**Figure it Out**

**In this four-week unit, students have the opportunity read classic and contemporary mysteries, make sense of nonsense poems, and solve riddles and math problems.**

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**Overview**

* + Students are asked to articulate their basis for predictions, describe why and when they revise those predictions, and share the strategies they use to solve a variety of problems. Divergent approaches to similar problems are encouraged, followed by analysis of why students chose a particular strategy to try. Students delve deeply into examining language and vocabulary specific to mysteries and problem solving. They examine how understanding of these words is key to uncovering connections made in texts. The culminating activity for this unit is for students to write an essay response to the essential question.
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**Focus Standards**

* + These Focus Standards have been selected for the unit from the Common Core State Standards.
		- **RL.6.5:** Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.
		- **RI.6.4:** Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.
		- **W.6.2:** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
		- **SL.6.4:** Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
		- **L.6.5:** Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

[Common Core State Standards, ELA](http://commoncore.org/free/resources/CCSSI_ELA_Standards.pdf) (1.5 MB)

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**Suggested Student Objectives**

* + - Read and solve a variety of mysteries, nonsense poems, riddles, and math problems.
		- Compare and contrast mystery stories by a variety of authors.
		- Distinguish between explicit clues and inferences drawn from the text.
		- Articulate strategies used when solving problems (i.e., highlighting key information) and when figuring out mysteries (i.e., refining predictions as each chapter is read).
		- Write a variety of responses to literature and informational text.
		- Recite poetry for classmates.
		- Compare and contrast the experience of reading a mystery to listening to or viewing an audio, video, or live version.
		- Use new vocabulary associated with mysteries in written responses.
		- Participate in group discussions.
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**Suggested Works**

* + (E) indicates a CCSS exemplar text; (EA) indicates a text from a writer with other works identified as exemplars.

**Literary Texts**

**Stories**

*Math*

* + - *The Westing Game* (Ellen Raskin)
		- *G is for Googol: A Math Alphabet Book* (David M. Schwartz and Marissa Moss)

**Mysteries**

*Precedent*

* + - *The Mysterious Adventures of Sherlock Holmes* (Arthur Conan Doyle)
		- *Three Act Tragedy* (Agatha Christie)

*Contemporary*

* + - *39 Clues* series (Rick Riordan)
		- *The Mysterious Benedict Society* (Trenton Lee Stewart and Carson Ellis)
		- *The Name of this Book is Secret* (Secret Series) (Pseudonymous Bosch)
		- *Chasing Vermeer* (Blue Balliet and Brett Helquist)

**Poems**

* + - "Jabberwocky" (Lewis Carroll) (E)
		- *Math Talk: Mathematical Ideas in Poems for Two Voices* (Theoni Pappas)
		- *Poetry for Young People: Edward Lear* (Edward Lear, Edward Mendelson, ed., and Laura Huliska-Beith)
		- *Poetry for Young People: Edgar Allan Poe* (Edgar Allen Poe, Brod Bagert, ed., and Carolynn Cobleigh)

**Audiobooks**

* + - *The New Adventures of Sherlock Holmes* (Arthur Conan Doyle) (Anthony Boucher)
		- *The Essential Agatha Christie Stories: Agatha Christies Best Short Sleuths Crack Twenty-Two Famous Cases* (Agatha Christie) (BBC Audiobooks America)
		- *39 Clues Book 1: The Maze of Bones* (Rick Riordan) (Scholastic Audio Books)

**Informational Texts**

**Informational Text**

* + - *The Number Devil: A Mathematical Adventure* (Hans Magnus Enzensberger and Rotraut Susanne Berner, and Michael Henry Heim, trans.) (E)
		- *Go Figure!: A Totally Cool Book About Numbers* (Johnny Ball)
		- *The $1.00 Word Riddle Book* (Marilyn Burns and Martha Weston)

**Picture Books**

*Problem Solving in Math*

* + - *Math-terpieces: The Art of Problem Solving* (Greg Tang and Greg Paprocki)
		- *Grapes of Math: Mind-Stretching Math Riddles* (Greg Tang and Harry Briggs)

**Art, Music, and Media**

**Art**

* + - Illustrations from *The Mysteries of Harris Burdick* (Chris Van Allsburg)
		- Balthus, [*The Mountain*](http://tinyurl.com/29jne5g) (1936-37)
		- Balthus, [*The Living Room*](http://coromandal.files.wordpress.com/2008/06/1127-balthus.jpg) (1942)
		- Balthus, [*The Street*](http://ardor.net/artlia/content/b/balthus/balthus_street.jpg) (1933-35)
		- Balthus, [*Solitare*](http://www.artic.edu/aic/collections/artwork/20509) (1943)
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**Sample Activities and Assessments**

* + **Class Discussion**

How do we make sense of nonsense poems, such as “Jabberwocky” by Lewis Carroll? How do you figure out what words mean when they don’t really exist? How are clues provided in the text structure, repetition, or content of the poem? Your teacher may ask you to write your ideas down in your journal and share them with a partner before class discussion. *Optional follow-up activity:* Write your own nonsense poem and see if classmates can make sense of it. (RL.6.4, SL.6.1a, b, c, d)

**“Deduction or Induction?” T-chart Graphic Organizer**

As you discuss how you solve mysteries and math problems, classify your approach as inductive or deductive.

