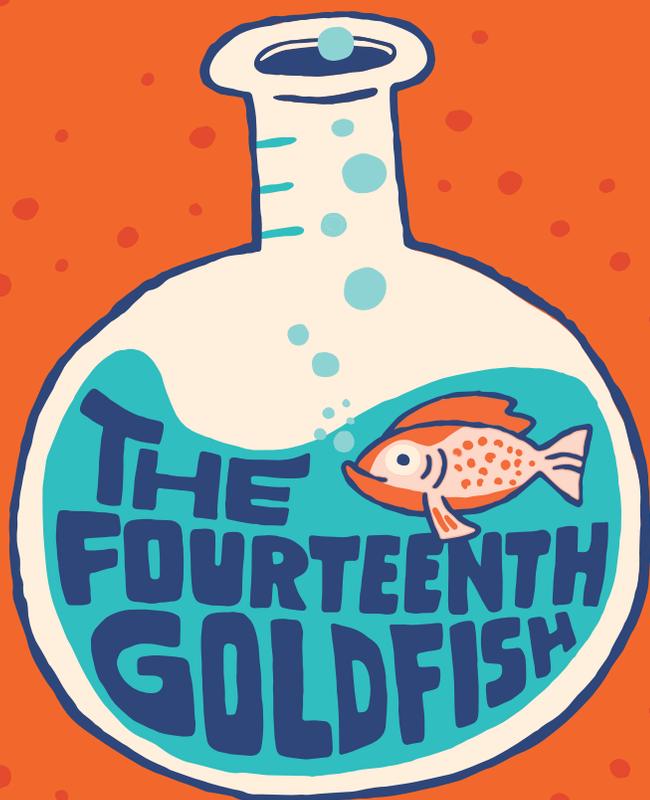


THREE-TIME NEWBERY HONOR-WINNING AUTHOR
JENNIFER L. HOLM



Educators' Guide

Includes STEM Connections and
Common Core Standards Correlations



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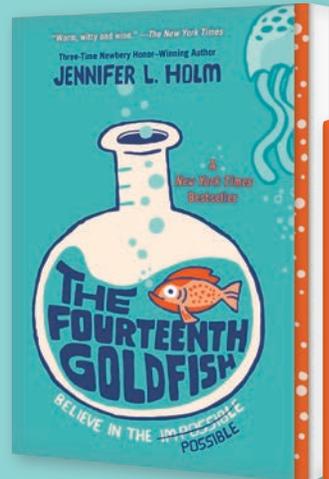
BELIEVE IN THE ~~EXPECTED~~ UNEXPECTED

INTRODUCTION

Jennifer L. Holm, the *New York Times* bestselling author of *The Fourteenth Goldfish* and *The Third Mushroom*, is the recipient of three Newbery Honors, the Scott O’Dell Award, and an Eisner Award. Holm’s family has inspired her writing; her father was a pediatrician and her mother was a pediatric nurse, and Holm has recalled that it wasn’t unusual for her to see petri dishes in the refrigerator of her childhood home. Celebrating science, family, and the cycle of life, Holm has an abundance of deeds, follies, and experiments to draw from as she continues telling stories.

The rich characters we met in *The Fourteenth Goldfish* continue their adventure in *The Third Mushroom*. *The Fourteenth Goldfish* begins the story of Ellie and her grandfather Melvin, who have a typical relationship until he shows up at her house one night in a fourteen-year-old’s body! Together they navigate middle school and try to find a way to preserve the science that made the impossible possible. In *The Third Mushroom*, Ellie and Melvin are at it again, trying to use the scientific method to understand how the aging process can be reversed. Along the way they grapple with the implications of such a discovery while learning that time is a gift. In this follow-up story, readers will become immersed in the world of science as well as another complicated experiment—middle school.

This Educators’ Guide can be used with one book or with both books together, but you may not be able to hold your students back from reading the sequel; Holm ends *The Fourteenth Goldfish* with an exciting cliffhanger. The guide’s Common Core–aligned activities for each book can be adapted to the grade level of your learners. Whether you are a schoolteacher, librarian, or homeschooler, or you work with young people in some other capacity, this guide is for you. The following activities are designed to help readers connect with the characters, interact with science content and experiments, and explore the wondrous worlds of reading and writing.



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Grades
3–7

Praise for *THE FOURTEENTH GOLDFISH*

★ “This is top-notch middle-grade fiction with a meaty dilemma, humor, and an ending that leaves room for the possibility of a sequel.”

—*Publishers Weekly*, Starred

★ “A great choice for book groups and class discussions as well as individual reading.”

—*Booklist*, Starred

“This novel would make an ideal classroom read aloud, particularly to expose students to the rich and rewarding STEM fields.”

—*The Bulletin*



THE FOURTEENTH GOLDFISH

The Fourteenth Goldfish is a fun mixture of fantasy and fact. Holm tells the story of middle schooler Ellie and her scientist grandfather Melvin. Both characters learn about themselves and each other in ways that neither expected. The past and the present collide when Ellie learns that Melvin has discovered a way to be young again.

PRE-READING ACTIVITIES

What do science, middle school, aging, and a flair for drama have in common? Find out about each of these themes and you will have the perfect background knowledge for this story.

Scientist Power Rankings

Melvin references important scientists many times. He often relates their discoveries to situations that are happening in the present. Learning about these topics will enhance the reader's understanding of the science that plays a major role in this story. Students will work in pairs to research one of the scientists listed below. They will create a poster and present to the class what they learned about their scientist.

