

# ADVANCED LEARNING LABS

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

GRADES

K-1

## Lab 4 • Community



### ENGLISH LANGUAGE ARTS

A community is a group sharing common location or common interests.

Think of a community to which you belong (could be neighborhood, school, or family).

How could your community be improved or changed? Draw, color, and label two pictures - one as your community is now and one as it would be after your change or improvement happens.



### SOCIAL STUDIES

The United States of America is called “the Land of the Free.” Laws are the rules the government puts in place to protect our rights and they guarantee that freedom. The Bill of Rights, which was added to the Constitution of the United States of America, in ten very important additions to the Constitution (called Amendments) guarantee those rights.

Watch this video to learn about the Bill of Rights, and then decide what are the three most important amendments in the Bill of Rights? How do these amendments affect your role as a citizen in your community? Share your choices.

Link: <https://youtu.be/3P6E3Bpn5yw>



### SCIENCE

Find recyclable materials in your house. Draw a design of a bird feeder out of these materials. Explain the benefits of how using recyclable materials helps both humans and animals in your community.

Create instructions for how to make a bird feeder out of recycled materials. Follow your own instructions to make a bird feeder out of the recyclable materials.

Revise and share your instructions with your neighbors or other members of your community.



### MINDFULNESS

A Harvard University article says that giving thanks makes you happier.

This week, choose one person in your community (family, friend, neighbor, teacher, etc.) for whom you are thankful, and leave them a positive message to brighten their day. Your positive message could include a favorite memory of them, describe why you are thankful for them, or even what you look forward to doing with them at a later date.

You can share your message in a letter, video clip, voice mail, colorful picture or another creative way!



## LOGIC PUZZLE

It's mu mu mu monster madness. Find the missing monsters and solve the Sudoku puzzle.

<https://bit.ly/2WA7cGk>

To learn more about Sudoku, visit <https://www.learn-sudoku.com/what-is-sudoku.html>



## FIELD STUDIES

Routines are affected by changes in society and the community around us.

Watch "A Tale of Two Kitchens" from the North Carolina Museum of History to learn how morning routines from the mid-1800s are different than morning routines for kids today.

Link: <https://youtu.be/Zy7QrXTIsbk>

When you are finished, ask an adult in your house to describe what their morning routine was like as a child.

How is it different and the same as your routine?

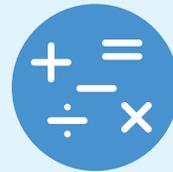


## RESEARCH EXPLORATIONS

Sociologists research how people within communities behave and interact.

Your task is to research what games an adult in your life played when they were your age. Ask an adult about what games they liked to play when they were your age. Ask questions to learn more about the games, such as the rules of the game, number of people needed to play, the goal to win, and what they liked about the game. Then, write about the games they played.

What did you learn about how people behaved and interacted through games years ago?



## MATH

Be a community mapmaker!

Draw a map of your street/block and the locations around you. Color the map using 4 different colors. Use different colors for side-by-side and opposite items. Was it easy or hard? Why?

Choose a room in your home and draw a map. Use a book to measure the walls' lengths and label the sides. What is the perimeter (in books)? Draw items in the room using 4 crayons. Make things next to or across from each other different colors.

Was it easier or harder to create than the street map? Why? Share your map with someone who lives in your house!



North Carolina Department of  
PUBLIC INSTRUCTION



DUKE UNIVERSITY  
TALENT IDENTIFICATION PROGRAM

PROJECT COMPLETED IN RESPONSE TO COVID-19 • SPRING 2020

[www.dpi.nc.gov/students-families/enhanced-opportunities/advanced-learning-and-gifted-education](http://www.dpi.nc.gov/students-families/enhanced-opportunities/advanced-learning-and-gifted-education) • [tip.duke.edu](http://tip.duke.edu)

# ADVANCED LEARNING LABS

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

GRADES

2–3

## Lab 4 • Community



### ENGLISH LANGUAGE ARTS

A community is a group sharing common location or common interests. Think of a community to which you belong (could be neighborhood, school, or family). Think of a way this community could be improved or changed. Pick someone in the community and share your ideas with them. Then have them share their ideas on how they would improve or change the community.