* + - When do you use inductive reasoning? When do you use deductive reasoning? Why?
		- Where would you put each of these problem-solving approaches (e.g., Acting it out, roleplaying, drawing a picture, making a list, working backwards, making educated guesses and checking how they work, drawing a web of facts, events, and characters, etc.)?
		- What strategies do your characters use  (e.g., Reynis, Kate, Sticky, and Constance from *The Mysterious Benedict Society*)?

Your teacher may ask you to write your own response in your journal and share it with a partner before each section of the class chart is filled in. Be sure to make notes of page numbers with relevant information so you can go back and cite the text during class discussion. (RL.6.5, RI.6.4)

**Class Discussion**

More often than not, there is more than one way to solve a (math) problem. What did you learn about inductive and deductive reasoning? How does hearing your classmates articulate their thinking increase your understanding of problem-solving? (SL.6.1a, b, c, d, SL.6.4)

**Math Connection**

Ask your math teacher if you can solve the “[Painted Cube Problem](http://www.ode.state.or.us/teachlearn/subjects/mathematics/thepaintedcube.pdf)” in math class, or solve some math problems from *The $1.00 Word Riddle Book* by Marilyn Burns or found [online](http://www.mystfx.ca/special/mathproblems/grade6.html). Write in your journal about the thought process used to solve these problems, and use this experience to add to the graphic organizer (listed above). (RI.6.4, RI.6.5, W6.4)

**“Just the Facts” Graphic Organizer**

Since you and your classmates are reading different mysteries, keep track of this information in your journal, or mark your book with Post-It notes, to facilitate class discussions:

* + - Title and author of your mystery
		- Each character’s name, his/her traits, and his/her role in the mystery
		- List of clues, including page numbers on which they are found
		- Make and revise predictions (Since mystery stories continually evolve, it is important to make predictions and return to them each time new evidence is found.)
		- Solution

Your teacher may ask you to write your own response in your journal and share it with a partner before class discussion. (RI.6.4, RI.6.5)

**Literature Response: *The Westing Game***

The clues provided to the heirs are mostly words from the song “America the Beautiful” taken out of order. When rearranged, they notice the missing parts spell out the name of an heir—but this is actually a red herring. Select your own song, change around the order of the lyrics, delete some words or letters, and see if your classmates can solve *your* mystery. (RL.6.5, W.6.2a, b, c, d, e, f)

**Literature Response**

Select a pivotal passage or scene from the mystery you are reading. How does this scene fit into the overall structure of the text? How does it contribute to your understanding of the plot? Write your thoughts down in your journal. Re-evaluate your claim at the end of the book. Do you still think that passage was critical to the solution? Why or why not? Talk with a partner to justify your answer, and cite specific details from the text. (RL.6.5, W.6.2a, b, c, d, e, f, SL.6.4)

**Literature Response/Essay**

How is listening to a mystery, such as *The Mysterious Adventures of Sherlock Holmes*, as an audiobook similar to/different from reading the book? Which do you prefer? Why? Write an argument to support your preference in your journal. (RL.6.7, W.6.1a, b, c, d, e, L.6.1a, b, c, d, e)

**Dramatization/Fluency**

Choose your favorite poem from this unit to present to the class using appropriate eye contact, adequate volume, and clear pronunciation. (Alternately, you can write your own poem based on a poem read in class.) After the reading, ask your classmates to point out figurative language, word relationships, and/or nuances in word meanings. (SL.6.1a, b, c, d, L.6.5a, b, c)

**Word Study**

Keep an index card file of words studied while reading mysteries, riddles, and math problems (e.g., alibi, evidence, sleuth, suspect, victim, witness, red herring, investigator, hunch, motive, etc.) Keeping the words on index cards will help you when we sort words by prefix, suffix, root words, meaning, spelling feature, etc. (Note: This will be an ongoing activity all year long.) (L.6.4a, b, c)

