Hello Students,

This resource packet includes multiple projects that you can work on independently at home. Each project can be completed over multiple days, and the projects can be completed in any order. These projects are standards-aligned and designed to meet the Remote Learning instructional minutes guidelines by grade band.

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- **8th Grade Math Project: The Pythagorean Theorem in Crime Scene Investigation**  
- **8th Grade Science Project: How do maglev trains work?**  
- **8th Grade Social Science Project: This Land - Before Chicago**
# 8th Grade Literacy Project: Writing Reviews

<table>
<thead>
<tr>
<th>Estimated Time</th>
<th>2 hours (120 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Level Standard(s)</td>
<td>RI.8.1 Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text. RI.8.2 Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text. RI.8.9 Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation. W.8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)</td>
</tr>
<tr>
<td>Caregiver Support Option</td>
<td>Caregivers can read and discuss the reviews with their student. Additionally, they can discuss recent books, movies, or TV shows they have watched through discussion or writing.</td>
</tr>
<tr>
<td>Materials Needed</td>
<td>Paper, Pen/Pencil; <strong>Optional</strong>: A movie or book you have recently finished</td>
</tr>
<tr>
<td>Question to Explore</td>
<td>What is the purpose of a review? What information do writers include in reviews?</td>
</tr>
<tr>
<td>Student Directions</td>
<td>In this project, you will learn how people express their ideas through reviews. First, you will read two reviews to learn what information writers include in reviews. Then, you will write your own review.</td>
</tr>
</tbody>
</table>

## Activity 1: Reading Book and Movie Reviews

Writers write reviews to share their ideas about items they have strong opinions about such as restaurants, video games, books, movies, events, or even a meal! In a review, a writer usually gives a brief description of the item before commenting on its strengths and weaknesses. A writer will discuss their opinions on the quality of the item. Then, writers often give their personal recommendation about whether or not they think someone else would enjoy this item.

You are going to start by reading two examples of reviews. One is a review of a book review and the other is a movie review. When reading these, notice information writers include in reviews and consider the purpose of this information. This will help you determine a writer’s central idea.

**Read each of the reviews below.** As you read, underline and annotate information you notice the writer include and the purpose for this information. For example, you might annotate, “I notice the writer includes a description of the author. The purpose is to give the author’s background and show the author did a lot of research to be an expert in the topic.”
After you read each review, respond to the following on a separate piece of paper.

A. Who is the intended audience for this review? Provide textual evidence to support your thinking.

B. What is the central idea of the review? In other words, what idea does the author convey about the item they are reviewing? In this review, a central idea is...

C. What information does the author include to develop this central idea? Provide textual evidence to support your thinking. The author conveys this idea by including... For example...


Some may know author Angie Thomas for her first novel, the best-selling “The Hate U Give,” which was later developed into a movie. Now, she has written a second great book.

Some may not have heard of Thomas. For them, “On the Come Up” is a second chance to enter her fictional world, with its page-turning plots and real-life connections.

The book is a coming-of-age story of an aspiring teenage rapper. Like her first book, the new one is set in fictional Garden Heights, a mostly black neighborhood worn down by poverty but rich in relationships. The new book similarly cinematic, snapping with vivid dialogue and descriptions.

Complicated Life For 16-Year-Old “Bri” - “I live on the east side of the Garden, where the houses are nicer, the homeowners are older, and the gunshots aren’t as frequent. But it’s kinda like saying one side of the Death Star is safer than the other. It’s still the Death Star,” says Thomas’s heroine, 16-year-old Brianna “Bri” Jackson. She’s bright and bristly on the page, a recognizable teenager in her passions and humor and occasional poor choices. She also has a darker and more complicated home life than Starr Carter, the heroine of “The Hate U Give,” living a few degrees closer to gang violence and a step ahead of serious money troubles.

“On the Come Up” begins after “The Hate U Give” leaves off, though it’s not a sequel – a continuation of the story. The only common character is Garden Heights itself. When we meet Bri, she’s juggling college prep classes with her burning desire to break out as a star. She lives in the shadow of her father, a singer murdered just as he was gaining fame. Meanwhile, she deals with the emotional scars of her mother’s past addictions, and we see the whole village it takes to raise her and the trade-offs required. Life is already hard enough for Bri, but then her mother loses her job as a church secretary. From there the stress rises to a wild pitch. Many of the incidents might sound overly dramatic if they didn’t mirror real-life headlines. [Image 2. “On the
Mixing Fiction With Real-Life Connections - At her magnet school, Bri is thrown to the ground by security guards. They wrongly suspect her of selling drugs. The bitter song she writes afterward goes viral, but even fame gets complicated. The voice she adopts for her angry lyrics sounds a bit more like the troublemaker she was mistaken for, not the street-smart poet-geek she really is.

Challenges race on from there with the breezy speed of a vacation read. Misunderstandings and old angers warp into outright danger. All the details are tidily (too tidily?) resolved as Bri explores everything from family ties to romance, from the nature of friendship to finding your own moral compass. It's a roller-coaster ride emceed by an irrepressibly appealing – and believable – guide. "You can only spell brilliant by first spelling Bri," goes her signature line. But there's a kid like any other behind the swagger, as when Bri fears her childhood friends are leaving her behind. "They're going places, so why should they hang out with somebody who's only going to the principal's office?" she wonders. Her friend Sonny sets her straight though, telling her, "Bri, you're my sis, okay? I knew you when you were afraid of Big Bird." Bri replies: "Oh my God, it is not logical for a bird to be that big! Why can't y'all get that?"

For Kids Who See Themselves In Hip-Hop - Thomas, who was a rapper herself as a teen, wrote that she intended the book as a love letter to hip-hop. She also wrote it for girls like Bri. They are black girls "who are often made to feel as if they are somehow both too much and not enough in a world that makes wrongheaded assumptions about them." This book is bound to resonate with readers who don't often see themselves and their communities at the center of a story.

"On the Come Up" should also appeal to a wider audience, regardless of color, background, political views, or even musical tastes. (It might be uncomfortable for those like the "middle-aged white woman" who speaks out at a school board meeting against Bri's song and the dangers of students "from certain communities." But her words, too, echo the real world.) We don't need to share Bri's experiences to learn from her story. With this book, like a hit song, the bigger themes linger along with the catchy beat.

