

ADVANCED LEARNING LABS

A partnership between the North Carolina Department of Public Instruction and Duke TIP
TO ENGAGE, ACTIVATE, AND GROW OUR STUDENTS

GRADES
10-12

Lab 3 • Innovation



ENGLISH LANGUAGE ARTS

Numerous important inventions have occurred in the last 50 years. Choose one that you think has had the biggest impact on society (positive *or* negative). What problem or issue was intended to be addressed by this invention? Has this invention caused any unintended effects? Locate at least three different sources to help you answer the driving questions above. As you read, collect 2-3 pieces of detailed evidence from each text that supports your answers. Evidence can be: examples, quotes, statistics, graphs, etc. Using the driving questions, collected evidence, and your conclusions, create an infographic (digital or on paper) that visually represents your knowledge of the subject and aids in others' understanding the subject. Share with a family member or friend!



SOCIAL STUDIES

The short and long-term effects on personal and global finances during and after a pandemic are immense. Read about how inequality within populations deepens economic disparities and watch how North Carolina is being impacted by COVID-19.

- Article Link: <https://nyti.ms/3duPY4c>
- Video Link: <https://bit.ly/3bbw5xj>

What do you know about the fiscal policies the federal government has implemented in response to COVID-19? What has been the economic impact of the pandemic on your local community?

Use what you know and what you have learned to come up with an innovative, five-step action plan that your state could implement to lessen the financial impact of COVID-19 on North Carolina residents.



SCIENCE

The world is experiencing environmental benefits due to recent changes to human behavior. Read these NASA articles on NO2 emissions in China and particulate matter in India.

- Link: <https://go.nasa.gov/2YKCc9j>
- Link: <https://go.nasa.gov/2WFwWB7>

How could such environmental gains made during this time be maintained as parts of the world establish a new normal in human activity? Consider both the US and the global community. Who would need to be involved in implementing these changes in the US?

Target your proposal for that audience and include arguments that would help persuade them.



MINDFULNESS

Think about your favorite song and how it connects to Mindfulness- the practice of being in the present moment.

- How does the music make you feel when you hear it?
- How do the melodies come together?
- What instruments do you hear that you have not noticed before?

Listen with lyrics.

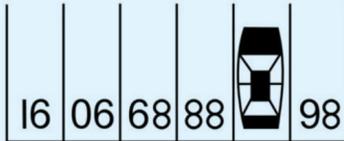
- How does the music match with lyrics?
- How does the song change your mood when you hear it?

Take this time to clear your mind and enjoy the sounds and connect with the emotions the music gives you. Lead your friends and family through this exercise.



LOGIC PUZZLE

What is the car's parking spot number?



What is the next number in the sequence:
1, 11, 21, 1211, 111221, 312211, 13112221, _____?

Answers: <https://bit.ly/2yemUPn>



FIELD STUDIES

Nuclear energy is made possible by people in an array of careers working every day to innovate the way we create and use energy. Learn about the Surprising Careers in Nuclear Science in the video.

Link: <https://www.navigatingnuclear.com/nuclear-reimagined-vft/>

Review the career profiles of other professionals working with nuclear energy.

Link: <https://www.navigatingnuclear.com/explore-careers>

Use the internet to continue your research for at least one career in nuclear energy. Create a revised career profile that includes the record the salary range, college or universities that offer degree programs required for that career, and companies that are hiring for that career.

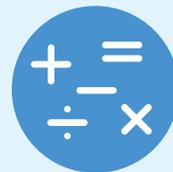


RESEARCH EXPLORATIONS

You are an architect tasked with designing an innovative stand-alone home office (a small building behind the home). The client requests the home office be as energy-efficient as possible.

Research ways a small building can be energy efficient and the cost to implement the energy efficient features. Develop a plan based on your research and sketch what the space would look like.

Create a presentation of your plan, integrating your research.



MATH

Observe the people around you. What can you hypothesize about their happiness?

Create questions and collect data to verify your hypothesis. Overall, is your observational data good? Why or why not? How does sample size affect your outcomes? What might you suggest as a strategy for increasing happiness during high school, throughout college, once you get a job, etc.?

Develop 2-3 implementable strategies for boosting happiness while at home this week. As an extension, explore the Lab 2 activity - How does your data compare or contrast to those statistics?



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PUBLIC INSTRUCTION