Write 2-3 questions to use in your interview. Be sure to ask appropriate questions, and listen and respond with relevant follow-up questions, answer those with details and elaboration. Using their ideas and your own, think about any changes you would make to your first idea. Develop a plan for putting your idea into action.



### SOCIAL STUDIES

The United States of America is called “the Land of the Free.” Laws are the rules the government puts in place to protect our rights as citizens. The Bill of Rights is made of ten Amendments that were added to the Constitution of the United States of America to guarantee those rights.

Watch this video to learn about the Bill of Rights, and then decide what are the five most important amendments in the Bill of Rights?

**Link:** <https://youtu.be/3P6E3Bpn5yw>

How do these amendments affect your role as a citizen in your community? Create two additional amendments that you think are needed to support the citizens in your community at this time.



### SCIENCE

Observe plants in a shady area outside in your community. Also, observe plants in a sunny area outside. Make notes about the environmental conditions and type of soil, and the types of plants in those areas you observed.

Predict the kinds of plants you would find in shady vs sunny areas. Test your predictions in new areas.

Propose an explanation for any plants that were present that did not meet your prediction.



### MINDFULNESS

A Harvard University article says that giving thanks makes you happier. This week, choose one person in your community (family, friend, neighbor, teacher, etc.) for whom you are thankful.

Create a gratitude collage! Use arts and craft materials you have at your house—colored paper, crayons or markers, cut out pictures or pictures you draw, etc. to create a collage of images that describe why you are thankful for that person.

You might include images of:

- How they make you feel
- What you like to do with them
- What makes them a fun person

Share your collage with that special person!



## LOGIC PUZZLE

Tackle this fun puzzle. Sudoku is a number puzzle where each row, column, and section can only have a number once. Complete the Sudoku using the numbers 1-6.

<https://bit.ly/35E98SI>

To learn more about Sudoku, visit <https://www.learn-sudoku.com/what-is-sudoku.html>



## FIELD STUDIES

Routines are affected by changes in society and the community around us. Watch "A Tale of Two Kitchens" from the North Carolina Museum of History to learn how morning routines from the mid-1800s are different than morning routines for kids today.

**Link:** <https://youtu.be/Zy7QrXTIsbk>

When you are finished, ask an adult in your house to describe what their morning routine was like as a child. How is it different and the same as your routine?

Use what you learned from the adult you talked to and create a list of chores you think they would have had to do as children.

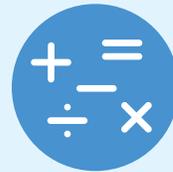


## RESEARCH EXPLORATIONS

Sociologists research how people within communities behave and interact.

Your task is to research what games an adult in your life played when they were your age. Ask an adult about what games they liked to play when they were your age. Ask questions to learn more about the games such as the rules of the game, number of people needed to play, the goal to win, and what they liked about the game, as well as with whom they interacted. Write about the games they played. Include illustrations.

What did you learn about how people behaved years ago? Review the link below. How are games kids play in other countries different than the games you play? **Link:** <https://www.parents.com/fun/games/educational/games-from-around-the-world/>



## MATH

Explore mapmaking!

Draw your neighborhood community. Create the map using as few colors as you can. Use different colors for adjacent places. How many colors did you use? Could you use fewer?

Map one room in your home. Use a book to measure the walls' lengths. Calculate perimeter and area (in books). Repeat your measurements with a bigger and a smaller book. How do they change? Using as few colors as you can, map items in the room. Color adjacent items differently. How many colors did you use? Could you use fewer? Which map was easier or harder to create?

Share your maps and findings with a family member.



North Carolina Department of  
PUBLIC INSTRUCTION



# ADVANCED LEARNING LABS

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

GRADES

4-5

## Lab 4 • Community



### ENGLISH LANGUAGE ARTS

A community is a group sharing common location or common interests. Think of a community to which you belong (could be neighborhood, school, or family). Think of a way this community could be improved or changed.

Imagine your community has a newspaper or newsletter that everyone reads (this may in fact be true!). Write a letter to the editor sharing the ideas you want to be implemented. Be sure to state your opinion clearly and include reasons that are supported by facts and details. Use persuasive techniques to convince the audience, and anticipate any objections. Conclude your letter with a clear call to action for what the next step should be.