Jonas Salk

Robert Oppenheimer

Galileo Galilei

Marie Curie

Louis Pasteur

Isaac Newton

At the conclusion of the presentations, students will discuss the importance of each scientist's discoveries and the impact they had on the world. Whose work was most important? Encourage lively conversation! Young people have strong opinions, and this is the perfect opportunity to express them. The class should then hang the posters of the scientists around the room in order of importance.

Additional activity: In the sequel, *The Third Mushroom*, Holm introduces readers to even more scientists. Continue the debate!

 Correlates to Common Core Standards CCSS.ELA-LITERACY.CCRA.W.7, CCSS.ELA-LITERACY.CCRA.W.9, CCSS.ELA-LITERACY.CCRA.SL.4

Me, Myself, and I

Middle school can be hard. In addition to finding their way around a new school, students are beginning a journey of self-discovery. Ellie takes this journey throughout the story. Tweens may identify with her feelings and experiences; happiness, sadness, confusion, hunger, and complete exhaustion are all thrown together into the blender of life. The results can be alarming or exhilarating. Send readers on a journey of self-discovery to prepare for reading *The Fourteenth Goldfish*. Ask students to describe their emotional states. They can express their own thoughts and feelings, or they can explore what they think most middle schoolers and tweens are feeling. This exercise may help readers connect to the intricate characters in the story. Encourage them to express themselves in whatever medium they feel most comfortable with. Offer the following suggestions to help guide those students who could use a little inspiration.

- **Poster collage:** Cut out pictures, words, phrases, and quotes from magazines to create a collage that represents you.
- **Acrostic poem:** Write each letter of your first and last name vertically on paper. Then write a word that begins with each letter to describe yourself.
- **Alphabet book:** Write a word that describes you for each letter of the alphabet (A: artistic, B: beautiful, C: craves chocolate, D: dancer, E: enthusiastic reader, and so on).
- **Poetry:** Write a poem about yourself.
- **Music:** Write an original song or find a song that represents you, and write about why it is an appropriate choice.
- **Autobiography:** Write your life story or choose one moment to explore.
- **Self-portrait:** Draw a picture of yourself; include details that tell who you are.



Presentation suggestion: At the conclusion of this journey, set up a speed-sharing activity to give students the opportunity to share their work. Students sit in two rows, facing each other. Set a timer for five minutes. Have the students each share their work with the person they are facing. Choose one of the lines of students to move down one spot each time a five-minute period is up (move the same line each time for the entire activity). Continue until the students in the moving line are back in their original positions or until students have shared their work with at least five others in the group.

 Correlates to Common Core Standards CCSS.ELA-LITERACY.SL.5.5, CCSS.ELA-LITERACY.SL.5.4

Forever Young

Throughout history there have been stories of explorers searching for a fountain of youth—a body of water that can reverse the aging process. Many people have discussed the possible consequences, both desirable and undesirable, of eternal life. Watch the following videos and explore the resources below before reading the book (or after reading chapter 5). As a group, discuss and debate the pros and cons of having the ability to reverse the aging process. What do your students think? Readers may consider the products people currently use to try to reverse aging, such as wrinkle creams and lotions, hair transplants, vitamins, and good old healthy eating and exercise. List them on a chart in the classroom. As the book is read, add to the list.

Fountain of Youth: nationalgeographic.com/archaeology-and-history/archaeology/fountain-of-youth

Reversing Aging with Healthy Living: webmd.com/healthy-aging/features/promote-the-aging-process#1

Donald Duck: youtube.com/watch?v=pMARw3IIHj4

 Correlates to Common Core Standard CCSS.ELA-LITERACY.RI.5.7

Flair for Drama

Ellie is caught between two worlds—the world of science and the world of theater. The most important people in her life—her parents and grandfather—are passionate about very different things. Throughout the story, Ellie finds herself connecting themes of stage plays to the twists and turns of her middle school life.

There are several themes woven throughout the book. Divide the class into groups and give each group one of the five themes below. The theme will be kept secret from the other groups.

- Friendship changes as time goes on.
- Growing up is hard.
- Families can be made up of very different people.
- Boys and girls can be friends.
- Science comes with good and bad consequences.

Give the groups fifteen minutes to prepare their dramatic tableau (a group of frozen figures representing a scene from a story). Have each group present their frozen scene to the class. Prompt the audience to guess the portrayed theme based on the tableau. List the themes on the board when the class guesses correctly (or have the group reveal the theme if the class is having difficulty). After each theme is guessed or revealed, hold a class discussion about the theme: What does it mean? Do the students agree or disagree with the premise? Why or why not? After reading the book, try this activity again. This time have groups choose a passage from the book that depicts one of the themes, and use that to create their tableau. The rest of the class can think back to the themes discussed before reading and try to match them to the passage.

 Correlates to Common Core Standard CCSS.ELA-LITERACY.SL.5.1

WHILE READING

Make Connections

As your students read *The Fourteenth Goldfish*, introduce the concept of making connections. Encourage them to use the following questions while thinking about and discussing the novel in small groups, with a partner, or during independent reading:

- **Text-to-self connections:** How does this story relate to your life? Do the characters remind you of yourself or anyone you know? Does this story make you think of something that has occurred in your life?
- **Text-to-text connections:** Can you think of another book, poem, or play that is similar to this story? How are the two texts alike? How are they different?



- **Text-to-world connections:** Does this story make you think of something that is happening in the real world right now? Does it make you think of anything that has happened in the past? How could this story impact our world?

