

2021/2022
SEASON



Digging Up Dessa

BY
**LAURA
SCHELLHARDT**

PRODUCED BY SPECIAL ARRANGEMENT
WITH DRAMATIC PUBLISHING

INTERACTIVE LEARNING GUIDE

This guide is for educators, parents, guardians, and caregivers. You name it - you can use it!

This guide is filled with activities and conversation starters that can be used before or after your visit to the theater.

Whether you are an educator, parent, or caregiver, the materials inside have been curated to extend the experience with this show.

[For best user experience download Acrobat Reader here](#)

TAKE A LOOK AT WHAT'S INSIDE:

Look for the Flashlight to bring you back to this page!

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SYNOPSIS

Dessa is a modern-day 12-year-old with no shortage of mysteries to solve and fossils to find. Her days are filled with buried treasures just waiting to be uncovered. But when her family of three unexpectedly becomes a family of two, this smart, funny young scientist struggles to overcome her grief and anger at all the changes in her world. Dessa's unlikely comfort comes from a remarkable new friend, one only she can see and hear—Mary Anning, the 19th-century paleontologist who discovered a breakthrough dinosaur fossil at the age of 12 and became a pioneer in her field. But why is her portrait not on the museum wall alongside those of her male counterparts? Dessa decides that she's going to fight to earn Mary the respect she deserves. With help from her new classmate and once-rival, Nilo, Dessa unearths secrets of the past and present—for Mary's legacy and her own way forward.



WHAT IS PALEONTOLOGY?

“Paleontology is the study of the history of life on Earth as based on fossils. Fossils are the remains of plants, animals, fungi, bacteria, and single-celled living things that have been replaced by rock material or impressions of organisms preserved in rock.”

– National Geographic

ABOUT THE PLAYWRIGHT

LAURA SCHELLHARDT



Laura Schellhardt is a playwright and adaptor. Her original works include *Upright Grand*, *Air Guitar High*, *Auctioning the Ainsleys* (Jeff Award Nominee), *The Apothecary's Daughter*, *How to Remove Blood From a Carpet*, *The K of D* (Jeff Award Nominee, 2010 NYC Fringe Festival Best New Play Award), *Courting Vampires*, *Shapeshifter*, *Inheritance*, and *Je Ne Sais Quoi*. Adaptations include *The Phantom Tollbooth*, *The Mysteries of Harris Burdick*, *The Outfit* (Jeff Award Nominee), and *Creole Folktales*. She is also the author of *Screenwriting for Dummies*. Schellhardt is a recipient of the TCG National Playwriting Residency, the Jerome Fellowship, the New Play Award from ACT in Seattle, and a Dramatist Guild Playwriting Fellowship. She has participated in the SoHo Rep Writer/Director Lab, the Women Playwrights Festival at SRC, The Kennedy Center's New Visions/New Voices Festival, The Bonderman TYA Symposium, and the O'Neill National Playwright's Festival. She received her graduate degree from Brown University, under the tutelage of Paula Vogel. Schellhardt oversees the undergraduate playwriting initiative in the Department of Theatre at Northwestern University.

<https://www.communication.northwestern.edu/faculty/LauraSchellhardt>

TIMELINE OF MARY ANNING'S LIFE

Summarized from The Natural History Museum in London.



The Jurassic coast at Charmouth, Dorset, where the Annings made some of their finds. The hill in the background is Golden Cap.

Source: Wikipedia

1799 Mary Anning is born in Lyme Regis, England. The area is now called the "Jurassic Coast" because of the number of archaeological discoveries there.

1804 Mary's father dies and the family is in debt. Mary's mother, also named Mary, encourages her to help by selling her fossil finds. Mary continues to sell fossils across the course of her life, which fuels an increasing public interest in paleontology.

1811 Mary is the first to discover the complete skeleton of a plesiosaurus. The specimen is so strange that rumors spring up that the skeleton is fake, and a special meeting is scheduled at the Geological Society to debate the validity of the discovery. Mary is not invited.