### SOCIAL STUDIES

The Declaration of Independence is a document that established the United States as a free nation, separate and apart from Great Britain.

Your task is to read and analyze the Declaration of Independence and RE-WRITE the document (the first and final parts) so that it would make sense to someone reading it today.

To assist you in this task, you may want to listen to this presentation by Katie, an expert with the National Archives, as she leads a group discussion online on the 5 W's of the Declaration of Independence.

Link: <https://bit.ly/2xQYn2M>



### SCIENCE

Go outside and observe a space that has trees, grass or weeds, and evidence of animals living in or visiting the area (such as birds, mammals, and insects) in your community.

Sketch or describe the space. Classify the organisms in the space as producers, consumers, or decomposers. Explain how they are interconnected. Identify and evaluate the positive and negative impacts that humans have on this ecosystem.

How can you share this information with members of your community to educate them about your community ecosystem?



### MINDFULNESS

A Harvard University article says that giving thanks makes you happier.

Make a gratitude jar to remind yourself of all the things for which you are thankful. Place a jar in a central location in your house. Write "I am thankful for \_\_\_\_\_" on ten small pieces of paper and place them next to the jar with a pencil.

Explain to your family that when any of you think of something for which you are thankful, you should write it down and put it in the jar. When you are feeling down, you can pull out a piece of paper from the jar to read!

Create a gratitude jar to share with a family in your community.



## LOGIC PUZZLE

Complete the Sudoku and then try a Kaodoku!

A Kaodoku is a variation of Sudoku with symbols that are only partially given.

Instead of numbers, the cells have smiley faces. There are 3 types of shapes and mouths for each smiley. Each of the 9 possible smiley combinations may only appear once in each column, row, and section.



Follow the link: <https://bit.ly/2SKnmvA>

To learn more about Sudoku, visit <https://www.learn-sudoku.com/what-is-sudoku.html>



## FIELD STUDIES

What do animals at the Georgia Aquarium do in their free time when the aquarium is closed?

Find what different animal communities are up to when no one is looking! Visit the aquarium and watch live-camera footage for 2-3 animals of your choice.

**Link:** <https://www.georgiaaquarium.org/webcam/southern-sea-otter-webcam/>

What differences do you notice between the different animals? How are the animals the same?

Watch the live-cameras at different times during the day. What differences do you notice in the animals' behavior at different times? Why do you think the animals act differently at different times?



## RESEARCH EXPLORATIONS

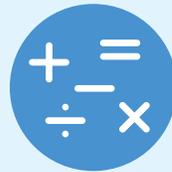
Sociologists research how people within communities behave and interact.

Ask an adult about what games they liked to play at your age. Ask questions to learn more about the games and how they were different or similar to what you play.

What did you learn about how people behaved years ago compared to now? Write a description of the games they played and how they compare to the games you play. Include illustrations.

Would people who are other ages give similar or different responses? How are games kids play in other countries different than the games you play? Review the link below.

**Link:** <https://www.parents.com/fun/games/educational/games-from-around-the-world/>



## MATH

Explore cartography!

Draw three maps: your community, street, and home.

Color the maps ensuring no adjacent or opposite places are the same color. How many colors did you use? Could you use fewer? Why?

Map one room in your home. Use a book to measure wall lengths and heights. Calculate perimeter, area, and volume. Describe how calculations change if you use books of varying sizes. Using the fewest number of colors, map items in the room. Color adjacent items differently. How many colors did you use? Could you use fewer?

Which map was easier or harder to create? Share your maps and findings with a family member.



North Carolina Department of  
**PUBLIC INSTRUCTION**



# ADVANCED LEARNING LABS

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

GRADES

6–7

## Lab 4 • Community



### ENGLISH LANGUAGE ARTS

Sometimes, communities tell scary stories or myths to children to make them behave. For example, Elf on a Shelf was created to remind children to behave during the Christmas season. Summarize and analyze an existing myth as your research, then design your concept and create a proposal. Begin by summarizing a story or myth that is told to get children to behave. Analyze the details of the story or myth that make it most effective in encouraging good behavior? Determine what the advantages and disadvantages of using popular myths as a way to get children to follow rules?

Design a concept for a new myth or story that you think would be effective for families and communities to use and create a multimedia promotion for your new myth or story.



