? Use some of these materials to design a miniature boat that will float and can hold 10 pennies. Name and decorate your boat, giving it a unique identity.



MINDFULNESS

Mindful stillness can help you relax. Selecting a pose that represents who you are in a particular moment can help you feel centered and calm.

- Create a superhero pose. Be very still and take a deep breath.
- Create a magical creature pose. Be very still and take a deep breath.
- Create a pose that expresses your secret identity. Practice placing your body into that pose, being very still and taking a deep breath.

How does your body feel in each pose? The next time your body needs to feel calmer and more centered, try getting into your secret identity pose.

Identity



LOGIC PUZZLE

To solve the following riddles, use clues to determine the identity of the riddle teller.

I am used in school and out of school. I am pointy on one end and soft on the other. People think of me as yellow, but I can be many colors. You use me to write and erase. What am I?

I can be little or big and have short or long hair. I can be one color or many colors. I pant when I am hot and wag my tail when I am happy. I bark to communicate. What am I?

Write your own identity riddles for your family to solve.



FIELD STUDIES

Houses can represent our identities. Watch this video about how houses represent the person who creates them: <https://thekidshouldseethis.com/post/alfredo-and-isabel-aquilizan-cardboard-homes>

Design a house out of cardboard pieces.

- How does the house you designed represent your identity? What does it say about you?
- How can making a home help you feel more comfortable in an unfamiliar place?
- When might someone's home not match their identity?

(Note: In the English Language Arts task, you designed decorations for a home. You can use your design here to decorate this home.)



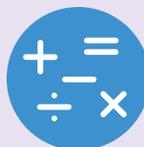
RESEARCH EXPLORATIONS

Inventions often address an identified need and impact society. These inventions can become identified with a location, which is what happened with this invention created in North Carolina.

Watch this video to learn more: <https://www.youtube.com/watch?v=Z1LCUtPx73o>

Think of another invention from the past. Consider how the item you chose has changed throughout history.

- How did the invented item impact society?
- How is the item different now than it was when it was first invented?
- What need does the item address?
- How are inventions a way to study history?



MATH

Math Memory Game: Can you remember the cards' identity?

Use paper to create math problem cards (ideas: doubles, subtraction within 20, or adding numbers in the teens).

- On one card, write a problem, for example $16+3$.
- On another card, write a different expression that has the same answer.
- Do NOT write the answers.

Mix up the cards and put them face down in rows and columns. Players take turns turning over two cards. If your expressions are equal, you keep the cards. If they are not equal, you reflip them and try to remember where the expressions you need are located. Play continues until all cards have been taken. The player with the most cards wins.



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GRADES

2-3

Identity



ENGLISH LANGUAGE ARTS

Like us, characters have their own identity, which includes who they are, their personalities, and what they value that influences their choices.

Write a poem about one of your favorite characters. It can be a character from the book you're currently reading, one from an old picture book you love, or another favorite story.

Your poem should include at least five details about the character's identity and how the actions and choices the characters make add to the story. You can include a photo or illustration of the character in the midst of one of their defining actions.



SOCIAL STUDIES

The identity of people and places is more similar than we realize. Both are defined by a combination of the following elements:

- culture - beliefs, behaviors, way of life for a group of people
- demographics - age, race, population
- economy - income, occupation, roles
- geography - location, biology, etc.

Choose a region of the nation or a state to research and focus on at least two of the various elements listed above that define that region. Use the census link below for help with this information:

<https://www.census.gov/>

Think of yourself as a region. What are your cultural, demographic, economic, and geographic identifiers?

Create a "map" of you to share with your family.



SCIENCE

Melt in your mouth AND in your hand! You may identify chocolate chips as a solid. However, they can also become a liquid.

For this experiment, melt chocolate chips using the heat from your hands. How can you do this efficiently (faster time and less mess)? Observe to determine the time it takes to become a liquid, its consistency, and the mess that was made.

Now change the liquid chocolate back to a solid. Use the same observational method: the time it takes to become a solid, its consistency, and the mess that was made.

Record the most efficient way to make the solid/liquid/solid change with the chocolate in your science notebook. Use the data from your observations to support your reasoning.



MINDFULNESS

Your identity is everything that makes you... you.

Some of these things can be seen from the outside, such as your soccer jersey, your hair, and stickers on your laptop. Many can't be seen as easily, such as your values, your hopes and dreams. However, all facets of your identity are important.

So, who are you? What makes you... you?

Ask a family member or friend to trace your silhouette. Draw a line down the center of your silhouette.

