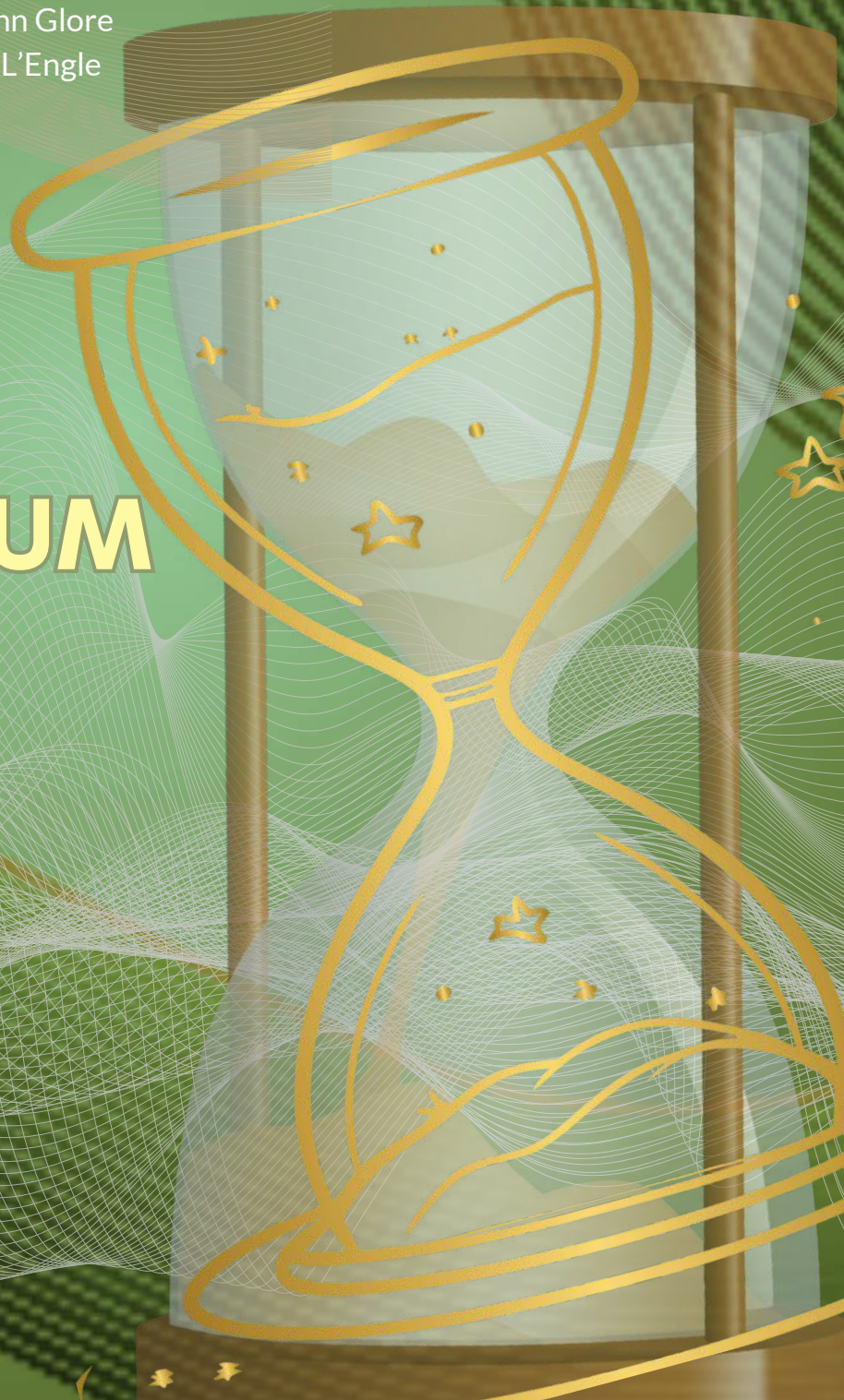


A WRINKLE IN TIME

Adapted for the stage by John Glore
From the book by Madeline L'Engle

CURRICULUM GUIDE

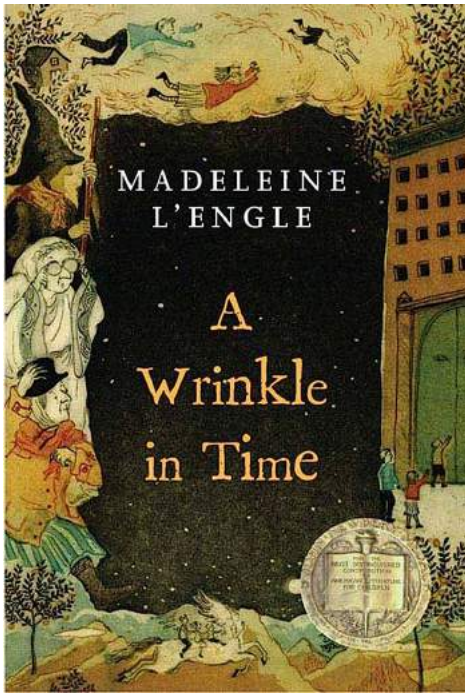
WHEEL●CK
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THEATRE



A WRINKLE IN TIME

BIG IDEAS

- **Bravery:** Doing the thing we are scared of because it is right, even if we do not know the outcome.
- Love is a powerful force, more powerful than hate.
- Things that make us different from others are our greatest strengths.



TEACHING A WRINKLE IN TIME IN THE CLASSROOM

Discussion Questions Before Seeing the Play:

- How would you define “bravery?” Can you think of a time when you were brave?
- What feelings do you experience when you travel somewhere new? What feelings develop when trying an activity for the first time?
- When you’re feeling upset, who are the people in your life that you can go to ?
- What is one way that your talents can be used to help others?