Movie Review: Superheroes hold their own in "Incredibles 2" Elastigirl and the rest of Disney/Pixar's superhero family is back in "Incredibles 2." Photo by: Disney/Pixar

"Incredibles 2" is the long-awaited Disney/Pixar sequel to what is still one of the best superhero movies around. The new movie is a leather-gloved and domino-mask-wearing knockout punch to the idea that animated superhero adventures don't mean much in this era of live-action comic book movies and TV shows. When "The Incredibles" hit theaters in 2004, the modern world of superhero movies was just getting started. Sony and Fox were leading the way with their Spider-Man and X-Men movies, but the idea of a connected Marvel movie universe was still a dream for Kevin Feige, president of Marvel Studios. Superhero cartoons were still a heavyweight, with "Batman: The Animated Series," "Justice
League” and the ’90s Saturday-morning "X-Men" cartoon still favorites to many.

There are way more superheroes on screen these days. Marvel Studios is the undisputed king of comic book movies. DC and Warner Bros., despite missteps, created a cultural phenomenon in "Wonder Woman." In addition, the success of the "Deadpool" franchise means Fox won't let go of the X-Men anytime soon.

Movie Still Feels Fresh After 10-Year Wait - With so many live-action superhero options, do the Incredibles still matter? The answer to that question is yes, with an exclamation point and a "pow" for good measure.

"Incredibles 2" returns with its lovable cast of characters and top-notch voice talent. It also has snazzy and snappy music loaded with the musical equivalent of onomatopoeia, word sounds like "pow," "bang" and "boom."

Despite being a movie that took more than a decade to make, "Incredibles 2" doesn't feel dated. There's plenty of fun, laughs and (surprisingly intense) action. Youngsters who may not have seen the first film aren't punished for missing it — they'll be able to follow along easily.

Elastigirl (voiced by Holly Hunter) leads the way in a time when being a superhero is still against the law. The family's lead heroine and mom is recruited to save the day and try to bring superheroes back into the good graces of a government that doesn't trust them.

There Are Plenty Of Laughs - That leaves Mr. Incredible (voiced by Craig T. Nelson) — who wasn't asked to be a part of these superhero efforts — no choice but to stay at home with his superpowered kids. The situation generates moments that provide "Incredibles 2" with most of its laughs. Many of these laughs come once everyone realizes that baby Jack-Jack has superpowers too.

The family drama continues to be the heart of these movies. A teenage daughter, Violet (voiced by Sarah Vowell), wants nothing to do with anyone. Dash (Huck Milner) would be hyper all the time if he didn't have super-speed (which he does). Baby brother Jack-Jack (Eli Fucile) has the power to do just about whatever he wants, and Mr. Incredible struggles to sit on the bench with his mask off while his wife gets to be in the public eye.

Samuel L. Jackson is also back as Frozone. You half-expect his character, powered by Jackson's unmistakable voice, to call in the Avengers, since he plays Nick Fury in those movies. Hey, "Incredibles 2" is under the Disney umbrella — they could probably make it happen — but this superhero universe is entertaining enough that extra "suits" aren't needed.

It's a wonder we live in a world where multiple not-so-great Fantastic Four movies exist. Meanwhile, the Incredibles can just dust itself off after so many years and show Hollywood how it's done.

Everything "Incredibles 2" needed to do, it does. The follow-up reestablishes a Pixar/superhero movie world that still has plenty of life left in it while also proving cartoons are still a force in superhero entertainment. The upcoming "Teen Titans Go!" and Sony’s animated Spider-Man movies
should be thankful this movie arrived when it did.

"Incredibles 2" is a must-see and worth the wait.

**Activity 2: Planning Your Review - Answer the following on notebook paper.**

A. What is the title of the book, movie, show, or game you are reviewing? If you can’t think of one, you can also review something you are experiencing now, like the last thing you ate or the weather.

B. Who is the intended audience for your review? How will you make this known?

C. What is the most important idea you want to convey in your review? Think first about if you are making a positive or negative review, and then the strongest point you can make.

D. Support your opinion by providing your opinions about at least important elements of the item. For example, if you are writing about a book, show or movie, the important elements you might include
   - Character development (Do you like characters?)
   - Plot development (But don’t give away the ending!)
   - Comparisons to other books or movies (By the author or within the genre)
   - Audience (Who might like this book or movie?)
   - The author’s style (Is it accessible, beautiful, engaging, difficult?)
   - Overall experience feedback (Is it worth the reading or seeing? Does it take some time to get into?)

E. For each of the elements you selected, give two to three details and explain them.

**Activity 3: Write Your Review - Draft your review on a separate piece of paper. Use the techniques you found in the reviews above and the plan you created to draft your review. Use the checklist below to guide you as you revise and edit.**

<table>
<thead>
<tr>
<th>Writing a Review</th>
<th>Not Yet</th>
<th>Yes!</th>
</tr>
</thead>
<tbody>
<tr>
<td>I included the title of the book, movie, show, game, or item I reviewed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I provided a brief description of the item I reviewed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I provided a clear statement of my overall opinion of the item and gave reasons why.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I provided my opinions about at least 2 elements of the item.</td>
<td></td>
<td></td>
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<tr>
<td>I have supported each opinion with 2-3 details.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I decided who my audience was and used writing techniques to make my writing interesting to this audience.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I ended the review by leaving the reader with a sense of whether or not they would</td>
<td></td>
<td></td>
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<tr>
<td><strong>want the item.</strong></td>
<td></td>
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<td>-------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I used paragraphs to organize each idea about the item.</td>
<td></td>
<td></td>
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<tr>
<td>I checked spelling, capitalization, and grammar.</td>
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**Activity 4: Reflection**

A. What impact could your review have on your reader? How do you know?
B. Other than books and movies, what other items could you review? What information would you need to include about these items when writing your review?

**Cross Content Connection:**
- **Visual and Fine Arts:** Select a subject to review (sculpture, painting, performance, etc.). What types of information would a writer want to include when writing about this piece? Write a review to convey your ideas about the piece.