### SOCIAL STUDIES

To help urge the ratification of the Constitution Alexander Hamilton, John Jay, and James Madison wrote anonymous letters, the Federalist Papers, under the pseudonym “Publius.”

Review the Constitution using the link provided and choose an article that you think is most important. **Link:** <https://museum.archives.gov/events/72229>

Write a letter to the public to explain why they should support the ideas of the constitution and why it is beneficial for the community. On May 21st, the National Archives will be doing a live presentation with more details about the balance of power.



### SCIENCE

This Spring leaves appeared earlier than normal in North Carolina communities (and most of the South) as demonstrated by this graphic: <https://www.coastalreview.org/2020/02/spring-leaves-appearing-earlier-than-normal/>.

Identify the changes in abiotic factors that would be necessary to give rise to such early leaf growth. Predict how these factors would affect other organisms in the ecosystems.

How would your predictions vary across different ecosystems? Explain your predictions to a friend or family member.



### MINDFULNESS

Communities are rallying around students and helping them prioritize their mindfulness with easy relaxation practices that can be done anywhere.

One practice is finger-counting breaths. Create a personal mantra—a saying that is meaningful to you—that makes you think of something peaceful or relaxing. Practice balling your fists. In a quiet place, inhale deeply. As you exhale, say your mantra and unfurl a finger.

Do this until you have both palms open. Repeat and relax!



## LOGIC PUZZLE

Complete the Sudoku and then try a Kaodoku!

A Kaodoku is a variation of Sudoku with symbols that are only partially given.

Instead of numbers, the cells have smiley faces. There are 3 types of shapes and mouths for each smiley. Each of the 9 possible smiley combinations may only appear once in each column, row, and section.



Follow the link: <https://bit.ly/2SKnmvA>

To learn more about Sudoku, visit <https://www.learn-sudoku.com/what-is-sudoku.html>



## FIELD STUDIES

Imagine the hospitality and tourism board for your state has tasked you with creating a list of attractions for your community. This list will be used to create advertisements and increase tourism for your community. This could mean better jobs and a stronger local economy.

Research popular places in your community to create a list of attractions for families. Include a park, venue for family entertainment, unique restaurants, shopping locations, and other locations that make your community truly special.

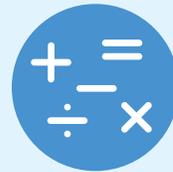


## RESEARCH EXPLORATIONS

Sociologists research how people within communities behave and interact.

Your task is to research how games have differed over time. Interview an adult 15-40 years older than you and an adult at least 41 years older than you about the games they played as children. Compare and contrast the games played by the older adult, the younger adult, and you.

Write a comparison of the games played over time between the three time periods, including concrete details, quotations, and graphics. What generalizations can you make about each generation? Do you think other people in their generation shared similar experiences? Why or why not?



## MATH

Your everyday normal may have changed a lot recently, but you still have a community of people around you. Write a story that reflects details of your everyday life. Be intentional about your story writing because after the story is written, your next task is to use variables to create a series of related math problems.

Share both your story and math problems with someone and see if they can arrange the math problems to match your story.

(It's tempting to write your math problems first, but challenge yourself by writing an engaging story first!)



North Carolina Department of  
**PUBLIC INSTRUCTION**



DUKE UNIVERSITY  
TALENT IDENTIFICATION PROGRAM

PROJECT COMPLETED IN RESPONSE TO COVID-19 • SPRING 2020

[www.dpi.nc.gov/students-families/enhanced-opportunities/advanced-learning-and-gifted-education](http://www.dpi.nc.gov/students-families/enhanced-opportunities/advanced-learning-and-gifted-education) • [tip.duke.edu](http://tip.duke.edu)

# ADVANCED LEARNING LABS

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

GRADES

8–9

## Lab 4 • Community



### ENGLISH LANGUAGE ARTS

Spoken word style of presentation is often used to creatively share feelings, thoughts, and ideas with communities. Use the rubric as you analyze the spoken word presentations below. Analyze the ways that poets use eye contact, volume, space, posture, and tone to add meaning and to engage the community. Identify two characteristics that you could incorporate into your next presentation and write a summary paragraph explaining how you will do that.