1799

1804

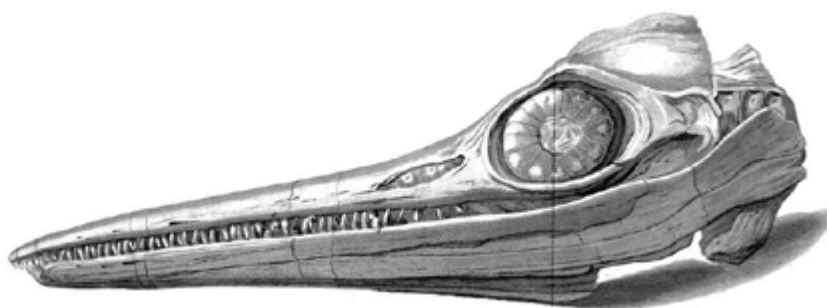
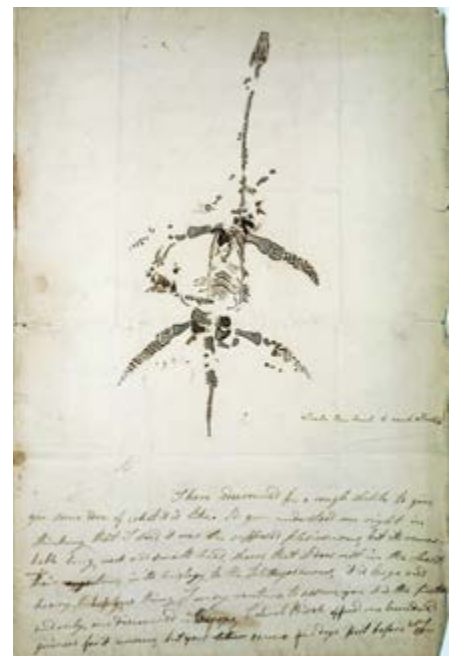
1810

1811

1823

By the age of 5 or 6, Mary joins her father, Richard, in collecting fossils. Mary learns how to look for and clean the fossils they find on the beach. They display and sell the fossils in Richard's shop.

Mary and her brother, Joseph, find the fossilized skull of what will later be named an ichthyosaur. At 12 years old, Mary finds and excavates the rest of the 17-foot-long skeleton. At first, the skeleton is assumed to be a crocodile, as the theory of extinction has only recently been introduced.



Drawing of Ichthyosaurus platyodon skull in 1811

Source: Wikipedia

Letter and drawing from Mary Anning announcing the discovery of a fossil animal now known as Plesiosaurus dolichodeirus, 26 December 1823

Source: Wikipedia

TIMELINE OF MARY ANNING'S LIFE

Summarized from The Natural History Museum in London.



The holotype specimen of *Dimorphodon macronyx* found by Mary Anning in 1828.
Source: Wikipedia



Royal Society of London Seal
Source: Wikipedia

Source: wikipedia

1828 Mary discovers the first pterodactyl bones.

1904 The Royal Society recognizes Mary Anning as one of the most influential women scientists in British history.

2018 Today the Natural History Museum in London showcases several of Mary Anning's spectacular finds, including her ichthyosaur, plesiosaur, and pterosaur.

1828

1846

Mary Anning dies of breast cancer at age 47.

1904

1910

The Geological Society of London admits women for the first time, 57 years after Mary's death.

2018

2021

Evie Swire, an 11-year-old girl from Lyme Regis, begins a crowdfunding campaign to erect a statue of Mary Anning.



Geological Society of London Seal
Source: Wikipedia

Evie Swire
Source: <https://www.maryanningrocks.co.uk>

First sketch of how the statue will look
Source: <https://www.maryanningrocks.co.uk>

These activities are designed for classroom use, but can be adapted to use in other settings!

WHO IS YOUR MARY ANNING?

Throughout the play, Dessa is inspired by the life of **Mary Anning**. Her conversations with Mary push her forward as she pursues her goals.



1. Check out these videos of St. Louis women talking about who inspired their love of STEM and helped guide them to turn their passion into a career.
2. After watching these videos, challenge your students to think about a person who has inspired them and have them create a short presentation about the person they chose.



[Watch women leaders in science videos.](#)



Anning with her dog, Tray, painted before 1842; the hill Golden Cap can be seen in the background

Source: wikipedia

MISSOURI STANDARDS

ENGLISH LANGUAGE ARTS GRADE LEVEL EXPECTATIONS K-5: SPEAKING AND LISTENING: 1A:

Develop and apply effective listening skills and strategies in formal and informal settings.

ENGLISH LANGUAGE ARTS GRADE LEVEL EXPECTATIONS K-5: SPEAKING AND LISTENING: 3A:

Speak clearly and to the point, using conventions of language when presenting individually or with a group.