Questions for Discussion After Seeing the Play:

- When did you see Meg being brave in the show? When did you see Charles Wallace being brave? When did you see Calvin being brave?
- How did the three sisters, Mrs. Who, Mrs. Whatsit, and Mrs. Which, guide Meg, Charles Wallace, and Calvin through their adventure?
- What does the introduction of “It was a dark and stormy night.” reveal to or foreshadow for the audience?
- *A Wrinkle in Time* is known as a timeless classic. Why might this story resonate across multiple generations?
- Why might the antagonist of the story be named “It”? What does this name reveal about the character?

A WRINKLE IN TIME

ABOUT THE SHOW

On a dark and stormy night in a small town, Meg Murray and her little brother, Charles Wallace, encounter a strange new friend—a woman who is living in the “haunted” house down the road. This woman has valuable information about the whereabouts of Meg and Charles’ father. With the additional help of their new friend, Calvin, Meg, and Charles embark on a journey across space and time, hoping to find their father and maybe even save the world. Based on the book by Madeleine L’Engle, *A Wrinkle in Time* is a thrilling and fantastical exploration of love, difference, and just how much we are truly capable of when we believe in ourselves.

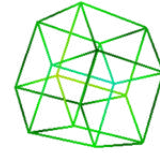
ABOUT THE AUTHOR OF THE NOVEL THAT THE PLAY IS ADAPTED FROM:



"I've been a writer ever since I could hold a pencil", author Madeleine L’Engle revealed in an interview with Humanities magazine. L’Engle had several published novels before she wrote *A Wrinkle in Time*. L’Engle found beauty in the ever-unfolding understanding of the laws of the universe. She was inspired to incorporate this science and beauty into her own writing. L’Engle wrote *A Wrinkle in Time* in 1960, but the book wasn’t published for another two years. It was turned down by over 25 publishers, who all insisted the novel was not easily classifiable and, therefore, not easily marketable. Finally, after a string of rejections, *A Wrinkle in Time* was finally published in 1962 by Straus & Giroux. The novel went on to win the Newbery Medal for excellence in children’s literature in 1963 and has sold over 16 million copies in more than 30 languages and counting.



A WRINKLE IN TIME



ACTIVITY PROMPTS

- Research what a tesseract is. Is it real?



- Find and read the next book in The Time Quintet (after *A Wrinkle in Time*) called *A Wind in the Door*.
- Compare and contrast *A Wrinkle in Time* with another science-fiction book (like *The Phantom Tollbooth* by Norton Juster, *Fortunately, The Milk* by Neil Gaiman, or *The Giver* by Lois Lowry). What rules of the world are different? What are similar?

- Mrs. Whatsit tells each child that they have a great gift that will help them through their difficult journey. She helps the children see their strengths. Think of one of your friends and write them a note, telling them about one of their strengths or gifts. This may even be something that they don't recognize as a strength in themselves!

- In a moment of fear on Camazotz, Calvin asks Meg and Charles,

CALVIN: Anyone else feel like Dorothy and her friends, heading into the Witch's castle?

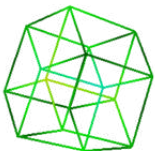
MEG: Which one are you?

CALVIN: Cowardly Lion, definitely...



In what ways do you see Meg, Charles, and Calvin mirrored in the lead characters of the 1939 film, *The Wizard of Oz*– Dorothy, the Scarecrow, the Tin Man, and the Cowardly Lion?

- At the beginning of the play, Meg imagines writing a letter to her missing father. Think of someone you miss or wish you could see. Write them a letter. Tell them about your day and what you imagine you could be doing if you were together. If possible, send the person the letter!
- Over the course of the play, Meg goes from telling Calvin “I don't believe in feelings” to recognizing the power of love and acknowledging her emotions. Take a moment to consider how you are feeling today and then use the Mood Meter to identify the color you are feeling. Then, find or draw an emoji face that matches your mood.



SERENE	FULFILLED	CALM	BALANCED	M	LIVELY	UPBEAT	EXCITED	ECSTATIC	
EASYGOING	CHILL	THOUGHTFUL	CONTENT		O	ENTHUSIASTIC	ENERGISED	INSPIRED	HYPER
SATISFIED	GRATEFUL	TRANQUIL	RELAXED		O	MOTIVATED	SURPRISED	FOCUSED	PLEASANT
COMFY	COMPLACENT	PEACEFUL	MELLOW		D	JOVIAL	BLISSFUL	HOPEFUL	HAPPY
M O O D				M E T E R					
SAD	LONELY	TIRED	BORED	E	TENSE	NERVOUS	RESTLESS	TROUBLED	
GLUM	DRAINED	APATHETIC	DOWN		T	PEEVED	WORRIED	FRIGHTENED	UNEASY
PESSIMISTIC	CONCERNED	EXHAUSTED	MISERABLE		E	FRUSTRATED	STRESSED	IRRITATED	PANICKED
DISCOURAGED	DRAINED	SPENT	ALIENATED		R	STUNNED	ANNOYED	ANGRY	FURIOUS



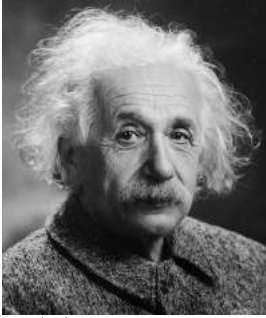
A WRINKLE IN TIME

A Little Inspiration from Quantum Mechanics

A *Wrinkle in Time* author, Madeleine L'Engle, was fascinated by space and the night sky as a child. Let's look at some of L'Engle's influencers!

QUANTUM MECHANICS (QM) is the part of physics that explains how the things that make up atoms work. QM also explains how electromagnetic waves (like light) work.

ALBERT EINSTEIN (1879-1955)



During a slow period in her writing career between publications, L'Engle began to read the work of Albert Einstein. She was drawn to his attempts to reveal the laws that define the universe as we know it.

- **Who was he?** Albert Einstein was a German physicist and scientist.
- **What is he known for?** Einstein is best known for his theory of relativity and the formula $E=mc^2$ (which reveals that matter—the tiny particles that form objects—can be turned into energy, and vice versa).