Rubric: <https://bit.ly/2WfCx27>

Poem 1: <https://bit.ly/2WlpzJe>

Poem 2: <https://ed.ted.com/on/bP9XQUEz#watch>

Poem 3: <https://youtu.be/LGAMd-tT6fQ>

Poem 4: <https://youtu.be/ltun92DfnPY>



### SOCIAL STUDIES

Thomas Jefferson wrote the Declaration of Independence in 1776. British colonists had been growing restless and fighting had already begun. Read through the Declaration of Independence.

**Link:** <https://www.archives.gov/founding-docs/declaration-transcript>

Create an annotated timeline of the events that happened that contributed to Jefferson's writing of the Declaration of Independence.

Think about the community's response during each event. How are the responses the same as if this were happening in the present? How would things be different?



### SCIENCE

Your community is not under a hornet attack! This article describes the arrival of Asian giant hornets in the Pacific Northwest and attempts to stop the invasion of the hornets.

**Link:** <https://www.smithsonianmag.com/smart-news/invasion-murder-hornets-180974809/>

Identify the possible impact on the ecosystem as this new species is introduced. Predict whether the attempts in the state of Washington will be successful, providing the reasoning that led you to your predictions.

Summarize what you learned about the hornets and your predictions in Twitter-length post of 140 characters or less.



### MINDFULNESS

Students in your community have been out of school for several weeks, and it will soon be summer. That leaves a lot of time to think and be alone with your thoughts. This can be especially challenging for younger students.

Create a 5-minute guided meditation for elementary-aged students. Your guided meditation should give students specific steps to take to help them relax and be present in their moment without any stress. Review ways for children to meditate at the link below for more information.

**Link:** <https://well.blogs.nytimes.com/2016/05/10/three-ways-for-children-to-try-meditation-at-home/>



## LOGIC PUZZLE

Try to slice through this Samarai Sudoku without carving up your sanity!

This Sudoku puzzle will have you seeing quintuple!

Follow the link: <https://bit.ly/2SKAf9b>

To learn more about Sudoku, visit <https://www.learn-sudoku.com/what-is-sudoku.html>



## FIELD STUDIES

Why is she smiling?

The Mona Lisa is praised as the most famous painting in the world—and it is also one of the most visited. Learn how classical art and cutting-edge virtual reality are giving spectators a new way to look at Mona Lisa at the Louvre.

Watch the video then research how other museums are fostering a larger art “community” through the use of innovative technology to create deeper connections between artwork and art patrons at museums. What are the benefits and disadvantages of virtual reality tours of museums?

Link: <https://www.louvre.fr/en/leonardo-da-vinci-0/realite-virtuelle#tabs>

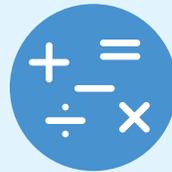


## RESEARCH EXPLORATIONS

Sociologists research how people within communities behave and interact.

Research how outdoor games have differed over time for elementary children. Interview an elementary child, an adult 15-25 years older than you, an adult 30-40 years older than you, and an adult 50-60 years older than you about the outdoor games they played as children.

Compare and contrast the games played by decade they were in elementary school. Then write a comparison of the games played by decade, including concrete details, quotations, examples, and graphics. What generalizations can you make about each generation? Do you think other people in their generation shared similar experiences? Why or why not?



## MATH

Think of a problem in your community. Brainstorm solutions and create a practical solution modeling the plan using diagrams, charts, graphs, equations, etc.

How will you calculate the feasibility of your plan? Is there a cost? How many people will you help?

Present your plan and ask for a critique from someone. Modify your plan to incorporate relevant feedback.

Reflect on the long-term impact of your plan. How can you operationalize your plan? *(If you know someone else who is doing this assignment and ask for a critique from them and then offer a critique of their plan.)*



North Carolina Department of  
PUBLIC INSTRUCTION



# 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 4 • Community



### ENGLISH LANGUAGE ARTS

Community network and cable talk show monologues have been popular for many years. For example, Steven Colbert and James Corden start each of their late-night shows with a monologue focused on current events. Watch recordings of one or two. Listen specifically to what is being said about each topic. Use the questions below to guide your reflection on what is actually said and the subtext:

- Why would they use understatement, sarcasm, and satire instead of just saying exactly what they mean?
- How does the content and their rhetorical style in their monologue contribute to the power and/or persuasiveness of it?