Fill one half with pictures and/or words describing who you are/what you see on the outside. Fill the other half with pictures and/or words that represent who you are on the inside.

Identity



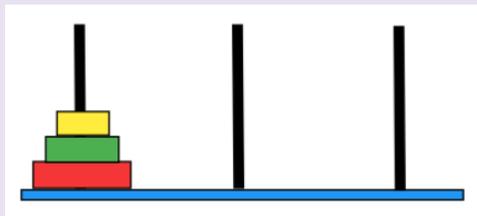
LOGIC PUZZLE

Tower of Hanoi

Move each of the three rings from the first peg to the last peg in the fewest number of moves.

Rules:

Only the topmost ring on a pile can be moved each time. A larger ring cannot be placed on top of a smaller ring.



Click here to play virtually: https://www.mathplayground.com/logic_tower_of_hanoi.html



FIELD STUDIES

How are art and identity linked? Explore the Metropolitan Museum of Art on the following link to learn about the art and history of different groups of people and time periods: <https://www.metmuseum.org/art/online-features/metkids/>

Find a piece of art that you like or find interesting. Research who created it and how it relates to who they are, or their identity.

Create a "copy" of the art piece, but instead, express who you are, your history and your identity through the piece of art.

- How are the pieces of art similar? How are they different?
- How are the artists similar? How are they different?

Share with a friend or family member what you have learned about identity. Ask them to create a piece of art and open your own Identity Art Gallery!



RESEARCH EXPLORATIONS

Bridges are constructed using many geometric designs, but one shape seems to surpass the others with its strength: the triangle!

Watch this video about triangles, strength, and design: <https://www.youtube.com/watch?v=mBHJtWbsiaA>

Investigate more about different types of bridge design here: <https://www.youtube.com/watch?v=iCQ05BSGeiM>

Construct your own bridge to test the strength of triangles. Build additional bridges using other geometric designs. How much weight can each hold? How could you modify the design to hold more weight?

Test your designs with a friend or family member.



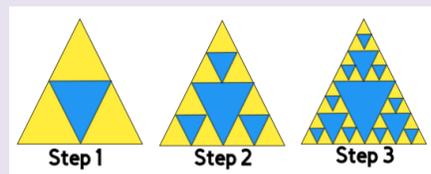
MATH

What is a fractal? A fractal is a self-similar structure that repeats itself over and over. As it does, it gets smaller and smaller... infinitely! The Sierpinski Triangle is one such fractal, named for Waclaw Sierpinski, a Polish Mathematician.

Draw an equilateral triangle, then another inside the first, and then three more inside each of the remaining triangles.

Make your math piece of art by adding color and designs!

Discover more about Sierpinski Triangles at this link: <https://fractalfoundation.org/resources/fractivities/sierpinski-triangle/>



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GRADES

4-5

Identity



ENGLISH LANGUAGE ARTS

The characters in literature have identities from which we learn more about the world, others, and ourselves. Choose two characters from a novel you are reading, or from two different stories.

Craft a diamante poem, comparing and contrasting the characters' identities. Diamante poems have a distinct format which lends itself to comparing and contrasting.

Use this site as a resource: <http://www.readwritethink.org/classroom-resources/student-interactives/diamante-poems-30053.html>

Be sure to include details from the text that are explicitly and implicitly stated about the characters' identities, such as who they are, what they value, and what they do. Include a visual symbol for each character based on what you feel their identity represents. Share your poem and symbols with others.



SOCIAL STUDIES

Research buildings, statues, monuments and places that are associated with North Carolina history using this site: <https://www.ncpedia.org/exploring-north-carolina-historic>

Discuss these questions with your friends or family:

- How do these contribute to the identity of the state?
- Why is the history of these people and places important to the past and future of North Carolina?

Think about your own identity and create a map of you and your history. Include important buildings, monuments as your achievements, statues to represent important people in your life and places/ names that are part of your history and who you are.

Share with your family. Discuss the concept of identity. What would they add to your map?



SCIENCE

How do you identify rocks?

- Metamorphic - molten rock that has cooled and solidified
- Sedimentary - rock fragments compressed in layers, and hardened
- Igneous - rock changed by heat, pressure, or chemicals

Create a "Rock Recipe" book that includes labeling the rock creations along with the ingredients used and the recipe. The rocks could be edible or non-edible. Think of materials you could put together to create the various types of rocks such as pressing play dough together, melting crayons, layering chocolate and cookie crumbs, etc.

Share your creations with a friend or family member to teach them about these three types of rocks.