Think question: Einstein was inspired by the work of past scientists, particularly the theories of Isaac Newton. How can the works of past scholars help us to make new discoveries?

ISAAC NEWTON (1643-1727)

Mrs. Whatsit tells the children that blackness has been working to take over Earth for centuries, and many have fought against it. In her list of those who have taken up this charge, she includes Isaac Newton.

- **Who was he?** Sir Isaac Newton was an English mathematician, physicist, astronomer, alchemist, theologian, and author who was interested in Galileo's and others' discoveries. Isaac thought the universe worked like a machine functioning under a few simple laws.
- **What is he known for?** Newton is known for his discoveries about gravity and the laws of motion. Newton's first law tells us that an object won't change its motion unless acted upon by a force. Newton's second law tells us that heavier objects need a larger force to move them. Newton's third law tells us that for every action, there is an equal and opposite reaction.



Think question: Consider Newton's laws of motion. Where might you find a practical application of one of the laws of motion (think about sports games, for example).

LEONARDO DA VINCI (1452-1519)



Mrs. Whatsit's list of people who have fought blackness includes the famous artist and scientist Leonardo Da Vinci.

- **Who was he?** Da Vinci was a true *Renaissance Man* (a person who had wide interests and is an expert in several areas).
- **What is he known for?** Da Vinci's well-known accomplishments include his paintings, the Mona Lisa and the Last Supper, his examination of the human body, and his newfound way of analyzing machinery.

Think question: Da Vinci utilized a novel approach to inventing. He would break down complex systems or machinery and combine them in different ways to improve existing machines or create entirely new inventions. Can you think of a task or invention that can be broken down into smaller parts and used in a new way?



A WRINKLE IN TIME

Theatre Magic: Fantasy on Stage

In *A Wrinkle in Time*, Meg, Calvin, and Charles Wallace travel through space and time—all with the help of Mrs. Which, Mrs. Whatsit, and Mrs. Who—to fantastical worlds where they meet non-human creatures and beings. While the term “theatre magic” can be applied to many kinds of productions, in this case, the play dictates that magic is happening onstage.

How do theatre-makers create these magical moments for audiences?



Want to learn more?
Watch this video from
Disney On Broadway
about the magic of
Mary Poppins!

Examples of fantasy on the stage include:

- *Harry Potter and the Cursed Child*
- *Disney and Cameron Mackintosh's Mary Poppins*
- *Wicked*

Magic in Action: Design for the Stage

SPECIAL EFFECTS

Special effects for the stage can include different **lighting effects**, the use of **fog** and **haze**, **flying**, and more! You may have even seen productions where it **snows** or **rains** during the show. Special effects and “theatre magic” can be created for the audience through **optical illusions** or by using special **technology** (and the innovation of skilled designers and technicians!)



Elphaba flies onstage during *Wicked* on Broadway.

Learn more about special effects in *Wicked*! Watch this video from the “Behind the Emerald Curtain”.



Think question: How do you think designers might make someone fly onstage?

LIGHTING DESIGN

Lighting designers utilize light to:

- practically - light the actors and scenery;
- artistically - create different moods, atmospheres, and effects onstage.

Good lighting design can make us, as the audience, feel transported to different worlds! Lighting designers can create a mood onstage with **color**. They can also manipulate the lighting’s **direction** and **intensity**, break up the lighting, and create patterns by using tools like **gobos**.

In *A Wrinkle in Time* at Wheelock Family Theatre, the lighting and scenic designers - Isaak Olson and Jon Savage - collaborated in implementing overhead **projections**, which help “transport” us to different locations and create magical effects.



Harry Potter and the Cursed Child at the CAA Ed Mirvish Theatre in Canada.

Learn more about projection! Watch this interview with Finn Ross, the projection and video designer for *Harry Potter and the Cursed Child*:



Think questions (after seeing *A Wrinkle in Time*): What did you notice about the projections? How did the lighting design create different settings and moods?

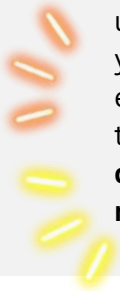
Theatre Magic: Fantasy on Stage

LIGHTING DESIGN



Now you try!

- If you have access to LED or other color-changing lighting, try setting that up in different locations in your house and experiment with changing the colors. **How do the different colors affect the mood?**
- Don't have LED lights? Make your own colorful lighting with a paper towel tube, colored cling wrap and rubber bands. Shine a flashlight into the tube to make your own colored "lamp" that you can move to different locations.
- Try experimenting with [this Online Lighting Color Lab](#) from theatre artist Matt Kizer:



SOUND DESIGN

Sound designers are also responsible for creating an atmosphere or mood like lighting designers. In sound design, this is often called **ambiance**. Sound design can involve microphones and manipulating how actors' voices are heard, and it can also involve adding in other sound effects or music to help with the storytelling.



Go back "Behind The Emerald Curtain" and learn more about the sound design for *Wicked*!



Sound mixers for the Broadway production of *Hamilton*.



Now you try!

- Want to create ambiance using sound? Grab some family and friends and see the "World Building" lesson on page 9 for instructions on creating a soundscape.
- Repurpose your empty paper towel roll from the lighting activity to create a homemade rainstick!

You will also need:

- Duct tape
- Corn kernels, rice, small pasta (uncooked!)
- aluminum foil

Scan the QR code for step-by-step instructions.



EXTEND: FURTHER RESOURCES

For more information on the responsibilities of designers check out this **Production Team Handbook** from the Department of Theatre and Dance at Appalachian State University.

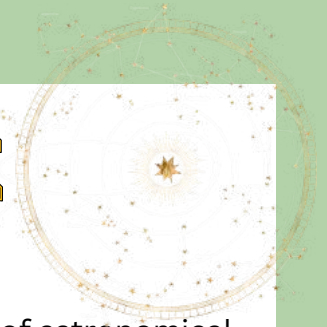


Homemade rainstick.