ENGLISH LANGUAGE ARTS GRADE LEVEL EXPECTATIONS 6-12: MULTIMEDIA K-5 CORRELATION SLAA:

Plan and deliver appropriate presentations based on the task, audience, and purpose including multimedia components in presentations to clarify claims, findings and ideas.



PUT THE SCIENTIFIC METHOD TO THE TEST

Dessa uses the scientific method not only to conduct her school science project with Nilo, but also to navigate her grief after losing her father. The scientific method was developed over time with the help of scientists like Francis Bacon, René Descartes, and Isaac Newton. The scientific method starts by asking a question, gathering research, and forming a hypothesis. This research method encourages making a hypothesis and revising along the way as you test that hypothesis.




ENCOURAGE YOUR STUDENTS TO DESIGN THEIR OWN EXPERIMENT USING THE SCIENTIFIC METHOD.

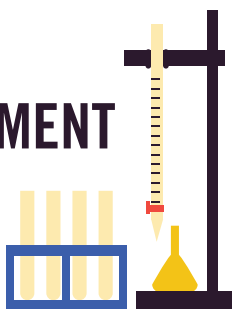
THE SCIENTIFIC METHOD


- | | |
|---------------|---------------|
| 1. Question | 4. Experiment |
| 2. Research | 5. Analysis |
| 3. Hypothesis | 6. Conclusion |

1 
QUESTION

2 
RESEARCH

3 
HYPOTHESIS

4 
EXPERIMENT

5 
ANALYSIS

6 
CONCLUSION

MISSOURI STANDARDS

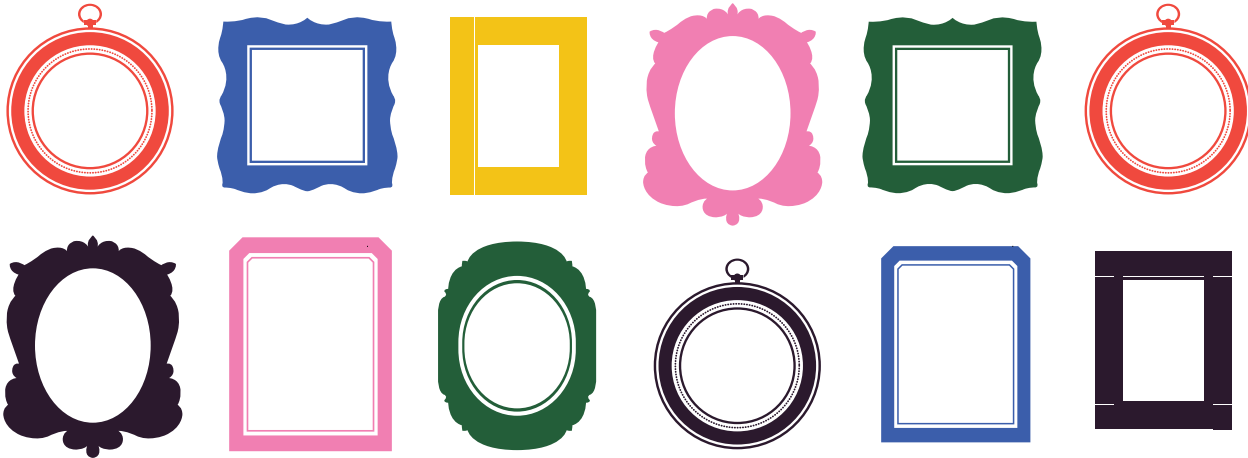
SOCIAL STUDIES: GRADE LEVEL EXPECTATIONS K-5:7.E.

Developing a research plan and identifying resources. English Language Arts



FUTURE-SELF PORTRAITS

In the play, the museum has a display of portraits of famous paleontologists.



1. Have students imagine that it's twenty years in the future and their portrait will be placed on the wall of a museum to honor their work, actions, or deeds.
2. Use this as a prompt to write a letter to their future selves about what they want to be known for, and what they'll need to do to accomplish that goal. Remind students to use proper letter formatting: salutation, body, and complimentary close.
3. Once students have finished their letters, ask them to think about their portrait again.
4. What would the portrait look like? Have students freeze as that portrait, then move through the space with this "future-self" and create multiple frozen pictures. Challenge them to create frozen shapes that show clear actions, for example a person about to throw a baseball.
5. Have students choose their favorite pose of their future self. Encourage them to be clear and strong.