Once you begin hearing students making strong connections, direct them to enter their thoughts into their reader’s notebook. They should cite the text that they are connecting to. For example: *“At lunch, it’s sloppy joe day. No one’s exactly sure what’s in the sloppy joes, but everyone agrees that they’re gross.”* (p. 44) *This reminds me of when they serve tuna melts in the cafeteria at our school. Everyone brings lunch from home on that day and holds their nose when they walk into the cafeteria!*

 Correlates to Common Core Standard CCSS.ELA-LITERACY.RI.5.3

Author’s Purpose

Why did Jennifer Holm write this book? It’s entertaining, it includes factual information, and it may make you think about aging and science in a new way. Did the author have one purpose in writing, or are there many messages in this story? Ask readers to keep track of their ideas about the author’s purpose as they read. Revisit this question once the book is finished, and hold a class discussion.

CHAPTER-BY-CHAPTER DISCUSSION QUESTIONS

Chapter 1

- Why did Ellie’s kindergarten teacher give everyone in the class a goldfish?
- Why did Ellie’s mother keep replacing the fish each time it died? Do you think she did the right thing? Why or why not?

Chapter 2

- What did you learn about Ellie in this chapter? What are her likes and dislikes? How do these things help you understand her character?

Chapters 3 and 4

- Who is the teenager that Ellie’s mother comes home with? What clues are given before his identity is revealed?
- Describe the relationship between Ellie’s mother and grandfather.
- How does being young benefit Melvin?

Chapter 5

- Do Ellie and Melvin have similar feelings about aging? In what ways?

Chapter 6

- Ellie describes middle school as being “like one of those highway restrooms in the middle of nowhere.” (p. 31) Why does Ellie describe middle school this way? Do you agree or disagree with her? Explain your answer.
- What do puzzles and science have in common?
- Describe Ellie and Brianna’s friendship.

Chapter 7

- “My teacher says he’s just another in a line of charlatans.” (p. 38) What is a charlatan? Is this an accurate description of Melvin? Explain.
- How does Melvin feel about change? Why is this an important character trait?

Chapters 8 and 9

- Melvin says, “Scientists *never* give up. They keep trying because they believe in the possible.” (p. 47) What does he mean when he says this? How do you think it will impact Ellie?
- Ellie likes putting puzzles together. How might this help her become a scientist?
- According to Melvin, what is a key first step in becoming a scientist?

Chapter 10

- What does Ellie mean when she says, “Science fiction [is] becoming reality”? (p. 59) What are some examples of science fiction becoming reality?
- Analyze the negative experiences that Melvin is facing.

Chapter 11

- What did Ellie learn about failure on the adventure to the lab?

Chapter 12

- Why does Ellie think Melvin’s description of being old is comparable to middle school? Is it a good comparison?



Chapters 13–16

- Describe the struggle that Melvin is experiencing as an adult in a teenage body. How do you think this is affecting his research?
- Describe the relationship between Melvin and his late wife. Cite evidence in the text to support your answer.
- What does Ellie discover about cooking and how it relates to science?

Chapters 17 and 18

- Class brainstorm: How could Melvin, Ellie, or Raj get into the lab to take the *Turritopsis melvinus*? Get creative!

Chapter 19

- How might Mr. Ham’s ideas about the atomic bomb be important for Ellie to consider?
- Why, do you think, did the author name this chapter “Genie in the Bottle”?

Chapter 20

- “I’m a jellyfish glowing in the dark sea, bright and brilliant, just waiting to be discovered.” (p. 130) Analyze this idea. How is Ellie feeling at the dance? Why?

Chapter 21

- Analyze the significance of the dream that Ellie has on the night of her birthday. (p. 136)

Chapters 22–24

- What does Ellie contribute in these chapters? What scientific skill is she using?

Chapters 25 and 26

- What are the events that cause Ellie to rethink the discovery of the *T. melvinus*?

Chapter 27

- “I feel like Galileo, my vision of the universe suddenly upended.” (p. 168) Explain what Ellie means.
- Ellie’s preschool teacher, Starlily, had an important lesson to teach her students. Explain the lesson. Discuss why the author included this in the novel.

Chapter 28

- Ellie compares their journey of scientific discovery to a roller coaster. Does this comparison make sense? Why or why not?

Chapter 29

- Explain why Ellie thinks that Melvin is the fourteenth goldfish.
- Why does Ellie say her mother and Ben’s wedding isn’t a happy ending?
- Why does the author end the book with “The Beginning”?

 The discussion questions address many Common Core Anchor Standards in Reading, Writing, Speaking & Listening as well as Language. Just a few that apply are: CCSS.ELA-LITERACY.CCRA.SL.1, CCSS.ELA-LITERACY.CCRA.R.1, CCSS.ELA-LITERACY.CCRA.R.3

EXTENSION ACTIVITIES

Survey Says!

Throughout the reading of this book, pose questions for readers to ponder. (See the sample questions that follow.) Methods for surveying and collecting data are endless. Post each question around the room or on an interactive whiteboard. Give students sticky notes so they can answer the question by placing their sticky notes directly onto the question, or use the technology available to you to poll the class (use the whiteboard, post the question of the day in Google Classroom, or use Google Forms to take a quick survey). Once everyone has answered, share the outcome of the survey and begin the discussion. Encourage students to explain their thinking. These discussions will help readers make connections as they read Holm’s book and others with similar topics. Here are some questions to get you started. Your students may even come up with questions of their own.

- Would you rather stay forever young or age at a normal rate?
- Would you rather have one best friend or a large group of friends?
- If you had to pick one food to eat for the rest of your life, what would it be?
- Are you more of a scientist or an actor?
- Is failure a positive or negative thing?
- Is it better to be a kid or an adult?
- Would you rather be the director or the person onstage?



- Would you rather have a dog or a cat for a pet?
- Would you rather make an important scientific study or get a million dollars?