MINDFULNESS

Your identity is simple in that it makes you who you are. It can also be complicated as others often try to define who you are by what they see on the outside and through their own perceptions.

Draw a self-portrait - from head to toe. Fill the inside of your self-portrait with words or symbols relating to how you identify yourself -all those things that others may or may not see, but that you feel are an important part of who you are.

Fill the background space with pictures and/or words relating to what others see and how they identify you. Ask a friend or family member to help with this.

Discuss the information inside and outside the self-portrait - your identity.

Identity



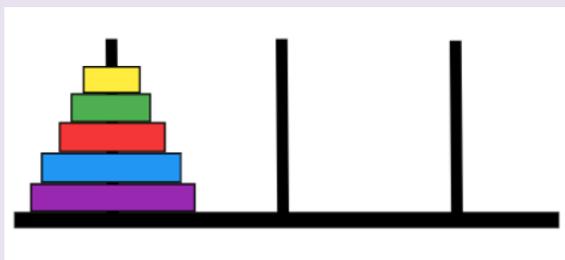
LOGIC PUZZLE

Tower of Hanoi

Move each of the five rings from the first peg to the last peg, in the fewest number of moves.

Once you identify a pattern to solving the tower, try adding more rings.

One rule: You cannot put a larger ring on top of a smaller ring. Click here to play virtually: https://www.mathplayground.com/logic_tower_of_hanoi.html



FIELD STUDIES

The identity of a group of people as a whole can be seen through art. Visit the British Museum's Museum of the World interactive exhibit at this link: <https://britishmuseum.withgoogle.com/>

Go forward and back in time to visit art pieces from museums all over the world. Notice how the art pieces relate to the different histories, stories and identities of groups of people, but also how those identities and histories are connected.

Find two pieces of art that interest you from two different time periods. Research the artist who created each piece and how their art relates to who they are, or their identity during the different time periods. What are the similarities and differences in the pieces of art?

What impact do histories, stories, and group identities have on the artwork each generation has enjoyed? What does contemporary art show about who we are as a collective group of people?



RESEARCH EXPLORATIONS

Frozen Fractals All Around!

Snowflakes are one example of a pattern that repeats and copies its own identity into smaller and smaller pieces, infinitely.

Research fractals in nature and go for a nature walk to hunt for examples. Explore examples of fractals in nature on the following website:

<https://bit.ly/3hosboA>

Fractals can also be found in art:

<https://fractalfoundation.org/fractal-balloons/>

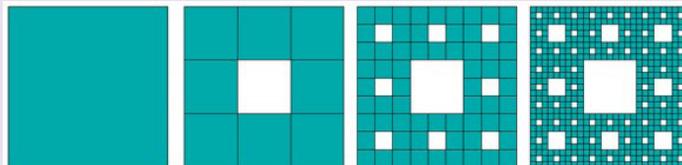
Fractals can be heard in the music of some classical musicians, such as Mozart and Bach. Explore fractals in music and listen for patterns that repeat on the following website: <https://bit.ly/39ivN8G>

Create fractal art of your own to share with family and friends.



MATH

A fractal is a self-similar structure that repeats itself and it gets smaller, infinitely! The Sierpinski Triangle is one example of a fractal. This can also be accomplished with a square, as shown below in Sierpinski's carpet.



How would it look if you used non-equilateral shapes? Experiment with other shapes and sizes. Try making them three dimensional (3D) instead of only two dimensional (2D). Notice what happens to the space in the middle of the 3D shape.

Discover more about Sierpinski's Carpet on this website: <https://tasks.illustrativemathematics.org/content-standards/tasks/1523>

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GRADES

6-7

Identity



ENGLISH LANGUAGE ARTS

Who is the real you? If someone asked you this, what would you say?

Write a personal narrative that develops experiences or events that can tell your story. Be sure to use relevant descriptive details and narrative techniques, such as dialogue, pacing, and description to develop experiences, events, and/or characters.

Share your final piece with someone to help them know the 'real you.'



SOCIAL STUDIES

Identity is the combination of the qualities, beliefs, personality, personal characteristics, and or expressions that make a person who he/she is. Cultural influences also contribute to identity.

Think about the oral traditions, art, dance, music, literature, and architecture that make up your culture. What has influenced where you live or have grown up? If you are unsure, ask family members or long-time citizens of your area.

Created a list of these influences and design an artistic way to present them.



SCIENCE

An organism's genotype is the set of genes in its DNA that is responsible for a particular trait. An organism's phenotype is the physical expression of those genes. Your genotype and phenotype are a part of your identity.