DISCUSSION QUESTIONS:

- What was it like creating these pictures?
- What steps do you need to take to be this person in the future?

MISSOURI STANDARDS

MISSOURI STANDARDS ENGLISH LANGUAGE ARTS GRADE LEVEL EXPECTATIONS K-5: LANGUAGE: 1B:
Communicate using conventions of English language

FINE ARTS GRADE LEVEL EXPECTATION K-12: THEATRE: C2:

Use critical analysis to improve, refine, and evolve original ideas and artistic choices in a devised or scripted drama/theatre work.



SIT DOWN, STAND UP

At their best, Dessa and Nilo are able to both find common ground and celebrate their differences. This activity gives students the opportunity to learn about each other and celebrate their commonalities and differences.



1. Begin with students sitting down in their chairs.
2. Then read a series of statements and if the statement is true for them they will stand up.
3. After each prompt, have students return to sitting. This is a non-verbal activity. If sitting and standing is challenging to your students, you could substitute for a different movement, like raising a hand or stepping forward and stepping back.

Here are some examples of statements to read. You can add your own as well!

- You love to text.
- You have stepparents.
- You have relatives that speak other languages besides English.
- Science is your favorite subject.
- You have lost somebody that you really loved.
- You like video games.

Encourage students to notice who is standing up with them and who is sitting down with them. If they have a question about one of the statements, it is whatever the statement means to them.



WRAP UP WITH A FEW QUESTIONS:

- Did any of the statements make you excited/proud to stand up?
- Put your hand on your head if one or more of the statements made you nervous to stand up.
- Keep your hand on your head if you did it anyway. (Take a moment to celebrate the courage it takes to be honest in a group of people.)
- Put your hand on your head if you learned something new about someone else in the room.
- Encourage students to find an opportunity to talk to that person sometime throughout the day.

MISSOURI STANDARDS

MISSOURI COMMUNICATION ARTS GRADE LEVEL EXPECTATIONS

LS1B K-8: Demonstrate listening behaviors

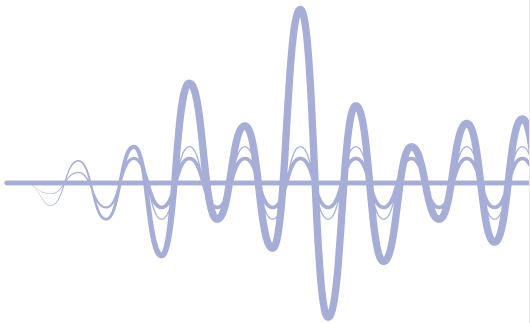
MISSOURI PERSONAL AND SOCIAL DEVELOPMENT GRADE LEVEL EXPECTATIONS PS2A, B, C K-8:

Interacting with others in ways that respect individual and group differences



SOUNDSCAPE

Nilo's goal is to become a sound designer, and throughout the play he adds his own sound effects to whatever he and Dessa are doing. Hear from *Digging Up Dessa* sound designer Rusty Wandall about how we brought Nilo's love for sound to life in this show, then try exploring sound yourself!



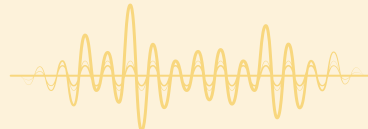
Rusty Wandall, theatrical sound designer and sound engineer

[Click here to watch.](#)



FOR THIS ACTIVITY, STUDENTS WILL CREATE THE ENVIRONMENT IN A PHOTO USING THEIR VOICES AND IMAGINATIONS.

- 1. Have students sit in a circle and explain that we are going to bring the environment in the image to life through sound.** You could use an image of a beach, a busy city street, or anything else with interesting sounds!
- 2. One at a time, students will add a sound to the soundscape.** Point to each student to let them know that it is their turn to add in a sound until all the students are participating.
- 3. Students must commit to their sound throughout the whole activity.**
- 4. Students will be conducted as though they are in an orchestra.** You can use hand cues that represent loud, soft, fast and slow.



NATIONAL CORE ARTS STANDARDS

THEATRE (TH) CR3.1.3.B:

Participate and contribute to vocal exploration in an improvised drama/theatre work

THEATRE (TH) RE9.1.1:

Build on others' ideas in a guided drama experience (e.g., process drama, story drama, creative drama).



LISTENING CIRCLE

Many of the characters in the play feel like they are not heard or understood.