Extension: Take the discussion outside the classroom. For homework, ask students to complete one of the following assignments:

- Pose the question of the day to other people (at the dinner table, at a club or sport practice, with grandparents, and so on). Take notes about your findings, and be prepared to share them in class.
- Find an article, video clip, or any other source that supports your opinion on one of the questions. Be prepared to share with the class.

Correlates to Common Core Standards CCSS.ELA-LITERACY.CCRA.SL.1, CCSS.ELA-LITERACY.CCRA.SL.2

Where in the World Is Melvin?

Melvin is leaving on a bus to see the country. Where do you think he will go? Have students make a collection of postcards that Ellie will receive while he is gone. They should include a picture or a map of where he is and a short written message on the back. This is a great way to predict what might happen next, as well as to show what students know about Melvin's character. Ask readers to determine which character traits may have guided Melvin's travel choices. Encourage students to use the graphic organizer on page 8 of this guide to plan their postcards.

Correlates to Common Core Standards CCSS.ELA-LITERACY.CCRA.R.3, CCSS.ELA-LITERACY.CCRA.W.5, CCSS.ELA-LITERACY.RI.4.7, CCSS.ELA-LITERACY.RH.6-8.7

Ellie's Time Capsule

Ellie describes her room as "a time capsule of my life." (p. 10) Her walls are decorated with her and her friend's handprints. The handprints get bigger each year and serve as a reminder that Ellie is growing and changing. Ask students to think about time capsules and why people create them. What are other ways that people mark the passing of time?

Assign the class a time capsule project. A shoebox is a great container that holds a reasonable number of items. Anything can be put into the time capsule, and it can be sealed for any amount of time. Students should consider including a simple letter that can also serve as a snapshot in time. Discuss the idea with the class and establish guidelines.

For a simpler option, ask students to list the items that characters in the book might include in their time capsules (for example, Ellie's mom might include props from her favorite plays, Raj might add a bag of barbecue chips, Melvin might save a pair of slippers from his late wife).

Correlates to Common Core Standard CCSS.ELA-LITERACY.CCRA.R.3

POST-READING ACTIVITIES

Essay/Reflective Writing Ideas

There is plenty to think about at the conclusion of *The Fourteenth Goldfish*. Each of these writing ideas can be structured into a brainstorm, an informal writing activity, or an essay that utilizes the complete writing process.

- Why does Ellie describe her grandfather as the fourteenth goldfish? What is a metaphor, and how does the author use this metaphor in the conclusion of the story? Have you found your fourteenth goldfish yet? If so, who is it, and what have they taught you? If you haven't, who is the most influential person in your life?
- Ellie's parents want her to find her passion. She learns that she is interested in science. Melvin introduces her to the world of the possible. What are you passionate about? Follow this link to learn about some passion projects that started with the belief in possibility: liveyourlegend.net/living-legends-reader-spotlight-5

Assignment: Now make a list of some things you are passionate about. How could you make them possible? Choose one and write a plan for your passion project. Find two sources where you can explore your topic. Write an essay about your passion project. Challenge yourself to follow through and make a change in yourself or in the world. This essay is just the beginning!

- Ellie receives a package in the mail while Melvin is traveling. It's another jellyfish! What do you think will happen now that this creature has arrived? Why is this your prediction?

Correlates to Common Core Standards CCSS.ELA-LITERACY.CCRA.R.2, CCSS.ELA-LITERACY.CCRA.W.4, CCSS.ELA-LITERACY.CCRA.R.4



WHERE IN THE WORLD IS MELVIN?

Melvin is leaving on a bus to see the country. Where do you think he will go? Use the graphic organizer below to explain which character traits may guide Melvin's travel choices.

Melvin's Character Trait	Destination
Determined He experimented on his own body to find a way to reverse the aging process.	St. Augustine, Florida. Melvin wanted to visit a "Fountain of Youth."
Dedicated Melvin has a strong work ethic and never gives up on getting the <i>T. melvinus</i> back from the lab.	Pikes Peak, Colorado. Melvin wants to use his youthful body to climb the almost fifteen-thousand-foot high mountain. This experience will further support his research that the <i>T. melvinus</i> is effective, while showing how dedicated to his work he is. Plus, it's not easy to climb a mountain!

EDUCATORS: Reproduce this graphic organizer for students.





THE THIRD MUSHROOM

Melvin and Ellie are at it again! They have a new specimen and are planning to continue their research. This time around, they make more scientific discoveries, develop relationships, and learn important life lessons. Join them as their discoveries lead to adventures, and their adventures teach them about themselves and the world around them.

PRE-READING ACTIVITIES

Jennifer Holm merges fact and fiction throughout the book. Background knowledge will enable readers to immerse themselves in this story and flow between truth and literary license seamlessly.

Animal Expedition

Engage students to learn about the creatures that Melvin and Ellie will be working with as they continue their scientific discoveries. Readers should follow the links below to learn about the unique animals and take notes on each.

- **Jellyfish:** [nytimes.com/2012/12/02/magazine/can-a-jellyfish-unlock-the-secret-of-immortality.html](https://www.nytimes.com/2012/12/02/magazine/can-a-jellyfish-unlock-the-secret-of-immortality.html)
- **Jellyfish and regeneration:** news.nationalgeographic.com/2016/02/160302-jellyfish-immortal-science-animals-oceans-deadpool
- **Axolotl:** nationalgeographic.com/animals/amphibians/axolotl

At the conclusion of the research, have each student complete a 3-2-1 exit ticket (list three things you learned, two things you found interesting, and one question you still have). This is a fun way to share information and assess readers.