Watch the video at the link below, and learn about how to use a Punnett Square to figure out the probability of genotypes and phenotypes. On paper or in your science notebook, complete the four examples as the video explains them. You can pause the video to complete each Punnett Square on your own before it shows the answer: <https://youtu.be/agQpPPQ5IVQ>

Create a monohybrid problem of your own. For a challenge, also create an original dihybrid problem.



MINDFULNESS

What qualities make up who you truly are? What ideas, traits, or qualities come to mind when you reflect on the concept of "self?" What activities come to mind when you reflect on who you are?

Use a blank canvas, poster board or PowerPoint slide to create a collage of yourself. Find magazine pictures or internet images that represent you. Draw pictures, find stickers or use words to fill the blank space of the canvas. Be sure everything placed on the canvas describes who you are.

Why is it important to know your own identity? Keep your collage in a place as a reminder of who you are.

Identity



LOGIC PUZZLE

Are you ready for the hardest logic puzzle ever?

The Hardest Logic Puzzle Ever, as deemed by American philosopher and logician George Boolos and published in The Harvard Review of Philosophy in 1996, is about finding the identity of three aliens.

You and your team have crash landed on an ancient planet. You must identify the aliens to return to your home planet. You may only ask three “yes or no” questions.

Watch the video below for more details. Be sure to pause at 3:35 to figure out the solution: https://www.ted.com/talks/alex_gendler_can_you_solve_the_three_gods_riddle/transcript?language=en#t-38386



FIELD STUDIES

In elementary school, there are art projects that involve tracing your hand or face to capture how you looked at a younger age. Creating memories of your physical identity as an older student can be fun, also.

Read about how to create a life mask, how to trace your face, and how to take self-portraits on the websites below. After you have studied the three techniques, use one technique to create your self-portrait.

Life Mask: <http://librarycompany.org/artifacts/masks.htm>

Trace Your Face: <https://pnc.co/2CEjho3>

Self-Portrait Technique: <https://www.canva.com/learn/10-creative-self-portraits-techniques-will-inspire-create/>

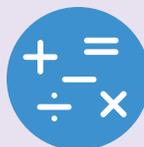


RESEARCH EXPLORATIONS

Eyewitnesses are often used in criminal cases. How reliable are these identifications? Read about the reliability of eyewitnesses in identifying criminals at this link: https://www.eurekalert.org/pub_releases/2015-12/uoc--cca121715.php

Create an experiment that will allow you to collect data on the reliability of eyewitness identification. If you need help creating the experiment visit this link: https://www.sciencebuddies.org/science-fair-projects/project-ideas/HumBeh_p015/human-behavior/testing-for-bias-in-a-photo-lineup#procedure

Use your data and write a letter to your local district attorney critiquing the accuracy of eyewitness identification.



MATH

In algebra, identity equations are equations that are true for all values of the variable. $3x + 4 = 10$ is not an identity because it has only one solution. Two is the only number that can replace x and allow the equation to remain true.

- What would need to be true for an equation to have infinitely many solutions?
- Write five identity equations.
- Explain how you know they are infinite solutions.

Create a real-life situation that can be modeled with an identity equation.



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GRADES

8–9

Identity



ENGLISH LANGUAGE ARTS

Research a civil rights leader using a variety of texts. It could be someone from the United States or someone from another part of the world, such as Steve Biko in South Africa or Mohandas Gandhi in India.

- Who was the person?
- What led him/her to become a leader?
- How did they identify with their cause?

When your research is complete, use the information to write an informative biography of the civil rights leader for a younger audience. Make sure to create a works cited page.



SOCIAL STUDIES

When Anne Frank wrote her diary during World War II, she had no idea that it would be translated into more than seventy languages and that millions of people would read it. Her diary has become an awareness for people into World War II and the Holocaust. While it was a diary of her innermost thoughts, it has become a powerful primary document into how we interpret history.

You are living in a historic time period, too, and one day school children will want to know what it was like to live in the 2020s. Spend two weeks keeping a diary of what is going on in your life and the world around us. After two weeks, place it somewhere important for future reading.

One day you will be able to reread it and remember your identity during this time and have a greater understanding of historical events.



SCIENCE

A plant or animal's identity is centered in its genetic makeup. Genetic modification is one aspect of biotechnology.

Read the overview of biotechnology on this website: <https://futureoflife.org/background/benefits-risks-biotechnology/?cn-reloaded=1>

Develop a chart of risks and benefits of genetic modification. After you have completed the chart, create the script for a Public Service Announcement that shares both the benefits and risks of biotechnology.