  Adapted from readwritethink.org and Newsela
8th Grade Math Project: The Pythagorean Theorem in Crime Scene Investigation

<table>
<thead>
<tr>
<th>Estimated Time</th>
<th>150 minutes</th>
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</thead>
<tbody>
<tr>
<td>Grade Level Standard(s)</td>
<td>8.G.B: Understand and apply the Pythagorean Theorem.</td>
</tr>
<tr>
<td>Caregiver Support Option</td>
<td>Discuss with your student possible theories of the &quot;crimes&quot;. Provide feedback.</td>
</tr>
<tr>
<td>Materials Needed</td>
<td>Paper, pencil, calculator, compass (or short piece of string and a pin)</td>
</tr>
<tr>
<td>Question to Explore</td>
<td>How can the Pythagorean Theorem be applied in real-world situations to model possible theories of how a crime happened?</td>
</tr>
<tr>
<td>Student Directions</td>
<td>You will take part in 5 tasks to solve a series of crimes using critical thinking, science, and math skills. You will investigate and gradually discover the who, what, where, when and how of this plotted series of crimes. You will then synthesize your data to present your case. Each task should take approximately 30 minutes. If you find yourself stuck, there are some helpful hints at the end of the packet.</td>
</tr>
</tbody>
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Adapted from: tinyurl.com/PTCrimeScene

Activity 1: Searching for a Missing Person

**Scenario:** It is Monday morning and you have been selected by the local police force to assist on a case while the police force is short-staffed due to the flu. A janitor at the local art museum arrived to work this morning only to discover the door was unlocked, valuable artifacts were missing, and the curator is nowhere to be seen and cannot be reached. This is the information you are given:

- The curator is not at the museum or at home, and hasn’t been seen or heard from since Friday.
- The curator walks to and from work every day (see Map 1), stopping to get coffee every morning at the Coffee House, and stopping for dinner every night at the Cafe.
- Every day, the curator has lunch at the Deli.
- The curator’s keys are also missing.
Map Analysis: On the map below, each square is one block; each block is equal to 0.10 miles.

1. How many blocks did he walk from his house, to the coffee shop, and then to the museum? ____________________

2. If the police wanted to search the area enclosed by his path, what would the area of that triangle be? __________ mi²
Show your work here:

3. What is the direct distance from the curator’s house to the museum? ________ mi
Show your work here:

4. Using the paths the curator walks each day, how many right triangles were you able to draw considering each stop he makes? ________
   *Bonus: what types of right triangles were formed?

Activity 2: Analyzing a Break-In

Scenario: There has been a break-in at the local museum. Valuable artifacts have been stolen. Two windows have been broken and it is suspected that the perpetrator used a very tall ladder to enter or leave the museum through these windows. The authorities are hoping that learning more about this unusual ladder will provide clues to identify a suspect. Near the first window, two indentations were found on the ground 16 feet away from the base of the building. It is suspected that the feet of a ladder created these indentations. The first broken window is 30 feet high off of the ground. Investigators need to determine approximately how tall the ladder was.

Task #1: The diagram below represents the ladder leaning against the museum wall. Label the diagram using the information above and determine the length of the suspected ladder.

Additional information: Investigators have determined that the second window broken at the museum was 33 feet off of the ground. No obvious indentations were found on the ground near the second window and we are not quite sure yet where the foot of the ladder was located.
Task #2: Use the above information to sketch and label a diagram of the crime scene and consider the length of the suspected ladder used. Also, consider the following questions:

- Is it possible that the same ladder was used to break the second window?
- If not, explain your reasoning.
- If so, approximately where on the ground could we look for evidence of where the ladder was based? Express your answer in feet and inches.

Based on the information you have discovered, formulate a hypothesis about the suspect entering and exiting the museum.

Activity 3: Determining a Search Radius

Scenario: The authorities have received an anonymous phone call. The caller left the following information:

The curator was seen getting into a vehicle immediately after leaving the coffee shop where he got his morning coffee, but before he got to the museum. After being picked up, the vehicle drove three blocks, turned left, drove another four blocks and then stopped. The curator is still alive and located in one of the buildings indicated by the triangles. The caller refused to give any further details and hung up. The authorities want you to remember that the curator has not been seen since disappearing.

1. Choose a point between the coffee house and the museum where the curator may have gotten into the car. Mark it and label its coordinates.
2. From the point you chose in part (1), trace the route described by the caller. Mark and label the coordinates of the point where the vehicle stopped.
   ** Is there more than one possible stopping point? If so, find other possible stopping points on the graph.
3. Now, draw one straight line from your starting point to each of the stopping points you found in part (2). What do all of the lines have in common?

   The lines drawn in #3 can be used as the radius of a circle drawn on a map to determine a possible search area for a suspect or a missing person. Use a compass or other method to draw the circle, using your starting point (where the curator got picked up) as the center. Does the circle narrow down the possible locations where the curator could be? How?
Activity 4: Smuggling Artifacts
Scenario: The authorities have video evidence of a possible suspect in the museum break-in. The suspect was seen carrying a briefcase measuring 20” long by 16” high by 3” wide. One of the artifacts stolen was 24” long and 2” wide. Investigators are trying to determine if this artifact was possibly smuggled out of the museum in this suspect’s briefcase.

Task #1 Use the above information to label the diagram of the briefcase and to sketch and label a diagram of the artifact that was stolen.

Task #2 Use the dimensions provided to determine if the investigators’ suspicions are mathematically possible.

Additional Information: Investigators have also discovered that a large painting was stolen from the museum. It is possible the painting was smuggled out of one of the windows. The museum windows are 24” wide by 24” tall. The large painting that was stolen was 35” wide by 36” tall.

Task #3 Based on the information given, determine whether or not this painting would have fit through a museum window.

Activity 5: Catching the Crook
Scenario: One final piece of evidence was found on a laptop connected to the case. When investigators opened the laptop, the following message appeared:

- The curator was seen in a second-story window of a building. All buildings in the third quadrant are only one story high.
- From the window, the river can be seen.
- If you were to draw a line from the river to the window, the length of the line would be exactly one half of a mile.

Task: Use all of the information you have gathered so far, along with the new information found on the laptop to determine EXACTLY which building the curator is hiding out in. Present your conclusion along with the evidence used.
Helpful Hints:

1. Making a compass out of string and a pin: First, cut a piece of string about 4”-5” longer than your radius. Tie one end of the string to a pencil. Place the point of the pencil toward the outer edge of the radius. Pin through the string into the paper at the center. With a taut string, move your pencil around in a circle.

2. The Pythagorean Theorem: [https://www.math-aids.com/Pythagorean_Theorem/](https://www.math-aids.com/Pythagorean_Theorem/)

The Pythagorean Theorem describes the relationship between the lengths of the legs and the hypotenuse of a right triangle. The relationship can be shown visually.