 Correlates to Common Core Standard CCSS.ELA-LITERACY.CCRA.R.9

Interview with an Elder

Help your readers better understand their elders. This activity will help your students gather firsthand information about the older generation and gain insight into Melvin's perspective.

- Tell the class that they will interview someone they know who is older than sixty. (Find a few willing colleagues to talk with students who are unable to reach out to a family member or friend.)
- Show the short videos below.*
- Discuss what makes an effective interview. What did students notice as they watched the videos?
- As a class, generate a list of good interview questions.
- Narrow down questions and generate a document that can be used to help facilitate the interviews.
- Hold mock interviews so that students can practice their skills.
- Choose a due date for interviews. Have students bring back the completed interview document.
- Allow students to share their findings with the class. This can be done as a partner activity, in small groups, or as an informal class discussion. Students are sure to have great stories to share!

*Video clips: these may be useful when introducing the idea of interviewing an elder. Choose which ones work best for your class.

This clip tells what to do before, during, and after you interview someone: [youtube.com/watch?v=WEdbKoY4wVs](https://www.youtube.com/watch?v=WEdbKoY4wVs).



Interview with an Elder (cont.)

These are fun videos that show interviews between a child and an adult. Ask students what choices the interviewer made during the interview and what was effective to get guests talking.

- **Steve Carrell and Kid President:**
youtube.com/watch?v=mASxn8WY9CA
- **Kid President and Creator of Adventure Time:**
youtube.com/watch?v=HakmcewcZ_E
- **57 Years Apart—A Boy and a Man Talk About Life:**
youtube.com/watch?v=BqSxjmvXzzY
- **58 Years Apart—A Girl and a Women Talk About Life:**
youtube.com/watch?v=WZZAAWxB_W4
- **Kids Meet a 101-Year-Old:** youtube.com/watch?v=69HgC2KghBc

Wrap-up discussion question: Why is it important in our society to understand the perspectives of past generations and to take the time to listen to other people tell their stories?

 Correlates to Common Core Standard CCSS.ELA-LITERACY.CCRA.SL.1

Meaningful Music

Jennifer Holm explores the complicated subject of aging. Many songwriters also delve into the topic of mortality, and the lyrics can touch people and make them ponder their own lives. Choose a song with themes of aging, and play it for your students. A few samples to consider:

- **“Young at Heart”—Frank Sinatra:**
youtube.com/watch?v=BG7suS4YJWk
- **“Tower of Time”—Oscar Brown Jr.:**
youtube.com/watch?v=hhgfE90s600
- **“Touch of Grey”—The Grateful Dead:**
youtube.com/watch?v=5NEE8oURdM0
- **“100 Years”—Five for Fighting:**
youtube.com/watch?time_continue=68&v=tR-qQcNT_fY
- **“7 Years”—Lukas Graham:**
youtube.com/watch?time_continue=70&v=LHCob76kigA

Analyze the meaning of the song. What is the message the artist is trying to convey? How does the artist get that message across? What techniques are used? How might this song be inspirational to people who are aging? How does this song connect to Holm’s book? Compare and contrast the themes of the song and Holm’s book.

[Common Core globe icon] Correlates to Common Core Standards CCSS.ELA-LITERACY.CCRA.R.7, CCSS.ELA-LITERACY.CCRA.R.1

Story Word Pictionary

This fun game is a great way to review vocabulary or unique or relevant words from the story. It will also pique readers’ interest about topics or themes they might face in the story they are about to enjoy. Divide the class into two teams. Write each word on an index card. Teams take turns choosing one member to draw the word on the card (see list that follows). If a team’s players guess correctly in one minute, that team earns a point. If they cannot guess correctly, the other team can steal the point if they answer correctly. Encourage students to make predictions about the plot based on these words.

Sample words: *grandfather*, * *goth boy*, * *teenage girl*, * *scientist*, *cat*, *jellyfish*, *fruit flies*, *microscope*, *romance novel*, *finding love*, *puberty*, *aging*, *friendship*

*If your class read *The Fourteenth Goldfish*, you may substitute these for the names of the characters Melvin, Raj, and Ellie. This will be a great character review.

 Correlates to Common Core Standards CCSS.ELA-LITERACY.CCRA.R.4



DURING READING

Changing Characters

Throughout the story the characters evolve, some more significantly than others. For example, Ellie has many moments of self-discovery as she learns more about science. Keep track of the changes as you read. Create character maps and write notes as characters make significant shifts—mentally or physically. At the end of the story, analyze each character and discuss who changed the most.

Use the reproducible Character Map on page 14 of this guide for this activity.

Movie in Your Mind

Great writers help readers visualize as they read. Descriptive language can conjure images in readers' minds. Have readers exercise this important visualization muscle by drawing as you read aloud. Read a scene aloud and ask students to sketch what they "see." There are some very descriptive scenes in *The Third Mushroom*. Here are a few to choose from:

- Dissecting the jellyfish and axolotl (pp. 35–38)
- Ellie and Melvin's Happening (pp. 102–104)
- Melvin's joyride (pp. 193–194)

Ask students to compare their drawings. Discuss the similarities and differences. What techniques does Holm use in her writing to help readers visualize her words? Assign the following activity: Practice writing your own descriptive paragraph about your favorite summer experience. Once you are finished, partner up. Can your partner draw your experience with as much detail as you remember it?

 Correlates to Common Core Standard CCSS.ELA-LITERACY.CCRA.R.1

CHAPTER-BY-CHAPTER DISCUSSION QUESTIONS

Chapter 1

- Is there a food that you hate to eat? How many times have you tried it? How many different ways have you tried that food?