THEATRE VOCAB: SUSPENSION OF DISBELIEF

When fantasy is presented onstage, audiences must sometimes "suspend their disbelief." For instance, we know that if we are watching *A Wrinkle in Time* we are not actually being transported from Boston, MA, to the planet Camazotz with the protagonists. Still, we use our imagination and engage with the story as if we really were in the world of the play.

A WRINKLE IN TIME



TRACKING THE STARS

How long has society been tracking the stars? The first documented records of astronomical observations date back to around 1000 BCE. Early astronomers kept records of the movement of the stars but they had no idea how far away the stars and the planets were.

What exactly is a star? Stars are giant balls of hot gas – mostly hydrogen, with some helium and small amounts of other elements.

What is a constellation? Often, it's a group of stars that looks like a particular shape in the sky and has been given a name. If you join the dots—stars, that is—and use lots of imagination, the picture would look like an object, animal, or person. There are 88 formally defined constellations. The constellations divide the sky into regions that are used to help identify where objects are located in the sky.

In *A Wrinkle in Time*, Mrs. Who refers to Meg, Charles Wallace, and Calvin as Megrez, Kitalpha, and Caroli:

MRS. WHO: Kitalpha. And Megrez! Caroli has told me so much about you.

MEG: Charles, what exactly is going on? And what's with those names, Megrez, Caroli...?

CHARLES WALLACE: I don't know. They're the names of stars."

MEGREZ ★

Megrez is a star in the northern constellation of Ursa Major (also known as The Great Bear). Megrez is one of seven stars that make up the **asterism*** The Big Dipper, which is also part of the constellation Ursa Major.



*An **asterism** is a pattern or group of stars that often have a name but are smaller than a constellation.



KITALPHA ★

Kitalpha is a star in the constellation of Equuleus (which means "little horse" in Latin).

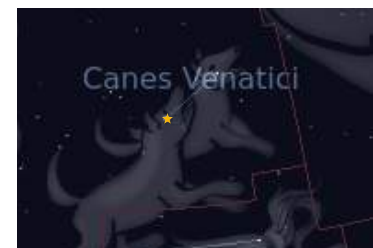
This constellation is found next to Pegasus, one of the largest constellations in the night sky and is in the shape of the upper body of a winged horse.

Equuleus is adjacent to Pegasus but significantly smaller and only in the shape of a horse's head.

COR CAROLI ★

Cor Caroli is a **binary star**⁺ in the constellation Canes Venatici, which means "Hunting Dog".

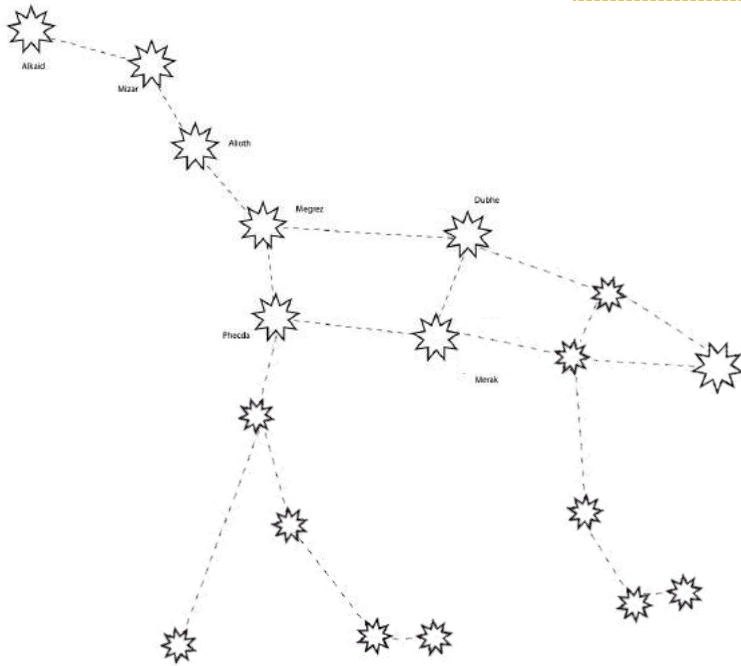
The International Astronomical Union uses the name "Cor Caroli" specifically for the brighter star of the binary.



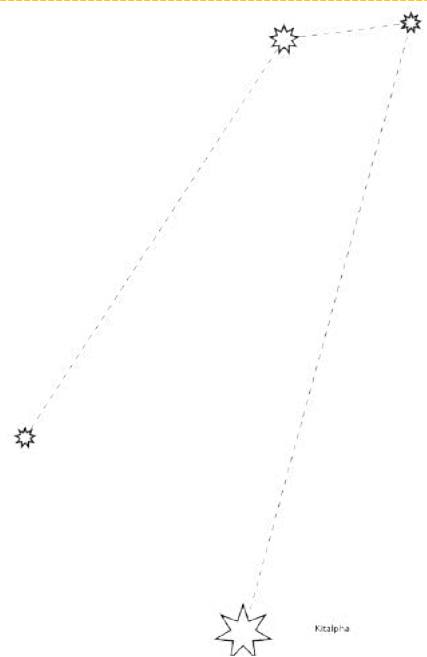
⁺A **binary star** is part of a pair of stars that either orbit around each other or orbit around a common center.

TRACKING THE STARS: FILL IN THE GAPS

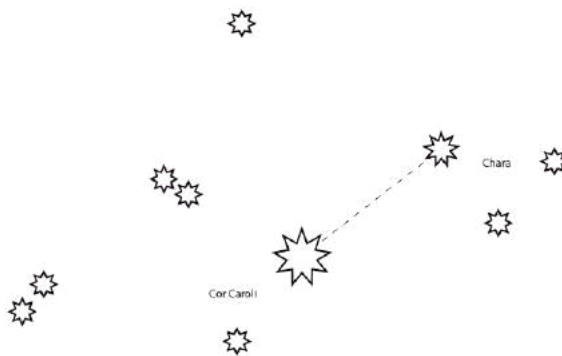
While constellations are named for the general layout of the stars, much of the interpretation of the shape is left up to the imagination. How would you draw the animal based on the constellation pattern? Is there a different animal or shape that you think would be a better name for this constellation?