Given the length of the legs a and b, the length of the hypotenuse can be found using the formula $a^2 + b^2 = c^2$. See the example on the left.
3. The Pythagorean Theorem and Unit Circles

If you draw a horizontal and then vertical line connecting point \((a, b)\) to point \((x, y)\), you will have completed a right triangle whose hypotenuse is also the radius of the circle. The horizontal and vertical lines represent the legs of the right triangle. You can determine the length of each leg by calculating the horizontal distance \((x - a)\), and the vertical distance \((y - b)\). Then, use these values in the Pythagorean Theorem to find the length of the radius/hypotenuse.

**Optional Cross Content Connection:**

“Donald Duck in Mathmagic Land”
Join Donald on an adventure through Mathmagic Land where he discovers the everyday uses of mathematics and why math is useful.
[https://www.youtube.com/watch?v=U_ZHsk0-eF0](https://www.youtube.com/watch?v=U_ZHsk0-eF0)
### 8th Grade Science Project: How do maglev trains work?

<table>
<thead>
<tr>
<th>Estimated Time</th>
<th>120-130 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Level Standard(s)</td>
<td>MS-PS2-3. Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.</td>
</tr>
</tbody>
</table>
| Caregiver Support Option | ● Caregivers can assist by reading and discussing text and data with the student.  
● Students may need assistance setting up and/or finding materials for the optional hands-on extension activity at the end of the packet. |
| Materials Needed | ● Paper  
● Pen/pencil |
| Question to Explore | How do maglev trains work? |
| Student Directions | There are directions in each activity for you to follow. Grab some pieces of paper or notebook and a writing utensil (pen/pencil) and let’s do science! |

**Activity 1: Engaging with the Phenomenon (5-10 min.)**

Have you ever heard of a maglev train? Unlike trains that you usually see that ride on rails, these are trains that don’t touch the tracks, but float above them. Without friction from the tracks slowing them down, maglev trains are able to reach speeds up to 350 miles per hour! That’s about four and a half times faster than the speed limit on the highway!

How do you think a maglev train rises up from the tracks before it leaves the station and lowers back down when it arrives at the next station? Draw a model using the template on the next page to explain your initial ideas.
1. Explain your ideas through drawing, labels, symbols (for example: arrows), and in writing below:

<table>
<thead>
<tr>
<th>How does a maglev train rise?</th>
<th>How does a maglev train lower?</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Diagram of train rise]</td>
<td>![Diagram of train lower]</td>
</tr>
</tbody>
</table>

Activity 2: Investigating Magnetism and Magnetic Fields (40-45 min.)

A. Read the scenario below:
Jacqueline and her brother, Carlos, were testing their fridge magnets at home. The magnet stuck to the trash can and the scissors Jacqueline pulled out of their kitchen drawer. The magnet did not stick to the wooden dining table or the apple Carlos took out of the fridge. The two siblings discussed their ideas about magnets:
- Jacqueline: “The magnet sticks to the trash can and the scissors because they are made of metal. Magnets attract everything made of metal.”
- Carlos: “I disagree with your ideas. I think that magnets only attract some things made of metal, not all things made of metal.”
1. Who do you agree with the most? ____________________________________. On a sheet of paper, explain why you agree with this person.

B. Observe and read the diagrams below and then answer the questions on a sheet of paper.

2. Are these magnets attracting or repelling?
3. What do you observe about the direction of the motion of the two magnets?
4. What do you observe about how the poles are lined up?
5. What do you observe about the magnetic field lines?

6. Are these magnets attracting or repelling?
7. What do you observe about the direction of the motion of the two magnets?
8. What do you observe about how the poles are lined up?
9. What do you observe about the magnetic field lines?

C. Reading the following text and answer the questions below [Source: Amplify Science]
Earth’s Geomagnetism

If you’ve ever used a compass, you’ve seen that you can turn it in different directions and the magnetic needle inside rotates to point north again, as if it had a mind of its own. This small magnetic needle is actually pushed and pulled by powerful magnetic forces that envelop Earth. Our planet is surrounded by a huge magnetic field that reaches from Earth’s core all the way into space.

Magnetic forces like those caused by Earth’s geomagnetic field may seem mysterious. These forces act on objects at a distance, and we can’t see or touch them. To help visualize magnetic forces, scientists model them using magnetic field lines. These scientific models help scientists predict and explain how magnetic forces work. In a model of a single magnet, lines are drawn looping outward between opposite magnetic poles.

In a model with more than one magnet, the field lines are sometimes drawn connecting opposite poles on the magnets. These field lines help predict the direction of the forces pulling or pushing different magnets. A model showing field lines connecting the opposite poles of different magnets indicates that the magnets will be attracted together. A model showing two magnets that are not connected to each other by field lines indicates that the magnets will repel each other.

Compasses are helpful in determining which direction the magnetic field is going and where the field lines should be drawn. Field lines drawn to model Earth’s magnetic forces are based on the directions compass needles point at different places on Earth. Compass needles spin so that one end points to the north pole. This happens because each geomagnetic pole attracts the opposite pole of the compass at the same time it repels the like pole of the compass. These magnetic forces cause the compass needle to rotate until it points north.

You can see the effect of Earth’s magnetic field when you hold a compass in your hand—the needle points north, and knowing
which way is north can help you find south, east, and west. Some animals can figure this out without looking at a compass. They have tiny bits of metal in their cells that act like tiny compass needles! These bits of metal rotate to point north, giving these animals a natural sense of which way is north. Animals like bees, bats, and some types of birds use this knowledge to find their way. Some use it for short distances, like bees that have flown away from their hives. Others, like snow geese, use it to migrate thousands of miles every year.

Earth acts like a giant bar magnet, with a north pole and a south pole that affect compass needles, but there isn’t actually a bar magnet in the center of Earth. Earth’s magnetic field is caused by the planet’s liquid iron core moving around. The process that creates a planet-wide magnetic field is called geomagnetism.

It may seem amazing that forces produced in the center of Earth could act on objects so far away, but Earth’s magnetic field actually reaches much farther than Earth’s surface. These forces are acting on Earth all the time, and we use them for everything from navigation to sorting recycling. So although you can’t see them, you interact with the forces of geomagnetism every day.
Answer the following questions based on the reading:

10. How are magnetic field lines helpful? Explain on a sheet of paper.

11. Explain and drawing and writing below how a compass works:

How does a compass work?

12. Based on the information you read, what role do you think magnetism and magnetic fields might play in how a maglev train rises up from the track and descends back down? Draw a picture to help explain your ideas.
Activity 3: Investigating Electromagnets (40 min.)