**Write a Mystery**

After reading and discussing mysteries in class, try to write your own that incorporates the new vocabulary words learned in this unit. Talk your ideas through with a partner, but don’t give away the ending! See how long you can keep your reader engaged without giving away the resolution. If desired, work with a partner to edit and strengthen your writing, and publish your mystery on a class webpage. (W.6.3a, b, c, d, e, W.6.4, W.6.5, W.6.6, L.6.1a, b, c, d, e, L.6.2a, b)

**Art Appreciation (Option 1)**

What types of “problems” do artists and musicians face? How do they solve them? Discuss the answer to this question in relation to the art and music presented in this unit, and write about it in your journal. (SL.6.1a, b, c, d)

**Art Appreciation (Option 2)**

Compare the work of Balthus to the illustrations in *The Mysteries of Harris Burdick* by Chris Van Allsburg*.* What are the differences you notice between fine art (Balthus) and illustrations (Van Allsburg)? How are the looks of these two artists similar? Different? Select a painting by Balthus and write a mystery based on what happened before or after the scene depicted in the painting. (SL.6.1a, b, c, d, SL.6.4)

**Reflective Essay**

In this unit, you have read mystery books, made sense of nonsense poems, and solved riddles and math problems. Answer the essential question in essay form: “How are strategies for solving math problems similar to, and different from, strategies for solving mysteries?” Cite specific examples from texts read to justify your response. (W.6.2a, b, c, d, e, f, W.6.9a, b, W.6.4, W.6.5, W.6.6, L.6.1a, b, c, d, e, L.6.2a, b, SL.6.4)

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**Additional Resources**

* + [Everyone Loves a Mystery: A Genre Study](http://www.readwritethink.org/classroom-resources/lesson-plans/everyone-loves-mystery-genre-796.html) (ReadWriteThink) (RL.6.4)

Note: In this lesson, students examine story elements and vocabulary associated with mystery stories through Directed Learning–Thinking Activities and then track these features as they read mystery books from the school or classroom library.

[Mystery Cube](http://www.readwritethink.org/classroom-resources/student-interactives/mystery-cube-30059.html) (ReadWriteThink) (RL.6.2)

Use this tool to help your students sort out the clues in their favorite mysteries or develop outlines for their own stories. Among its multiple applications, the Mystery Cube helps students identify mystery elements, practice using vocabulary from this popular genre, and sort and summarize information. Specific prompts ask students to describe the setting, clues, crime or mystery, victim, detective, and solution.

[Edward Stratemeyer, creator of book series such as Nancy Drew, was born on this day in 1862](http://www.readwritethink.org/classroom-resources/calendar-activities/edward-stratemeyer-creator-book-20303.html) (ReadWriteThink) (RL.6.3)

In this lesson, students select several books from one of Stratemeyer's series to read, discuss shared elements in the books, and use the 3-Circle Venn Diagram to compare story elements.

[Celebrate blues legend Robert Johnson's birthday](http://www.readwritethink.org/classroom-resources/calendar-activities/celebrate-blues-legend-robert-20502.html) (ReadWriteThink) (L.6.3)

Having students write their own blues lyrics is a great way to teach rhythm, rhyme, and word choice. The most common form of the blues is referred to as the "12-bar blues" because of the twelve measures that are typical of the style.

[Becoming History Detectives Using *Shakespeare’s Secret*](http://www.readwritethink.org/classroom-resources/lesson-plans/becoming-history-detectives-using-1037.html)(ReadWriteThink) (RL.6.9)

In this lesson, students explore the historical references in the novel *Shakespeare’s Secret*, gather clues to a mystery, and work in small groups to create and present short dramatic skits that creatively connect the novel with the historical facts.

[History’s Mysteries](http://www.educationworld.com/a_lesson/03/lp299-03.shtml) (Education World) (W.6.1)

In this lesson, students propose a theme for an upcoming program on the History Channel.

[Three Lesson Plans for] [*Chasing Vermeer: Picture the Process!, Do You See What I See?, and Patterns and Pentominoes*](http://www2.scholastic.com/browse/unitplan.jsp?id=211) (Scholastic) (SL.6.6)

In these three lessons, students develop problem-solving skills while exploring fine art and learning about creative expression.

[Ingredients of a Mystery](http://www2.scholastic.com/browse/lessonplan.jsp?id=660) (Scholastic) (RL.6.3)

In this lesson, students will be introduced to the mystery genre and will explore the vocabulary, characters, and plot structure they are likely to encounter when reading a mystery.

[Puzz.com 1001 Best Puzzles](http://www.puzz.com/1001/) (Puzz.Com)

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**Terminology**

* + - alibi
		- deductive reasoning
		- evidence
		- inductive reasoning
		- inference
		- investigator
		- mystery
		- problem solving
		- red herring
		- sleuth
		- suspect
		- victim
		- witness