MINDFULNESS

Teenage years are a time to develop self-identity. It may be hard to view yourself through your own lens and ignore how others view you.

You can learn more about yourself by exploring your purpose.

- What is the purpose for spending time with your family? Friends? Hobbies? Schoolwork?
- Are you spending more time in one area than the others?
- Does the amount of time spent in each area match your purpose for each one?

Use this mindfulness strategy to balance your time with your purpose.

Find a quote that defines your purpose in life. Inspirational quotes can be found on the internet or favorite books you have read.

Write your quote in your journal and explain its relevance to your identity.

Identity



LOGIC PUZZLE

Daniel, Daphne, Dexter, Dirk, and Dorcas are students at Washington High School, which offers an unusually diversified program in music and athletics. Each student plays a different instrument and participates in a different sport.

Detailed information for this puzzle is provided here: <https://bit.ly/30CGzmn>

Can you identify which student plays each instrument and which athletic letter the student has earned?



FIELD STUDIES

Every June 19th, many African Americans celebrate Juneteenth, a celebration of the end of slavery. While July Fourth celebrated America's Independence, it was not a celebration for slaves, as they were not free until the American Civil War ended. Learn more about Juneteenth by reading the following articles:

- Smithsonian article: <https://drive.google.com/file/d/1g17nLu0srS8LDCSuUkH-jINbf7XUhoLO/view?usp=sharing>
- PBS article: <https://www.pbs.org/wnet/african-americans-many-rivers-to-cross/history/what-is-juneteenth/>

Continue exploring Juneteenth by researching to determine if and how this holiday is celebrated in your community and state.

Prepare a Tweet that you could send out on June 19th about the holiday. A Tweet must have 140 characters or less.



RESEARCH EXPLORATIONS

According to the Federal Trade Commission, identity theft is one of the fastest-growing crimes in the United States. On the consumer.gov's website link, read about "Scams and Identity Theft" to learn more. <https://www.consumer.gov/scams>

Identity thieves take advantage of people in vulnerable situations. Read how the Covid-19 pandemic created opportunities for phishing and other scams on this website: <https://www.consumeraffairs.com/finance/identity-theft-statistics.html>

Create a list of behaviors that would deter thieves from stealing a person's identity. Share with friends and family who may be targeted for these scams.



MATH

An algebraic identity is an equality that holds true for any value of a variable. $x = x$ is a simple example of an algebraic identity and because it does not matter what value x is, the equation is true.

$(a + b)^2 = a^2 + 2ab + b^2$ is a common identity in algebra. Use the procedure found by following the link to prove $(a + b)^2 = a^2 + 2ab + b^2$ geometrically. <https://bit.ly/2ZuPhDB>



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GRADES
10-12

Identity



ENGLISH LANGUAGE ARTS

What do you identify as the “American Dream?” Using images from the Smithsonian Learning Lab, choose 3 pictures that you feel is symbolic of the American Dream: <https://s.si.edu/2D24sf2>

By describing and analyzing each image, evaluate the American Dream. Consider the questions below in your evaluation:

- How do the images reflect the idea of the American Dream?
- How has the dream changed over time and what does it mean today?
- How have aspects of the American Dream remained unchanged?

Select an image that symbolizes your American Dream. Explain why you selected this image. How does this image relate to your identity?



SOCIAL STUDIES

In a democracy, citizens can voice their opinions through elections. The Smithsonian’s video series on the link below follows 10 teens who have stood up for what they believe and have made a difference: <https://s.si.edu/2Wka1fh>

What is something you feel strongly about in society today? If you were invited to give a speech to Congress about the topic, what would you say?

- How would you convince Congress to agree with you?
- What actions would you propose to your audience to put your words into action?
- What are two or three conclusions you would leave with your audience?

Write your speech and present it to a friend or relative, a local government official, or Congress!

For Tips on how to write an effective speech, visit this website: <https://writingcenter.unc.edu/tips-and-tools/speeches/>



SCIENCE

Cloning is a technique used in molecular biology to make identical copies of DNA. Your DNA contains all the unique information to create who you are. There is no one exactly like you. Many conversations have been held around the pros and cons of cloning. Those against it cite the invasion of human identity, while supporters argue the possibilities of genetic research and advances in human development.

What is your opinion on cloning? If it could be used to save you or the life of someone you love, would you allow it? Would you feel as if your identity was taken? What about ethical issues?