Chapter 2

- Analyze Ellie's character. Do you think she is brave? Why or why not?
- How does Ellie feel about middle school? Cite evidence in the text to support your answer.

Chapters 3 and 4

- How is Melvin different from a typical teenager?
- Think about what you learned about jellyfish. Why are jellyfish important to this story? How are science fiction and other types of fiction blended in this story?

Chapter 5

- Do you think drawing something helps you notice details more than taking a photo does? Why?
- Who could Melvin be referring to in his blog when he says, "I see you everywhere"? (p. 41)

Chapters 6–8

- How do Melvin's and Ellie's ideas about animals differ?

Chapter 9

- Ellie says, "Someone else outlines it, and you just have to color in the lines. Sometimes, I kind of wish life was like that." (p. 70) Why, do you think, does she say this?



Chapter 10

- Character traits: What are some important character traits that are revealed about Melvin and Ellie? Why do they make a good team?
- How does Melvin describe his grief over the loss of his wife?

Chapters 11 and 12

- During the board game, Ellie's mother says, "But, Melvin, surely you've learned *something* from almost getting through the game already?" (p. 87) What does she mean?
- How is the relationship between Raj and Ellie developing?

Chapter 13

- Describe the feelings that Ellie and Melvin have during the Happening. Why do they describe it as a "Hollywood moment"?

Chapter 14

- Analyze the conflict between Melvin and his daughter. What does Ellie mean when she says, "I can't help but wonder who's really the teenager in this house"? (p. 111)
- How is Ellie's relationship with Raj continuing to change? How does Ellie feel about the changes? How do we know?

Chapters 15 and 16

- Melvin takes a big risk. What is it, and why is it such a risk? Hold a class discussion on this question: Would you take a risk to make a scientific discovery? Why or why not?

Chapters 17 and 18

- Analyze Ellie and Raj's date. How did it go? How do you think this will impact their relationship?
- Ellie unknowingly eats mushrooms and thinks they are delicious. Why might the author have added this detail at this point in the story?

Chapters 19–21

- How does Ellie respond to Jonas's prognosis? How are Melvin and Ellie alike in how they handle grief?
- Ellie makes the difficult decision to try to help Jonas. Do you think she makes the right choice?

Chapter 22

- Ellie says, "If Shakespeare wrote a play about me, it would be a tragedy." (p. 169) Why does she say this? Have you ever felt this way?

Chapter 23

- What is Ellie's hypothesis about her relationship with Raj? How does Melvin help her arrive at a conclusion?
- Do you think Melvin's full beard and the deaths of the fruit flies are related? Make a prediction about what will happen next.

Chapters 24–26

- What is the unexpected prize that Ellie feels that she won?
- Explain the unexpected reveal in chapter 24. Describe Ellie's reaction.
- Discuss the positive aspects of Melvin's being an adult again.
- How are mushrooms and Melvin's dating related?

Chapter 27

- Compare magic and science. How are they alike? How are they different?
- How has Ellie changed throughout the course of the story?

🌀 The discussion questions address many Common Core Anchor Standards in Reading, Writing, Speaking & Listening as well as Language. Just a few that apply are: CCSS.ELA-LITERACY.CCRA.SL.1, CCSS.ELA-LITERACY.CCRA.R.1, CCSS.ELA-LITERACY.CCRA.R.3



EXTENSION ACTIVITIES

Compare and Contrast

Tuck Everlasting is about mortality. It tells the story of a family who drink from a magical spring and learn of the complications of being forever young. Showing this movie can be a wonderful extension activity at the conclusion of *The Third Mushroom*. Compare and contrast the events of the movie and the book. How are the characters alike? How are they different? How does the central message of *Tuck Everlasting* compare to that of *The Third Mushroom*? How does each artist (the author versus the director) convey the central messages to the audience? What choices and techniques do they make and use?

imdb.com/title/tt0283084

These scenes from the movie work well for this activity if showing the entire movie is not desirable.

- 00:37–00:43—Losing Track of Time
- 00:47–01:00—The Secret
- 1:03–1:07—Discovered
- 1:14–1:17—Escape
- 1:17–1:21—Decision
- 1:21–1:25—Conclusion

Correlates to Common Core Standards CCSS.ELA-LITERACY.CCRA.R.7, CCSS.ELA-LITERACY.CCRA.R.9

Speed Chat Meets Pass It On

This activity is a combination of two comprehension activities for groups of four or more students. Each group will need a pencil and one piece of paper. Begin by allowing one minute for the first group member to write as much as they can about how the story begins. When time is up, signal the student to pass the paper to someone else in the group to continue writing. The next person quickly reads what the previous person wrote and writes what happens next. After two minutes, signal the writers to pass the paper to another group member. Continue this process, adding one minute to the time for each turn.

Depending on the size of the groups, you can signal as many times as there are students in each group in order to give everyone a chance to participate. At the conclusion, ask groups to read their summaries and decide if anything was missing or out of order.

Correlates to Common Core Standards CCSS.ELA-LITERACY.CCRA.W.4, CCSS.ELA-LITERACY.CCRA.R.2

What If?

Melvin chooses not to reveal his amazing scientific discovery. What if he were to decide to share his findings with the world? How would the story change? Invite students to explore this possibility. Have them rewrite the ending of the story. Would it be a happy ending? Could there be a third book?

CCSS.ELA-LITERACY.CCRA.W.3, CCSS.ELA-LITERACY.CCRA.W.5

POST-READING ACTIVITY

Get readers thinking about perspective by asking them to put themselves in Ellie's shoes. By thinking of a similar situation, readers will connect to the complex characters and sympathize with them throughout this story, in other stories, and, hopefully, outside the classroom walls.