"THE GREAT BEAR"



"LITTLE HORSE"



"HUNTING DOG"

EXTENSION: ON YOUR FEET!

Constellations are made up of many stars. Each star shines bright enough to be seen from the Earth, but even still, a single star cannot compose a constellation without the other stars. Meg, Charles, and Calvin each have their own unique gifts but cannot make it through the trials of the blackness without each other. In groups of 4-5, see if you can make these constellations using just your bodies. How many people will it take to create Ursa Major? How can you shape your body to show the connection to the other star points? Ursa Major is named after a large bear, how can you maintain your star formation but also convey the message that your constellation is a large bear? Now try Canes Venatici and Equuleus!

TEACHING A WRINKLE IN TIME IN THE CLASSROOM

WORLD BUILDING

STEP ONE: SOUNDSCAPES

The world of a novel or play can be established in the first few sentences—this adaptation of *A Wrinkle in Time* begins with the phrase, “**It was a dark and stormy night.**”

Ask: “**What kind of sounds do you associate with a dark and stormy night?**” Write student responses on the whiteboard.

- **Brainstorm:** Invite students to pick one of these sounds from the board or create their own. Students will use their voices and bodies to make their chosen sound. The class will make a soundscape for “a dark and stormy night.” Encourage students to consider the **pace** of their sound—is it fast or slow? Does it take a long time to complete or is it over quickly?
- **Rehearse:** Establish a cue (like a clapping pattern) that tells students when to begin and end their sounds. Cue students to begin. Students simultaneously make their sounds. Cue students to end. Repeat rehearsal with two different sounds.
- **Perform:** Students choose one sound. Now students will start and end their sounds one at a time. Signal students to begin by tapping them on the shoulder, snapping by their ear, or pointing to them. Cue each student one at a time. Let all of the sounds continue for at least 20-30 seconds, then begin cueing students to stop their sounds.
- **Reflect:** “**How did you fit your sound into the patterns of the whole soundscape?**”

Repeat the exercise with text from Katherine Paterson’s novel, *Bridge to Terabithia*. In this story, two students discover a magical land in the woods by their house. The first description of the environment of Terabithia begins, “**The dogwood and redwood played hide-and-seek between the oaks and evergreens, and the sun flung itself in golden streams through the trees to splash warmly at their feet.**”

Ask: “**What sounds do you associate with the woods on a warm day?**” Write student responses on the whiteboard.

- Repeat **Brainstorm**, **Rehearse**, and **Perform** steps above.
- **Reflect:** “**How were the two soundscapes we created similar? How were they different? We just used sound to create an environment, how could we explore the other 5 senses to create a world?**”

Grade Level: 3-4

Length: 50 minutes

Theatre & Literacy
Standards Connections
(see last page).

Materials:

- Pencil and paper
- Whiteboard & Expo Markers

Enduring Understanding:

Magical worlds can be created from everyday spaces through simple phrases.

Objective: Students will describe and develop an environment using the 5 senses.

STEP TWO: FREE WRITE

Say, “We built a world through sound based on only one or two sentences about that environment. Let’s see if we can explore how the other senses can contribute to the building of a world.”

Invite students to think of a place that feels magical to them. It could be a place in nature, a place at home, or a place that makes them feel magical. It should be a place they can describe. Have student prepare their papers by writing:

Sound:

Sight:

Touch:

Smell:

Taste:

Take 3-5 minutes for students to describe the five senses of their magical place. Consider these guiding questions:

Sound: **What sounds fill the space? Are the sounds fast/slow? Loud/Soft? Man-made/natural?**

Sight: **What do you see around you? What colors do you see? How light or dark is it?**

Touch: **What does the ground feel like? What does the air feel like? Are the textures rough/smooth?**

Smell: **What is the smell? Where is it coming from?**

Taste: **Is there something tasteable? Does the air taste a certain way?**


Once students have completed their sensory descriptions, ask: “**What would your first sentence be to introduce your environment? How can you set the scene? What senses do you want to highlight?**”

STEP THREE: TOUR OF A SPACE

Say, “Now we are going to explore this world you have just described. You will take a partner on a five-minute tour of your world. See if you can incorporate descriptions from all 5 senses you listed in the previous activity.”

In pairs, students verbally and physically guide a partner through their magical space. The person on the tour can ask questions, and the guide may respond briefly, though the focus must remain on the tour itself. After about 5 minutes, partners switch roles and so the former partner becomes the new tour guide. Afterward, gather the group together and ask each partner in the pair to briefly describe their colleague’s space to the rest of the group.

Reflect: “Which of the 5 senses stood out to you the most from your partner’s space? In what ways were these spaces magical (your own space or your partner’s)?”

 Extend: “If someone were to design a show set in your space, what elements might they need to include? How might they bring those elements to life on the stage?” To further consider how you would adapt this world for the stage, see the Fantasy Onstage worksheet on page 5.

★ TEACHING A WRINKLE IN TIME IN THE CLASSROOM

● OUR DIFFERENCES MAKE US STRONGER

Before Mrs. Whatsit sends Meg, Charles Wallace, and Calvin to Camazotz, she gives them each a charm to help them on their quest. To Meg, she says, “**Little Meg with the fierce heart: to you I give your faults.**” Meg is constantly fighting against the things that make her different, like her temper and her stubbornness. When the children arrive on Camazotz, they quickly realize that here, everything is the same. The houses all look alike, each filled with a family who dress the same as their neighbors. Even the children in the front yards are bouncing identical rubber balls to the same rhythm. When IT gets ahold of Charles Wallace, Calvin tries to ask whether it’s boring living in a world where everyone and everything is the same. Charles Wallace responds:

CHARLES WALLACE: It’s better this way. Differences make problems. You know that, don’t you dear sister?

MEG: No.

CHARLES WALLACE: Of course you do. (*Uncannily mimicking MEG:*) “I wish I could be normal, I hate the way I am.”