Write an argumentative essay stating your position on cloning. Explain your reasons and any scientific data to support your claim.

Read more about cloning here: <https://www.genome.gov/about-genomics/fact-sheets/Cloning-Fact-Sheet>



MINDFULNESS

Self-awareness is vital in understanding one’s identity. Dr. Thomas Armstrong said, “*One of the hallmarks of adolescence is the development of a deeper sense of self-consciousness.*”

Reflect for five minutes. You’re at an important stage in your life. Outside influences, like social media and friends, contribute to how you see yourself. Instead of focusing on how other people see you, take the initiative to “see yourself.”

Watch this TED Ed video: <https://ed.ted.com/lessons/who-am-i-a-philosophical-inquiry-amy-adkins#watch>

Can you relate to the ship analogy? How does this increase your awareness of who you are?

Identity



LOGIC PUZZLE

Identity Riddles:

Once I'm 24. Twice I'm 20. Three times I'm inappropriate. What am I?

I cause involuntary movements in your vehicle. What am I?

You throw away my outside, you cook my inside. Then you eat my outside and you throw away my inside. What am I?



FIELD STUDIES

Forensic science is the use of scientific means to analyze physical crime evidence. One tool in the identification process is fingerprinting. No two prints are alike, not even for identical twins. Each print consists of arches, loops and whorls that are analyzed using a loupe magnifier, super glue chamber, or a light source.

Copy your own unique fingerprint using a pencil, tape, and a sheet of paper, using these instructions: <https://youtu.be/w7UYHrPas3c>. Identify any loops, arches, or whorls.

Do you have what it takes to become a fingerprint examiner? Test your eye with the fingerprint quiz on this website: <https://www.nist.gov/news-events/news/2017/05/do-you-have-what-it-takes-be-forensic-fingerprint-examiner>

Research other related professions that use fingerprinting technology.



RESEARCH EXPLORATIONS

Smartphones - Do You Really Want Them to Be Part of Your Identity?

Many people consider their smartphone as part of their identity, but have you ever wondered how sustainable your smartphone is?

Use the interactive link below to take a detailed look at positive and negative impacts your smartphone has made on people and the planet: <https://bit.ly/30wM3yl>

Create your own smartphone pros and cons list. Be sure to include social and environmental effects. Use this list to prepare and record a TED Talk or a Public Service Announcement about the sustainability issues surrounding the development of this technology. Be sure to include how educating yourself on the environmental effects of smartphone production can change the way you identify with the world of technology.



MATH

Equations and Identities

As stated by Brilliant.org, "An identity is an equality that holds true regardless of the values chosen for its variables. They are used in simplifying or rearranging algebra expressions. By definition, the two sides of an identity are interchangeable, so we can replace one with the other at any time."

Watch the following video about polynomial identities: <https://study.com/academy/lesson/what-are-polynomial-identities.html>

Create your own polynomial identity equations. Record an example of an equation that has:

- (a) One solution
- (b) Two solutions
- (c) An infinite number of solutions
- (d) No solutions



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GRADES

K-12

Identity Reference Guide

2-3 and 4-5 Logic Puzzles:

Tower of Hanoi puzzles

https://www.mathplayground.com/logic_tower_of_hanoi.html

6-7 Logic Puzzle:

Solution available during TED Talk:

https://www.ted.com/talks/alex_gendler_can_you_solve_the_three_gods_riddle/transcript?language=en#t-38386

10-12 Logic Puzzle:

Solution: The letter X

Solution: A tow truck

Solution: Corn

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IDENTITY

NC STANDARDS ALIGNMENT

| Grade Span | English/ Language Arts | Social Studies | Science | Math |
|--------------|---------------------------|-------------------|-----------|------------------------|
| K-1 | RL.1.3 RL.1.7 | K.C.1.1 | K.P.2.1 | NC.1.OA.6 NC.2.OA.2 |
| 2-3 | RL.3.3 | 3.G.1.2 | 2.P.2.1 | NC.2.G.1 |
| 4-5 | RL.5.3 | 4.H.1.6 | 4.P.2.3 | NC.4.G.2 |
| 6-7 | W.6.3 | 6.C.1.1 | 7.L.2.2 | NC.6.EE.6 NC.7.EE.3 |
| 8-9 | W.7.2 | 8.H.1.3 | 8.L.2.1 | NC.M2.A-REI.4 |
| 10-12 | RI.11-12.7 | FP.C&G.4 | BIO.3.3.3 | NC.M3.N-CN.9 |