Trying Something New

Ellie describes her hatred of mushrooms throughout the book. By the end of the story she has changed her mind. What happened?

Essay question and activity: Recall a time when you decided you didn't like something but later changed your mind. It can be an experience, a food, a person, a TV show, etc. How many times did you need to try it before you changed your mind? Did you need to add something or change something about it? Write an essay about this. Be as descriptive as possible by targeting the five senses—taste, smell, sight, sound, and touch—to make your readers really experience the change as you did.

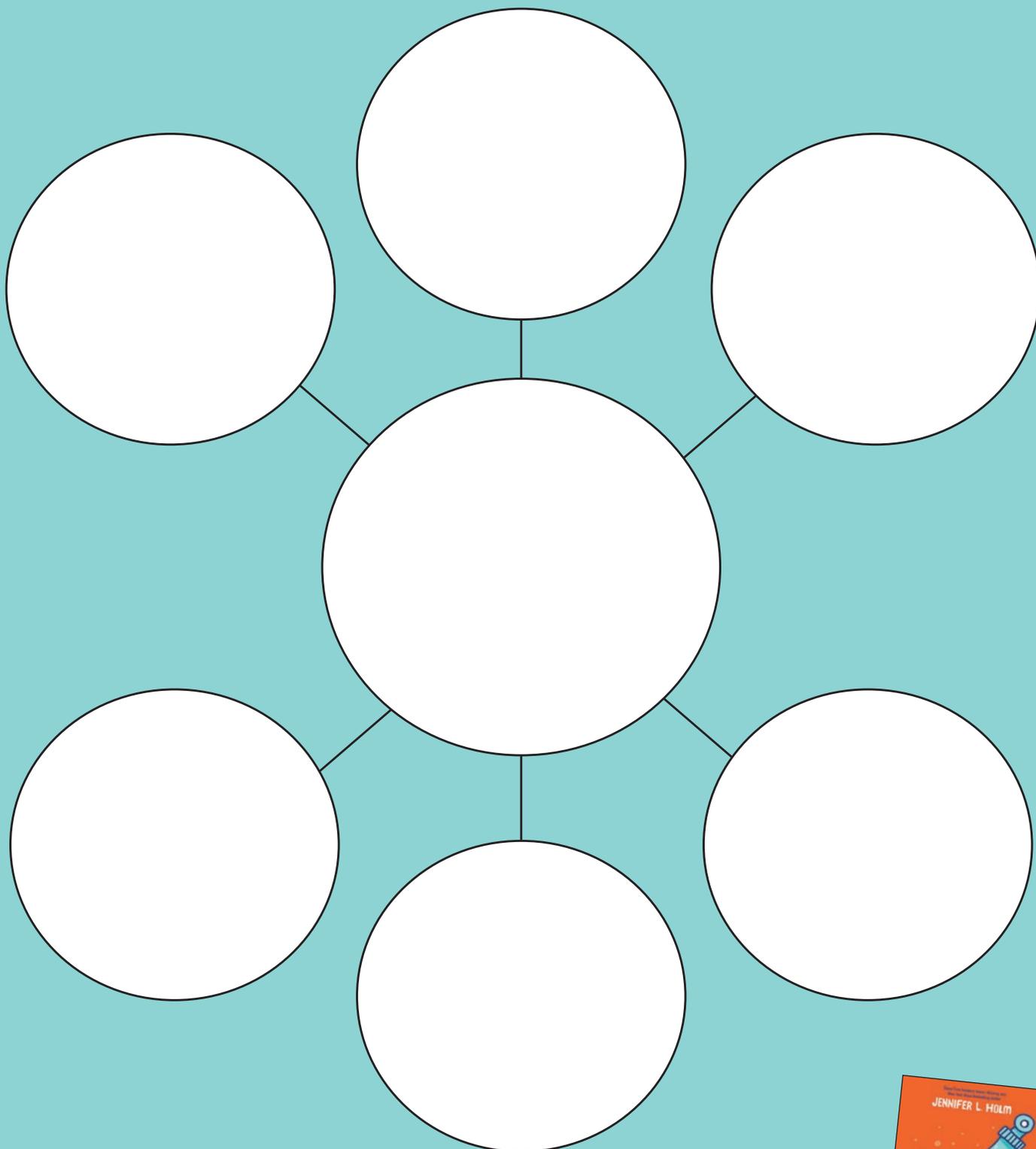
Share with the class: If it's a food that you chose, be sure to consult your teacher about food allergies before you bring some to school for the class to sample. If you chose something else, such as an experience or a TV show, bring in a demonstration or clip that will help your classmates experience whatever you were hesitant about. Remember that you are sharing opinions, so respect is a must during presentations. Ellie would like that.

Correlates to Common Core Standard CCSS.ELA-LITERACY.CCRA.SL.4

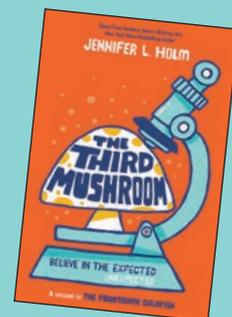


CHARACTER MAP

The characters in *The Third Mushroom* evolve throughout the story. Keep track of the changes on this character map as you read.



EDUCATORS: Reproduce this character map for students.





CONNECTING *The Fourteenth Goldfish* and *The Third Mushroom*

The Fourteenth Goldfish and *The Third Mushroom* can be studied together. They tell the story of a girl's journey of self-discovery and her grandfather's journey back to his youth. The characters grow and develop in many ways throughout both books, helping readers discover how the impossible can be possible.