A. Read the article below and then answer the questions.

Source: https://science.howstuffworks.com/electromagnet2.htm

**How Electromagnets Work**

BY MARSHALL BRAIN & LANCE LOOPER

What do a wrecking yard, a rock concert and your front door have in common? They each use electromagnets, devices that create a magnetic field through the application of electricity.

Wrecking yards employ extremely powerful electromagnets to move heavy pieces of scrap metal or even entire cars from one place to another. Your favorite band uses electromagnets to amplify the sound coming out of its speakers. And when someone rings your doorbell, a tiny electromagnet pulls a metal clapper against a bell.

Mechanically, an electromagnet is pretty simple. It consists of a length of conductive wire, usually copper, wrapped around a piece of metal. Like Frankenstein’s monster, this seems like little more than a loose collection of parts until electricity comes into the picture. But you don’t have to wait for a storm to bring an electromagnet to life. A current is introduced, either from a battery or another source of electricity, and flows through the wire. This creates a magnetic field around the coiled wire, magnetizing the metal as if it were a permanent magnet (like the bar magnets in the last activity). Electromagnets are useful because you can turn the magnet on and off by completing or interrupting the circuit, respectively.

The doorbell is a good example of how electromagnets can be used in applications where permanent magnets just wouldn’t make any sense. When a guest pushes the button on your front door, the electronic circuitry inside the door bell closes an electrical loop, meaning the circuit is completed and “turned on.” The closed circuit allows electricity to flow, creating a magnetic field and causing the clapper to become magnetized. The hardware of most doorbells consist of a metal...
bell and metal clapper that, when the magnetic charges causes them to clang together, you hear
the chime inside and you can answer the door. The bell rings, the guest releases the button, the
circuit opens and the doorbell stops its infernal ringing. This on-demand magnetism is what makes
the electromagnet so useful.

Answer the following questions based on the reading:
1. In your own words, what is an electromagnet?
2. What are some ways permanent magnets and electromagnets are similar? What are
   some ways they are different?
3. What are the benefits of using an electromagnet versus a permanent magnet?
4. Which types of magnets do you think might be involved in the design of maglev trains?
   Why do you think that?

B. Electromagnet Experiments: Read and answer the questions about each of the 3 experiments
   below.

[Adapted from: https://www.aplusktopper.com/factors-affect-strength-electromagnet/]

Experiment 1
In this experiment, a student scientist built an electromagnet. For each trial, the student changed
how many times she wrapped the copper wire around the iron rod (solenoid). This table shows her
results.

<table>
<thead>
<tr>
<th>Number of turns</th>
<th>Number of paper clips attracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>40</td>
<td>18</td>
</tr>
<tr>
<td>50</td>
<td>21</td>
</tr>
</tbody>
</table>

Answer the questions below on a sheet of paper:
4. What patterns do you observe in the data presented above in the table?
5. What does the pattern of data you see allow you to conclude from the experiment?
6. After analyzing the data, develop a question that can be answered with the data. Record
   this in your notebook or on paper. (Ex. How does _______ affect _______?)
Experiment 2
In this experiment, a student scientist built an electromagnet. For each trial, the student changed the amount of electrical current running through the wire. This table shows his results.

<table>
<thead>
<tr>
<th>Electrical current</th>
<th>Number of paper clips attracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 A</td>
<td>6</td>
</tr>
<tr>
<td>1.0 A</td>
<td>9</td>
</tr>
<tr>
<td>1.5 A</td>
<td>13</td>
</tr>
<tr>
<td>2.0 A</td>
<td>16</td>
</tr>
</tbody>
</table>

Answer the questions below on a sheet of paper:
7. What patterns do you observe in the data presented above in the table?
8. What does the pattern of data you see allow you to conclude from the experiment?
9. After analyzing the data, develop a question that can be answered with the data. Record this in your notebook or on paper. (Ex. How does _______ affect _______?)

Experiment 3
In this experiment, a student scientist built an electromagnet. For each trial, the student changed the type of core of the electromagnet. This table shows their results.

<table>
<thead>
<tr>
<th>Type of core</th>
<th>Number of paper clips attracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood</td>
<td>2</td>
</tr>
<tr>
<td>Iron</td>
<td>15</td>
</tr>
</tbody>
</table>

Answer the questions below on a sheet of paper:
10. What patterns do you observe in the data presented above in the table?
11. What does the pattern of data you see allow you to conclude from the experiment?
12. After analyzing the data, develop a question that can be answered with the data. Record this in your notebook or on paper. (Ex. How does _______ affect _______?)

13. An 8th grade science teacher decided to challenge her class to work in groups to build their own electromagnet by coiling (wrapping) copper wire around an iron nail and then connecting each end of the wire to each end of a D battery. Shanice wanted her team to design the strongest electromagnet so that their group’s would be able to pick up the most metal pins among the class. She asked her team members what they thought they could do to build the strongest electromagnet. Here’s what they said:
   ● Josue: “Adding a second battery is the way to make it
stronger.”
- Kenyatta: “Wrapping the copper wire around the nail more times is the way to make it stronger.”
- Blake: “Using a wooden popsicle stick instead of the nail is the way to make it stronger.”
- Carmen: “I think increasing the number of coils and adding a second battery is the way to make it stronger.”
- Dante: “I don’t think any of those ways will make it stronger. I think we need to think of another way.”

a. Which group member’s idea do you agree with most? _______________________________
b. Why do you agree with that idea the most and not the others?
   ○ Use evidence from the experiments above to support your claim.

Write your response on a sheet of paper.

Activity 4: Tying It All Together! (30 min.)

A. Review your learning from all the activities in this project packet, what do you think now about how maglev trains work?

- Use the model template below to create a new model to explain your ideas.
- Be sure to include science ideas and evidence from the activities in this packet.
- Explain your ideas through drawing, labels, symbols (for example: arrows), and in writing.
- Word bank (use these words in your explanation as appropriate; you do not need to use all of the words):
  - magnet, magnetism, electromagnet, magnetic field, current, attract, repel

| How does a maglev train rise? | How does a maglev train lower? |
Optional Extension Activity: Make an Electromagnet!
Adapted from: https://sciencebob.com/make-an-electromagnet/

Materials:
- A large iron nail (about 3 inches)
- About 3 feet of THIN COATED copper wire
- A fresh D size battery
- Some paper clips or other small magnetic objects

Procedure:
1. Leave about 8 inches of wire loose at one end and wrap most of the rest of the wire around the nail. Try not to overlap the wires.
2. Cut the wire (if needed) so that there is about another 8 inches loose at the other end too.
3. Now remove about an inch of the plastic coating from both ends of the wire and attach the one wire to one end of a battery and the other wire to the other end of the battery. (It is best to tape the wires to the battery – be careful though, the wire could get very hot!)
4. Now you have an ELECTROMAGNET! Put the point of the nail near a few paper clips and it should pick them up!
NOTE: Making an electromagnet uses up the battery somewhat quickly which is why the battery may
get warm, so disconnect the wires when you are done exploring.