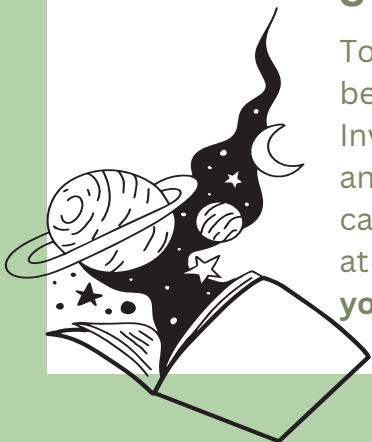
MEG: Well...that doesn’t mean I want to be exactly the same as everyone else.

CHARLES WALLACE: Why do you think your planet has wars? Why do you think people get confused and unhappy? Because no one trusts anyone who’s different.

While we sometimes may want to “fit in” like Meg does, it is ultimately our differences that make us who we are! In this lesson, we will explore the story of two friends who are very different from each other. How can they both recognize and appreciate what makes them unique?

STEP ONE: GUIDED IMAGERY

To begin the lesson, let students know that you will be asking them to imagine themselves in a scenario. Invite them to find a comfortable space in the room and ask them to close their eyes or look down so they can visualize the story as you read it. Read the story at the top of the next page (**this can be modified for your needs**).



Grade Level: 5–6

Length: 60 Minutes

Theatre Standards & SEL
Competencies
Connections
(see last page)

Materials:

- White board **OR** chart paper
- Markers

Enduring Understanding:

The qualities that make us all unique are strengths; differences are something to be celebrated.

Objective: Students will engage with perspectives different than their own and enact difficult conversations using respectful language.

It's Friday, and you are so excited for the weekend! It's a warm Spring day, and you are just coming in from recess with your friends. You are out of breath after running around with your friends, and the group of you walk back towards your classroom. You just finished an intense game of kickball led by Taylor. Taylor is an amazing athlete and one of your closest friends, but you've noticed something's been different with them lately. They were just having fun out at recess, but they already seemed to have retreated into themselves. As the group of you turn the corner, another friend, Alex*, perks up and says, "I'm so excited for our creative writing lesson this afternoon!" Alex is a great writer and writes stories in their free time. They always get really excited about English and Language Arts. When Alex says this, Taylor laughs and replies, "You're such a nerd. I don't know why you're always getting excited about school." A few of your other friends laugh at Taylor's remark, and you see Alex shrink in response. You also notice that the laughter seems to make Taylor smile.*

Once you finish reading the passage, ask the group to bring their focus back to class slowly. Say, "We have just met two friends: Taylor and Alex. Let's think for a moment about Alex's perspective."

*The names in the story have been chosen to be gender-neutral, but they should be modified as needed so that they do not match the names of any students in your class.



STEP TWO: ROLE-ON-THE-WALL

On a large piece of chart paper, or the white board, outline a large head and shoulders. Leave space to write inside and outside of the person. Label the person "Alex". Say, "We are going to think back to the moment that we just heard about, where Taylor made a joke at Alex's expense and put them down for liking school." What are some feelings, words, or thoughts that Alex might be experiencing in this moment?" Write the responses inside of the head. **After getting student responses, be sure to ask them to expand on their thinking. Ask, "why do you say that?"**

Next, consider what influences might be coming from other sources and impacting Alex's experience. Think not just about Taylor, but about the other friends who are witnessing the interaction or joining in on the laughter. Write their thoughts or messages on the outside of the body outline. **Reminder: After getting student responses, be sure to ask them to expand on their thinking. Ask, "why do you say that?"**

Finally, take a moment to make connections between the outside messages and how Alex is feeling inside. Which outside messages are influencing Alex's inside thoughts and feelings?

Reflect with the group. Some potential discussion questions include:

- What might you say if you were in this situation, witnessing this conflict between your friends?
- Why do you think Taylor makes this comment about Alex, especially if they are friends?
- What strengths do both Taylor and Alex have? How could you help both Taylor and Alex appreciate their unique strengths?

GO FURTHER: Time permitting, now create a figure on the board that is Taylor. What are Taylor's thoughts and feelings in this moment? What outside influences and messages from others are affecting Taylor?

STEP THREE: PAIRED IMPROVISATION

For the final activity, let students know that they will be stepping into this scenario as actors, and improvising a conversation between Alex and Taylor. Ask students to pair up and choose one person to be in-role as Alex and the other to be in-role as Taylor. Give the following scenario:

“The bell rings and the rest of the students rush inside, leaving Alex and Taylor standing outside the classroom together. Alex decides to tell Taylor how the comment made them feel.”

Tell students to improvise a short conversation that might take place between Alex and Taylor in this moment. In their conversations, students should explore both Taylor’s motivations for making the hurtful comment and how the comment affected Alex. The goal for both friends is to come to a resolution. During the exercise, provide **side-coaching** to support students, including:

- Why did Taylor make this comment about Alex? Did Taylor understand the impact of their words?
- How can both friends express their feelings about the incident in a respectful way?
- How do Taylor and Alex each want to move forward?

SIDE-COACHING:

Side-coaching is a tool that teachers can use during an activity to offer questions or suggestions to students from the sidelines in order to enhance the dramatic work and increase engagement.



Spotlighting: If students feel comfortable, take a moment to pause everyone’s improvised scenes and put the “spotlight” on one group that is particularly engaged. This pair will continue their dialogue from where they left off (two or three lines is plenty for this) and the rest of the students can reflect on what is being said by each character.

Reflection

After everyone has had a few minutes to explore the conversation, bring the group back together to **reflect**.

Did the students make any discoveries? Were they able to resolve the conflict successfully? Be sure to touch on what went well, what was challenging, and ask students to make connections to their own lives.

How can they navigate conflict with their friends, and appreciate everyone’s different interests and strengths?

BEYOND THE CLASSROOM: A CLOSER LOOK AT THE SKY



Did you know there are multiple free public observatory viewing events each month in the greater Boston area? This is the perfect opportunity for anyone who has wanted a closer look at the sky. Most astronomical observatories will have a telescope (maybe even twenty telescopes) and a roof shaped like a dome with an opening so the telescope can see out and rotate to view different parts of the sky.