Class Discussion: Growth Mindset

Growth mindset is a hot topic! Read about it here: mindsetworks.com/science. Then lead the class in a discussion about the difference between a growth mindset and a fixed mindset. How do these books promote a growth mindset in students? Find examples in each book that highlight this concept. When did Ellie have a fixed mindset? How did each mindset benefit or impair her experiences?

Web Design

There is a Melvin Sagarsky Fan Club! Who knew? Assign small groups to design the homepage for the Official Melvin Sagarsky Fan Club, and write a letter from its president. Be sure students include the following:

- A picture of Melvin Sagarsky (use evidence from the texts to draw an accurate picture of seventy-seven-year-old Melvin)
- A list of Melvin's accomplishments
- Links to articles that Melvin may have written or that he would enjoy
- A logo for the fan club
- A link to join the club
- Anything else that you would expect to see on this web page

Correlates to Common Core Standards CCSS.ELA-LITERACY.CCRA.W.4

Mini Science Fair

At the conclusion of both books, hold a science fair in your classroom. Ask students to follow the scientific process to make a discovery (observe, question, hypothesize, experiment, communicate). If a science fair is more than you want to take on, choose one experiment from the following suggestions and have small groups try it out and compare the results. Here are some project ideas.

Slime: science.wonderhowto.com/how-to/make-slime-without-borax-5-easy-recipes-for-goey-homemade-ooze-0147194

Dyed plants: scientificamerican.com/article/bring-science-home-capillary-action-plant

Foods that can be regrown from scraps: redtri.com/classic-science-experiments/slide/9

Correlates to Common Core Standard CCSS.ELA-LITERACY.RST.6-8.3

Women in Science

Ellie is beginning to realize that she has a scientific brain. She developed her scientific side with each discovery she made. Who are other women in science whose discoveries have made a significant impact on the world? Have pairs of students research women in science and choose one person they would like to learn about. Students should create presentations to share what they've learned. Have students present their findings in class, at a parent night, or in a younger grade's classroom. Spread the word: girls love science!

Correlates to Common Core Standards CCSS.ELA-LITERACY.CCRA.R.1, CCSS.ELA-LITERACY.CCRA.W.2, CCSS.ELA-LITERACY.CCRA.W.7

Graphic Novel

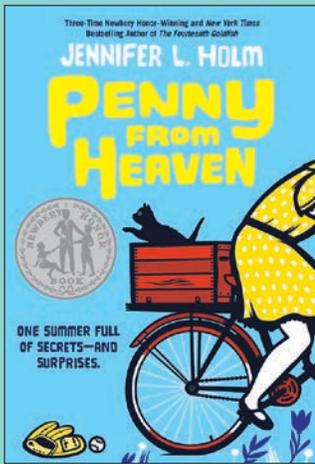
Jennifer Holm also writes graphic novels with her brother Matthew. Which chapter do you think would work well as a graphic novel? Turn that chapter into a graphic novel, and explain why you chose it. Why, do you think, did Jennifer Holm choose to write these books as traditional novels rather than graphic novels?

Jennifer Holm's website has plenty of examples of her work. Check it out before you get started: jenniferholm.com.

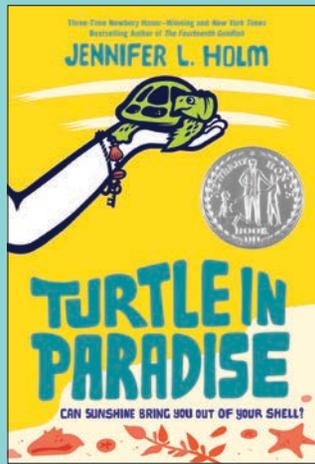
Correlates to Common Core Standard CCSS.ELA-LITERACY.CCRA.W.4



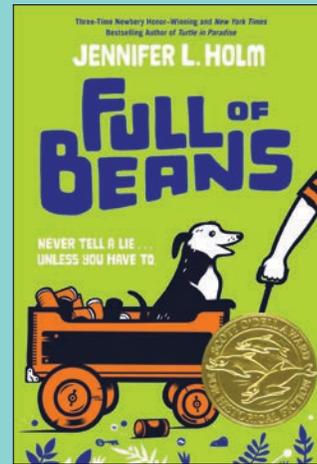
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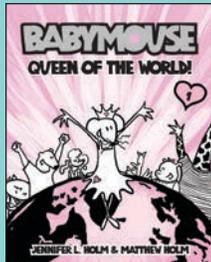


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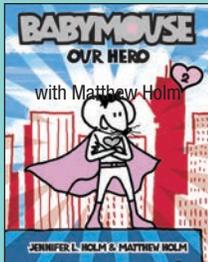


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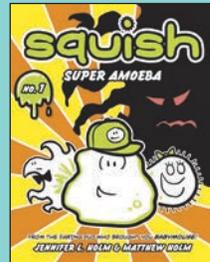
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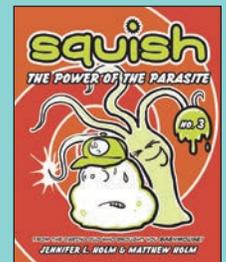
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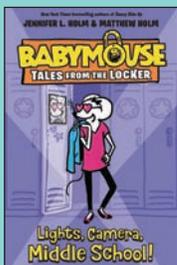
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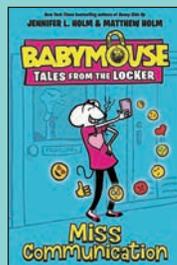
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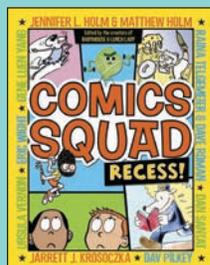
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