THIS ACTIVITY GIVES STUDENTS AN OPPORTUNITY TO BOTH LISTEN AND TO BE LISTENED TO.

1. Organize the group in two concentric circles.
2. The people in the inner circle should be face to face with the people in the outer circle.
3. Give everyone a moment to think about the prompt, "What is something you're proud of?"
4. One student in each pair will have one minute to respond. Their partner can only listen; they cannot interrupt, comment or ask questions.
5. Switch.
6. The listener now shares their response and the speaker listens.
7. Have one circle move over one partner for further prompts.



SOCIAL DISTANCING



If you are not able to create two concentric circles while social distancing, this could be done with pairs facing each other in two straight lines, or with pairs scattered throughout the room.



DISCUSSION QUESTIONS:

- What did it feel like to be listened to for a minute?
- What was it like to talk for a minute?
- How did you know your partner was listening? Or were they?

MISSOURI STANDARDS

MISSOURI PERSONAL AND SOCIAL DEVELOPMENT GRADE LEVEL EXPECTATIONS PS2A, B, C K-8:

Interacting with others in ways that respect individual and group differences.

MISSOURI COMMUNICATION ARTS GRADE LEVEL EXPECTATIONS LS1B K-8:

Demonstrate listening behaviors.

DISCUSSION QUESTIONS



1. Mary Anning is Dessa's hero.
Who is one of your heroes?
2. **Have you ever had to start over in a new place?**
Maybe it was a new school, or a new club or extracurricular activity.
What made you feel welcome or unwelcome?
3. Dessa and her mom have a hard time talking with each other for most of the play.
Have you ever had a hard time talking to your parents or caregivers?
4. Dessa and Nilo become friends, but still fight sometimes.
How do they handle their disagreements?
How do you deal with arguments with your friends?
5. Dessa feels a lot of anger during the play, and struggles with how to deal with it.
How do you cope with your anger?
6. One thing Dessa is frustrated about is that women in the sciences are underrepresented – in other words, there aren't as many women with science careers as there are men.
Can you think of any other examples where certain identities are underrepresented?
Why might it matter to be aware of when people are underrepresented?
7. Even though she makes mistakes, Dessa's mom always has her back.
Who's someone who always has your back?
8. **Why do you think Dessa chooses to talk to Mary Anning instead of her mom, or her friends from her old school?**
9. When Nilo tries to tell Dessa that he gets how she feels about wanting to pursue science when it's rare to hear about women scientists, she says, "you do not GET that....You can say you HEAR that, IF in fact you hear that."
What does Dessa mean by that?



RESOURCES FOR READERS AND EDUCATORS



MARY ANNING AND PALEONTOLOGY:

<https://www.maryanningrocks.co.uk/>

<https://www.amnh.org/explore/ology/paleontology/finding-fossils2>

<https://www.nhm.ac.uk/discover/how-are-fossils-formed.html>

Decolonizing the Hunt for Dinosaurs and Other Fossils

<https://www.nytimes.com/2021/03/22/science/dinosaurs-fossils-colonialism.html?referringSource=articleShare>

Mary Anning and the Sea Dragon by Jeannine Atkins (ages 5-8)

Finding Wonders: Three Girls Who Changed Science by Jeannine Atkins (ages 9-14)

Gutsy Girls Go for Science: Paleontologists by Karen Bush Gibson (ages 8-11)

WOMEN IN STEAM

(Science, Technology, Engineering, Art, and Math):

<https://blog.leeandlow.com/2017/03/14/kids-books-about-women-in-steam/>

Women in Science: 50 Fearless Pioneers Who Changed the World by Rachel Ignatofsky (ages 9 and up)

THE SCIENTIFIC METHOD

<https://www.ducksters.com/science/scientificmethod.php>

GRIEF RESOURCES FOR CHILDREN

<https://www.dougy.org/>

<https://childrengrieve.org/resources/about-childhood-grief>

<https://sesamestreetincommunities.org/topics/grief/>

<https://elunanetwork.org/resources/annies-hope-missouri/>

RESOURCES FOR FAMILIES WITH PARENTAL DEPRESSION

<https://www.apa.org/pi/families/resources/newsletter/2014/05/families-parental-depression>



3311 Washington Ave.
St. Louis, Missouri 63103
P: 314.932.7414 F: 314.932.7434

MISSION

Inspired by the intelligence and emotional wisdom of young people, we create professional theater, foster inclusive community and nurture meaningful learning through the arts.

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