STEP ONE: PICK A LOCATION AND DATE

Here is a non-exhaustive list of Public Observatory Viewings in the greater Boston area, including the timeframes and how to attend.

Boston University, Astronomy Department, 725 Commonwealth Ave, 5th Floor, Boston, MA

- **Date:** Public Open Night at Coit Observatory most Wednesdays from September to April, starting at 7:30/8:30, depending on the time of year.
- **Registration:** Tickets are made available on Thursday mornings at 11 am, and tend to go fast!

Whitin Observatory, Wellesley College, 106 Central Street, Wellesley, MA

- **Date:** Talks and public viewing about once a month during the spring and fall semesters
- **Registration:** Events are announced on the Wellesley Physics and Astronomy Department Facebook page.

Collins Observatory, Salem State College, 352 Lafayette Street, Salem, MA

- **Date:** Public viewing every clear Monday 7 PM -10 PM from Sept. - Apr.
- **Registration:** Check the North Shore Amateur Astronomy Club website (nsaac.org) for status updates to see if the observatory will be open that evening.

Mendel Observatory, Merrimack College, 315 Turnpike Street, North Andover, MA

- **Date:** Every clear Wednesday evening.
- **Registration:** Advance registration is required. More information is available at the Merrimack College Observatory Facebook page.

STEP TWO: PLAN YOUR TRIP

Once you have scheduled your observatory visit, you can do the following things to prepare:

- Check the weather! Be sure to check your local weather forecast, as many observatories have to close if the skies are not clear.
- Get ready for a late night! Since observatories are most often used to view the night sky, be prepared that conservatory viewings are almost always in the evening, after 7:30 PM, and the darker it gets, the more visible the stars become.



Scan this QR code to see which planets will be visible on the night of your visit!

STEP THREE: SHARE

How will you pass on your discoveries or findings? Can you draw a picture of what you saw through the telescope? Will you keep a journal of the event and note the stars/planets/other celestial objects?





BEYOND THE CLASSROOM THINK LIKE A SCIENTIST: MUSEUMS!



Mr. and Mrs. Murray are both scientists. In fact, Mrs. Murray even has a lab set up in the Murray’s home! While you probably don’t have a laboratory at your house, Boston has many museums to visit and explore! Two museums that can provide you and your family with some opportunities to observe and experiment for yourselves are the **Boston Museum of Science** and the **Boston Children’s Museum**.

1 PLAN YOUR VISIT

Once you’ve decided on which museum you’d like to visit, make a plan of the exhibits you’d like to see while you’re there!

Questions to discuss BEFORE your visit:

- What do you want to learn more about during our trip?
- What exhibits are you most excited about? What do you think you’ll see or experience there?

If there’s a specific area of the museum that’s connected to what youth are learning in school, this is a great opportunity to set some goals about how they want to stretch, explore and grow!

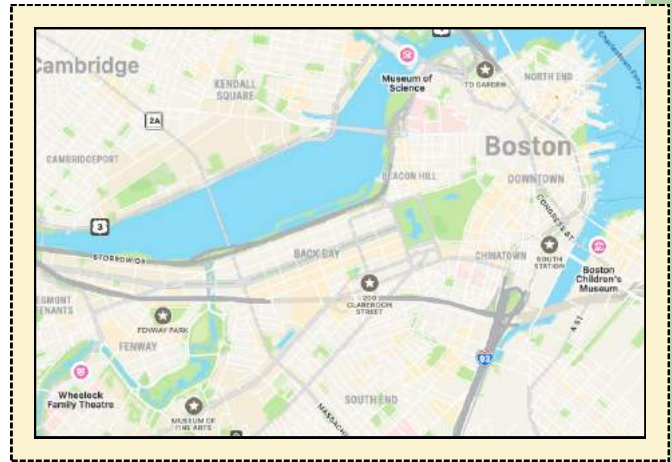
2 ENGAGE AND EXPLORE

Questions to discuss DURING your visit:

- What is one new thing you learned or discovered in that exhibit?
- Have you encountered anything today that surprised you? Why or why not?

Bonus: Document your visit!

- Take notes about what you’re learning and photos of you and your family engaging with the different exhibits and activities, so that you’ll have memories to look back on.



Choose the museum that’s right for you based on its offerings and location!

Museum of Science website



Boston Children’s Museum website

3 REFLECT



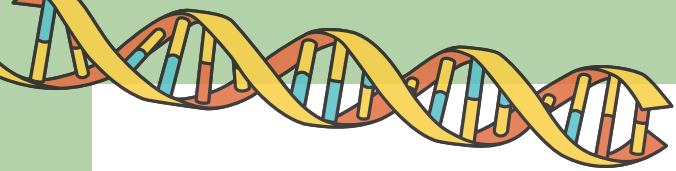
Questions to discuss AFTER your visit:

- Which exhibit had the most new information (and/or experiences)?
- What was the most surprising thing you learned today?
- What is something from our visit today that you’re excited to keep learning more about?
 - **This is a chance to make a plan to keep learning about this topic together!**
- Why is it important for scientists to go out in the world and have new experiences in new places?

EXTEND: FURTHER RESOURCES



Before you head to the Boston Children’s Museum, take a “virtual tour” on their website! If you can’t visit the museum in person, check out the “**learn**” and “**museum at home**” sections of their website for great ways to get engaged with your family without leaving the house!



BEYOND THE CLASSROOM

CONDUCT A SCIENCE EXPERIMENT! THE SCIENTIFIC METHOD

Meg, Calvin, and Charles Wallace go on a journey where they encounter many unknowns - in many scenarios, they have to “experiment” with what will work to achieve their goal of defeating “IT” and getting home safely. They have to try lots of different strategies to succeed, and they have to be brave. Being a scientist requires a certain amount of bravery because scientists are always engaging with the unknown: they formulate questions and predictions about the world around us, and then conduct experiments to test those predictions. In this activity, we will practice thinking like scientists by conducting an experiment of our own!