- Does the number of times you wrap the wire around the nail affect the strength of the electromagnet? How do you know? Explain your ideas on a sheet of paper.

Digital Video Instructions: [https://www.youtube.com/watch?v=CXndOKWvdrA](https://www.youtube.com/watch?v=CXndOKWvdrA)

**Optional Digital Resources To Explore:**

1. MagLev Train Video - [https://www.youtube.com/watch?v=mAkFr8Zythw&feature=youtu.be](https://www.youtube.com/watch?v=mAkFr8Zythw&feature=youtu.be)
2. NewsELA Article: Teen scientists looking for meteorites in Great Lakes find another type of alien [https://newsela.com/read/teen-scientists-alien-rocks/id/46984/?collection_id=339&search_id=3d7322d0-1ece-4d70-b621-d993e4c01f60](https://newsela.com/read/teen-scientists-alien-rocks/id/46984/?collection_id=339&search_id=3d7322d0-1ece-4d70-b621-d993e4c01f60) (English & Spanish text available)
8th Grade Social Science Project: This Land - Before Chicago

Estimated Time | Total Time 120-130 minutes
---|---

**Grade Level Standard(s)**

- **SS.IS.3.6-8**: Determine sources representing multiple points of view that will assist in organizing a research plan.
- **SS.IS.5.6-8.MdC**: Identify evidence from multiple sources to support claims, noting its limitations.
- **SS.IS.6.6-8.MdC**: Construct explanations using reasoning, correct sequence, examples and details, while acknowledging their strengths and weaknesses.

**Caregiver Support Option**
Share family history with student for Activity 1. Encourage student to share the memorial they create and discuss what they learned.

**Materials Needed**
Paper/Notebook/Journal

**Question to Explore**

- How can learning more about the land we live on increase our connection to this land?
- How can learning more about the land we live on increase our understanding of and connection to Indigenous communities?
- How can we best honor the history of this land and the people who we share it with today?

**Student Directions**

This guide is designed to help you think about the land we live on - its history and our continued connection and responsibility to the land and the people to whom the land belonged.

**Activity 1: This Land & Me -** People often feel connected to a place. This could be a place that their family has lived for a long time or a place that just feels like home. In your journal, answer the following questions:

A. Think of a place that you feel connected to - this could be a house, a neighborhood, or a city. Explain the connection. Why is it important to you?
B. Now think about Chicago specifically. People have come to this area for thousands of years for many different reasons. When did your family come here? Why did people in your family come to Chicago? Interview a family member to help answer these questions!
C. What do you already know about the history of this land? The city of Chicago was officially founded in 1837, but have you learned anything about the land before the city was founded? If so, jot down some of the things you remember.
D. What wonderings do you have about the history of the land or the neighborhood you live in? In your notebook, write down at least one question or wondering.

**Activity 2: Some History of This Land -** A Brief History of This Land before it was Chicago: With its proximity to water, both rivers and lakes, Chicago exists on land that has been important for many groups of people for thousands of years. While the city of Chicago itself is 183 years old, humans have been living in this region for 14,000 years! Review the sources on the next page and answer the questions that follow.
This print shows the land where downtown Chicago is now! Examine the image and answer the following questions in your notebook:

A. What draws your attention when you first look at this image?
B. What do you see people doing in the image?
C. How does this image help you understand the importance of the water?
D. What can you learn about the land that is now Chicago from this image?
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12000 BCE-1500CE</td>
<td>Paleo Indian, Archaic, Woodland, and Mississippian people occupy the land in the Great Lakes area</td>
</tr>
<tr>
<td>1500-present</td>
<td>The area around Chicago is occupied by various tribes including the Iroquois, Illini, Odawa, Ojibwe, Potawatomi, Miami, Ho-Chunk, Menominee, Sac and Fox.</td>
</tr>
<tr>
<td>1672-1673</td>
<td>Exploring on behalf of France, Father Jacques Marquette &amp; Louis Jolliet are the first people of European descent known to arrive in Chicago. They were exploring the territory and stayed on this land over the winter.</td>
</tr>
<tr>
<td>1780's</td>
<td>Jean Baptiste Pointe DuSable, a trader of African descent, starts the first permanent non-Indigenous settlement in Chicago</td>
</tr>
<tr>
<td>1795</td>
<td>Treaty of Greenville - the US Government acquired a 6-mile later called Fort Dearborn, which was located downtown at the mouth of the Chicago River. All other land in the area was deemed to be Indian Land.</td>
</tr>
<tr>
<td>1816</td>
<td>Treaty of St. Louis - the US Government acquired a 20-mile strip of land called the Chicago Portage (this is the valuable land because it connected the Great Lakes to the Mississippi River. It’s located in what we now call the Little Village neighborhood)</td>
</tr>
<tr>
<td>1821</td>
<td>Treaty of Chicago - the US Government acquired the land between Chicago and Detroit along the southern and eastern part of Lake Michigan</td>
</tr>
<tr>
<td>1833</td>
<td>Treaty of Chicago - Potawatami tribe is forced to cede all land to the US Government. Some bands (groups) of the Potawatami were able to stay in the Great Lakes region, but the majority were forced to move west.</td>
</tr>
<tr>
<td>1837</td>
<td>Chicago is officially recognized by the state of Illinois as a city.</td>
</tr>
</tbody>
</table>

This is an abbreviated timeline of the land in Chicago. Review the timeline and, answer the following questions:

E. What did you learn that was the most interesting to you?
F. What year do you think marks the most important shift from Indigenous land use of land to European American claim of ownership of the land?
G. Why do you think it is important to acknowledge this shift?
H. What new questions do you have about the history of Chicago after studying the timeline?

Vestiges of Indigenous People Today: There are many remnants of the Indigenous People who lived and continue to live here. Many of the streets we travel on today, began as the trade routes of the Indigenous People. Read Source C & examine Source D.