Create a monologue that incorporates satire, sarcasm, and/or understatement. Present to a family member.



### SOCIAL STUDIES

Many of the United States' founding documents have been influenced by Enlightenment thinkers. John Locke's ideas in the Two Treatises of Government were an important influence for Thomas Jefferson while writing.

Read the Declaration of Independence and review this information about John Locke's ideas. Pretend that you are a journalist who is able to interview John Locke about the Declaration of Independence.

What would you ask him and how do you think he would respond? Write a script of what would be included in the interview.

**Link:** <https://www.archives.gov/founding-docs/declaration>



### SCIENCE

Burning fossil fuels has increased the amount of CO<sub>2</sub> in the atmosphere over time.

Review this data about ocean CO<sub>2</sub> and pH and explain the inverse relationships in terms of Le Chatelier's principle.

**Link:** <https://bit.ly/2SO4uMC>

Organisms, like corals and oysters, need dissolved carbonate for their shells. Predict the possible impact on the development and survival of this community of organisms, identifying contributions both from the equilibrium you explained above and the changes in pH.

Design a unique way to test your predictions, including the types of measurements that would be needed.



### MINDFULNESS

Students in your community have been out of school for several weeks, and it will soon be summer. That leaves a lot of time to think and be alone with your thoughts. This can be especially challenging for younger students.

Create a 5-minute guided meditation for elementary-aged students. Your guided meditation should give students specific steps to take to help them relax and be present in their moment without any stress. Review ways for children to meditate for more information by visiting the link below. Teach this information to an elementary-aged student you know, to see how your guide works!

**Link:** <https://well.blogs.nytimes.com/2016/05/10/three-ways-for-children-to-try-meditation-at-home/>



## LOGIC PUZZLE

What is a Super Samurai Sudoku puzzle?

It's just your typical sudoku puzzle (x13 interlocking puzzles). NBD.

Follow the link: <https://bit.ly/2xNJf6g>

To learn more about Sudoku, visit <https://www.learn-sudoku.com/what-is-sudoku.html>



## FIELD STUDIES

Museums are relying on technology to create a virtual community that allows artists and museum patrons to engage without being physically in the presence of art. This has its pros and cons.

Read How Museums are Using Virtual Reality (VR) and watch the embedded videos to learn more about VR is being used to create unique art experiences.

**Link:** <https://www.museumnext.com/article/how-museums-are-using-virtual-reality/>

What are the benefits and disadvantages of using VR in museums and art exhibits? Choose one prevalent disadvantage and brainstorm at least two solutions that can be implemented at a low cost by museums.

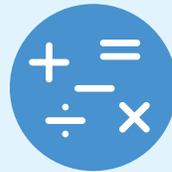


## RESEARCH EXPLORATIONS

Sociologists research how people within communities behave and interact. Research how games have differed over time for elementary children.

Interview someone who was in elementary school in the 2000s, 1980s, and 1960s about games they played as children. Compare and contrast the games played by decade in elementary school. Research events during those decades that would have influenced the games they played.

Write a comparison of the games played by decade, including concrete details, most significant and relevant facts from those decades, quotations, and graphics. Share your comparison with the people you interviewed.



## MATH

During times of uncertainty, community is even more important than ever. Math is used in a wide variety of careers that shape your community.

- Cartographers design, prepare and revise maps, charts, plans, three-dimensional models and spatial information databases.
- Urban planners develop long- and short-term plans for the use of land and the growth of urban, suburban, and rural communities.
- Architects design buildings and make sure they are functional, safe, and economical.

Brainstorm math career options and design a related project that challenges you to use math in unexpected ways to support your community.



North Carolina Department of  
**PUBLIC INSTRUCTION**



# ADVANCED LEARNING LABS

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

---

GRADES  
**K-12**

## Lab 4 • Community

### Works Cited and Answers

#### **Works Cited:**

**K-5: Four Color Theorem Resources-**

<https://www.crayola.com/lesson-plans/maps-and-math-lesson-plan/>

<https://www.mathsisfun.com/activity/coloring.html>

<https://medium.com/@MatthewOldridge/four-colour-theorem-187b32e03ce7>

**10-12:** <http://weusemath.org/>