STEP ONE: ASKING A QUESTION

Find something around your house that you want the answer to! For instance, maybe your question is, “Why do baking soda and vinegar fizz when mixed together?” OR “Why don’t oil and water mix together?” Once you have a question, **construct a hypothesis**.

A **hypothesis** is an idea or explanation that is tested through study and experimentation.

STEP TWO: TESTING IT OUT

Conduct an experiment to test your hypothesis. Make sure you have proper adult supervision and that you put safety first!

- Your experiment will be different based on your hypothesis. If your hypothesis is about baking soda and vinegar, you may try mixing a small amount of baking soda with vinegar, water, Sprite, and dish soap in four different containers to see how it reacts with each liquid.
- As you conduct your experiment, be sure to record your observations.



STEP THREE: REFLECT (AND REPEAT!)

After you’ve conducted your experiment, it’s important to **reflect on your observations!** What happened during the experiment? Did you learn anything new? Did anything surprising happen?

Most importantly, did your experiment confirm or disprove your hypothesis? Why do you think that might be?

Even if your hypothesis was confirmed... **a scientist’s work is never done!** Make a plan to re-test your hypothesis to see if it holds true in different conditions.



CAREGIVER TIP:

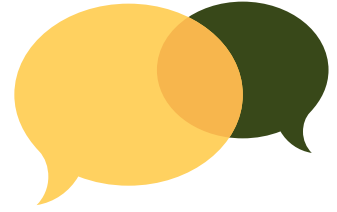
Looking for ideas on where to start? Check out these “Fun and Easy Science Experiments for Kids” from Splash Learn!



THE SCIENTIFIC METHOD

GUIDING QUESTIONS FOR THE ACTIVITY:

- Scientists must observe the world before developing questions about it. What observations can you make about our home? Let's do this room by room and spend some time outside making observations as well. What do you observe that you'd like to learn more about?
- What are you noticing about our experiment? Is this supporting your hypothesis or is it raising new questions?
- If we were to repeat this experiment, what might we change to continue testing our hypothesis?



Watch this video
on
**THE SCIENTIFIC
METHOD:**



FURTHER RESOURCES

- Discovery Center: Playful Learning at Home
<https://www.discoverycentermuseum.org/whats-happening/playfullearning>
- Free Science Activities from the World Wildlife Fund:
<https://www.worldwildlife.org/teaching-resources/toolkits>
- 3M "Science At Home" Experiments
https://www.3m.com/3M/en_US/science-at-home-us/
- Science Experiments and Activities from "Little Bins for Little Hands"
<https://littlebinsforlittlehands.com/science-experiments-and-activities/>



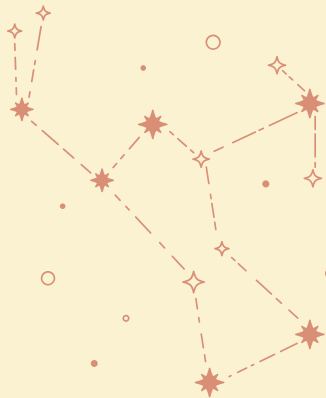
FURTHER RESOURCES

EDUCATIONAL STANDARDS CONNECTIONS

"Tracking the Stars"

Science & Technology/Engineering Standards:

- 1.ESS.1.1
- 5.ESS.1.2
- 6.ESS.1.5



"World Building"

Theatre Standards:

- TH:Cr1.1.4.a.
- TH:Cr1.1.4.b.
- TH:Pr5.1.4.b.
- TH:Re9.1.4.b.

ELA Standards:

- RL.4.3
- W.4.3.b
- SL.4.3

"Our Differences Make Us Stronger"

Theatre Standards:

- TH:Cr.1.1.5.c
- TH:Cr1.1.6.c
- TH:Cr2-5.a
- TH:Pr4.1.5.a.

SEL Competencies:

- Self-Awareness
- Relationship Skills
- Social Awareness

LITERATURE CONNECTIONS

- *Bridge to Terabithia* by Katherine Paterson
- *The Lion, the Witch and the Wardrobe* by C. S. Lewis
- *The Phantom Tollbooth* by Norton Juster
- *Fortunately, The Milk* by Neil Gaiman
- *The Giver* by Lois Lowry
- *Timeless: Diego and the Rangers of the Vastlantic* by Armand Baltazar

ONLINE RESOURCES

L'Engle's Fiction Inspired Real Science

<https://www.npr.org/templates/story/story.php?storyId=14266537>

Leonardo Da Vinci Activity: Mirror Writing

<https://www.mos.org/leonardo/scientist.html>

Astronomy Picture of the Day

<https://apod.nasa.gov/apod/astropix.html>

NASA Space Place

<https://spaceplace.nasa.gov/review/starfinder/>

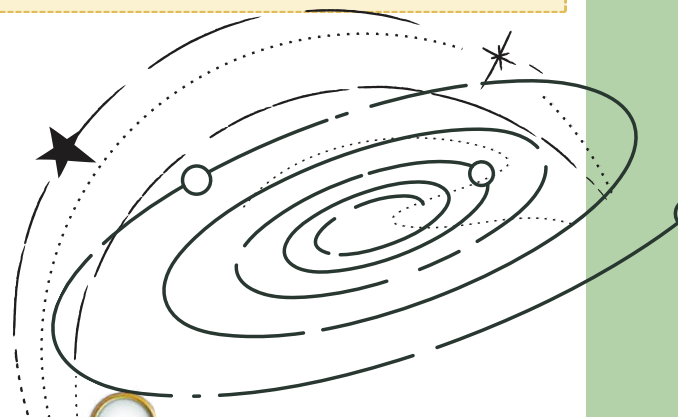


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Did you know, *A Wrinkle in Time* currently has two available film adaptations? There is controversy over whether or not an adaptation was released in 1983, though there is little existing evidence that such a film exists.



2003

2018