Source C: Without Native Americans, Would We Have Chicago As We Know It?
https://interactive.wbez.org/curiouscity/chicago-native-americans/

Native American trade routes become Chicago's roads and highways
Europeans first explored the Chicago region in 1673, and by that time, Native Americans had long been settled in villages around the area. They had established a vast network of trails and portages, or places to carry and drag boats from one water system to another. Chicago was one of the best places to portage between two great water systems: the Mississippi River and the Great Lakes.
The two water systems were only separated by a small ridge that [is/was] located in today’s Little Village neighborhood near 31st Street and Kedzie Avenue. By carrying boats a short distance over the ridge, Native Americans could in theory paddle to the St. Lawrence River or Allegheny River in the east, or to the Gulf of Mexico to the south or to the foothills of the Rocky Mountains in the west.

The Native Americans understood the importance of this geography and took advantage of this portage system to trade goods for hundreds of years before European settlers arrived. According to historian and Potawatomi Indian John Low, the Algonquian language speaking tribes who lived in and around Chicago in the mid- to late-1700s considered this Chicago portage a shared resource that should be available for anybody to use. He says the Potawatomi believed “the land is Mother Earth. You can’t own it — it’s like owning air, owning the stars.”

These routes used by the Native Americans became essential to the early European traders and American settlers. “(Europeans) could not have got to Chicago without Indian trails,” says historian Susan Sleeper-Smith. “I don’t mean little trails. We have plenty of descriptions of people coming into the Great Lakes that are following Indian trails that are five or six feet wide.”

You might expect those trails to be long gone, but many eventually became important city streets. In 1833, the Illinois and Michigan Canal Commission sponsored the first plat of Chicago, a plan that established most of Chicago’s (and many suburban) street grids. But the grid plan made exceptions for important Native American trails that were diagonal and didn’t fit neatly into the grid. Those trails are now known as Ogden Street, Milwaukee Avenue, parts of Grand Avenue, and Vincennes Avenue. Sleeper-Smith says other Native American routes stuck around in another way. “The interstate highway system, it’s mostly old Indian trails,” she says. “The Indians marked the way, and we just follow, with the railroads and roadways. They created the blueprint for Chicago.”

Source D: Map of American Indian trails and villages of Chicago, and of Cook, DuPage and Will counties in 1804.

Native American villages are highlighted, while principle trails are the bolded lines.

Map by Albert F. Scharf, 1900-1901.
Photograph: Chicago History Museum/Getty Images
Now that you read **Source C** & examined **Source D**, answer the following questions in your notebook:

I. What did you learn that was new or interesting to you?

J. Why do you think recognizing Native American history in Chicago is important to our lives today?

K. What do you think we can do as a community to better recognize this history of our city?

As noted in Source C and shown in Source D, many of the roads we drive on today were originally the trails of the Indigenous inhabitants. Other vestiges of Indigenous People in Chicago that you might recognize include Black Hawk and the Indian Boundary Park below.

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**Black Hawk**

The Chicago Blackhawks team is named after a World War I military unit that was named after Black Hawk, who was a warrior from the Sauk tribe. The Sauk and Fox tribes were forced to move west, off their land in Illinois in 1828. Black Hawk believed that the treaties were invalid. So, in 1830 he led groups of warriors back into Illinois, resulting in several battles with the Illinois militia that became known as the Black Hawk War. In 1832 he was captured by the US and held as a prisoner.  

*Note: The use of Indigenous people as mascots for schools and sports teams is controversial because it perpetuates harmful stereotypes.*

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**Indian Boundary Park**

(in the West Ridge neighborhood) The park is named after a boundary line of the 1816 Treaty of St. Louis between the Potawatomi tribe and the United States government. The line ran through the present park. Native Americans were not allowed to settle south of the boundary. The line remained in effect through 1833 when the Potawatomi were forced entirely from the area.

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Now that you have reviewed **Black Hawk** and the **Indian Boundary Park**, answer the following questions in your notebook:

L. What new information did you learn that surprised you?

M. Think about the places and spaces in your own neighborhood or community. What wonderings do you have about the history? This could include places, street names, school or other buildings, parks, etc.
Why is land so important to Indigenous People? Read the excerpt in Source E of the speech below made by Potawatami Chief Metea as the Potawatami were forced to cede their land to the US in the 1821 Treaty of Chicago. As you read underline phrases or sentences that convey the importance of the land to the Potawatomi people:


Whenever you have had a proposal to make to us, whenever you have had a favor to ask of us, we have always lent a favorable ear, and our invariable answer has been ‘yes.’ This you know! A long time has passed since we first came upon our lands, and our old people have all sunk into their graves. They had sense. We are all young and foolish, and do not wish to do anything that they would not approve, were they living. We are fearful we shall offend their spirits, if we sell our lands; and we are fearful we shall offend you, if we do not sell them. This has caused us great perplexity of thought, because we have counselled among ourselves, and do not know how we can part with the land.

Our country was given to us by the Great Spirit, who gave it to us to hunt upon, to make our cornfields upon, to live upon, and to make down our beds upon when we die. And he would never forgive us, should we bargain it away. When you first spoke to us for lands at St. Mary’s, we said we had a little, and agreed to sell you a piece of it; but we told you we could spare no more. Now you ask us again. You are never satisfied! We have sold you a great tract of land already; but it is not enough! We sold it to you for the benefit of your children, to farm and to live upon. We have now but little left. We shall want it all for ourselves. We know not how long we may live, and we wish to have some lands for our children to hunt upon. You are gradually taking away our hunting-grounds. Shall we give it up? Take notice, it is a small piece of land, and if we give it away, what will become of us? The Great Spirit, who has provided it for our use, allows us to keep it, to bring up our young men and support our families. We should incur his anger, if we bartered it away. If we had more land, you should get more; but our land has been wasting away ever since the white people became our neighbors, and we have now hardly enough left to cover the bones of our tribe.
Think about Source E as you answer the following questions in your notebook:

N. In the speech, Me-Te-a explains several reasons why the land is important to his people. In your notebook, list at least three of the reasons he describes.

O. Me-Te-a talks about how the land is important because ancestors are buried there and it’s the source of their livelihood as hunting grounds. Do you share any similar connections to any specific land or place? Explain.

P. How should we treat things that we consider to be important and sacred? Or have you heard scientists and activists talking about the importance of land and the environment today in this era of being more mindful of climate change?

Activity 3: This Land Today

Indigenous People & Chicago Today:
One stereotype that Indigenous People are often combatting is that they no longer exist. However, Indigenous People exist throughout our country. Chicago is currently home to an estimated 65,000 people of Native American heritage, representing 140 tribes. This is the third largest urban Native American population in the United States! Chicago is also home to The American Indian Center which is active in many facets of the city. Here are some ways that our city is active in recognizing Indigenous People of the past and today.

Across the country, Native American communities participate in many celebrations of history and culture like Pow Wows. The American Indian Center holds an annual Pow Wow in Chicago in November. Photo Credit: "KettlePointPowWow0506.jpg" by CaseyLessard is licensed under CC BY-NC-ND 2.0.

Land Acknowledgment & Chicago Public Schools: In 2019, Chicago Public Schools celebrated Indigenous Peoples Day for the first time and worked with the American Indian Center to develop a Land Acknowledgement to be used by the district. Acknowledging the land is Indigenous protocol. It is a way to express gratitude for the land itself and a way to honor the Indigenous people who have been living and working on the land. Land Acknowledgements are often read at the beginning of meetings, events, or classes.

Review the Source F and Source G on the next page and answer the questions that follow.
Source F: Land Acknowledgement Developed by American Indian Center of Chicago for use by Chicago Public Schools

Chicago is the traditional homeland of the Council of the Three Fires: The Odawa, Ojibwe and Potawatomi Nations. Many other Tribes like the Miami, Ho-Chunk, Menominee, Sac and Fox also called this area home. Located at the intersection of several great waterways, the land naturally became a site of travel and healing for many Tribes. American Indians continue to call this area home and now Chicago is home to the sixth largest Urban American Indian community that still practices their heritage, traditions and care for the land and waterways. Today, Chicago continues to be a place that calls many people from diverse backgrounds to live and gather here. Despite the many changes the city has experienced, both our American Indian and the CPS community sees the importance of the land and this place that has always been a city home to many diverse backgrounds and perspectives.

Think about Source F as you answer the following questions in your notebook:

Q. Why do you think Land Acknowledgment is important?
R. How do you connect to the Land Acknowledgment? How can participating in Land Acknowledgment regularly strengthen our connection to this land and Indigenous communities?

https://aicchicago.org/indigenous-peoples-day/#1579469030159-a2d87ffe-0cfd

If we as a city are dedicated to the advancement of justice, equity, and social impact, we must focus on changing the way that Americans and institutions think about and engage with Native communities. We must work together to change the narratives that are embedded in the erasure, appropriation, and replacement of Native Peoples from our homelands and within the larger context of the Americas. Supported by empirical evidence, we know that the lack of representation of Native people in mainstream society creates and perpetuates harmful stereotypes and misunderstandings that Americans have toward Native communities.

Throughout our society, the erasure and false narratives of Native peoples are incorporated in the narratives of pop culture (Chicago Blackhawks), media (Dances With Wolves) and K-12 education (Little House on the Prairie) which have served to reinforce and normalize many myths such as the “Disappearing Indian,” “The Noble Savage,” “The Mystical Indian” among others. Native sports mascots, Halloween costumes, and inaccurate historical representations of Native peoples in television make up the foundation of American views on Native Peoples. Dr. Adrienne Keene, Brown University, has noted, “Native Americans are only given choices of stereotypes and misrepresentation, or utter invisibility.”

At the heart of this movement is the need for a narrative change in order to fight against the invisibility, bias, and racism that impacts Indigenous communities. To understand the plight of modern Native people we must stop erasing the uncomfortable history of trauma and persecution carried out upon Native communities and celebrate the truths of our resilience and strength.
Think about Source G as you answer the following questions in your notebook:

S. What is something new you learned from the reading?
T. Do you think that a holiday is the good way to honor the history of this land and the people who we share it with today? Explain why or why not?
U. How has your perspective about Indigenous Peoples Day changed after reading the sources in this packet? Use information from at least two sources to explain your thinking.

Activity 4: Communicating Conclusions - Design a Memorial - Today, the Chicago Portage National Historic Site sits at the site of the original Chicago portage. This sculpture was created to commemorate the early history of Chicago.

Look at the sculpture, what do you see?

The sculpture features three figures - Father Marquette is standing up pointing, Louis Jolliet is behind him looking toward Marquette’s outstretched hand, and an Indigenous person is bending down over a canoe, facing the opposite direction. The inscription beneath the sculpture states, “Along these waterways and trails history has passed. The Chicago portage has served as the connection line between the Great Lakes and the Mississippi River System. In 1673, led by American Indians, explorers Marquette and Jolliet became the first Europeans to cross the portage. This route encouraged the development of the I & M Canal and the growth of Chicago.”

In your notebook, respond to the following questions:

A. What messages does this sculpture convey about the early history in Chicago?
B. Which figure is most prominent?

If you were to design a memorial to commemorate the history of this land before it was Chicago, what events, people, or ideas from Sources A-G would you want it to represent? How would you modify the sculpture above or create something new?

C. Create a plan for a memorial by answering the following questions:
   ● What significant learning from the sources do you think is most important to share?
   ● What message do you want your memorial to convey?
   ● Who is the audience for the memorial?
   ● How will the memorial communicate your idea? What specific materials, forms, imagery, or words will it include?
   ● Where in Chicago would you want your memorial to be located? Why?
D. After you have developed a plan for your memorial, create it! This can be a simple sketch or as complex as a model made from actual materials. Be sure to include a title and an artist’s statement (brief description) to accompany your memorial.

E. Your artist statement should include answers to the “Questions to Explore”:
   ● How can learning more about the land we live on increase our connection to this land?
   ● How can learning more about the land we live on increase our understanding of and connection to Indigenous communities?
   ● How can we best honor the history of this land and the people who we share it with today?

*Project adapted from Facing History and Ourselves

Activity 5: Reflection
A. In your journal, respond to at least two of the following questions:
   ● What is the most interesting thing you learn about the history of the land we live on?
   ● Why is knowing the history of the land important?
   ● Why do you think it’s important to have a good relationship with the land? Moving forward, how can you be in good relationship with Indigenous peoples in Chicago, with animals, and with the land and water?
   ● How should we honor Indigenous communities? Are we doing enough?
   ● Now that you know more about the land, what wonderings do you have about the land in your own community or neighborhood?
   ● What do you think your place is in the history of the land that you live or go to school on? How can you be in good relationship with the land, the air, the water, etc?