

# Dr. Seuss's Birthday 2015 Classroom Activity Guide

Inspire curiosity and activate imaginations on Dr. Seuss's Birthday with activities and events that include reading and learning fun with STEAM—Science, Technology, Engineering, the Arts, and Math.

At the center of STEAM learning and proficiency are curiosity and imagination. Dr. Seuss wanted his young readers to be knowledgeable, curious, and thoughtful about the world around them. His titles encourage kids to ask questions, use their imaginations, and seek solutions. In celebrating his birthday this year, educators can honor Dr. Seuss by helping students experience the joys of wonder, possibility, exploration, and discovery.

## Start your own exploration of this guide and you'll find:

- Activities to celebrate the 25th anniversary of *Oh, the Places You'll Go!* and launch young scientists and engineers
- STEAM-filled ideas linked to classic Dr. Seuss books that correlate to Common Core State Standards in ELA-Literacy
- Starting points for students to enter the Kid, You'll Move Mountains! Contest, and for classrooms to enter the Lorax School Grant Program

Have students keep in mind that many skills used in reading are the same skills used in science and math. Predicting, understanding cause and effect, understanding patterns and sequence, evaluating, building background knowledge, and developing the ability to communicate are just some of the skills that are critical to reading as well as to science and math. And by weaving the arts into STEM and literacy content, creativity and problem solving become even more relevant to students.

# Oh, the Places You'll Go!

*Oh, the Places You'll Go!* is celebrating its 25th anniversary! This go-to book for graduation and other new beginnings is inspiring good fun for upstarts of all ages. It is also a great launching point for the imaginations of young scientists and engineers!

## FLOAT ABOVE IT ALL

The pajama-clad hero in *Oh, the Places You'll Go!* flies to high heights in a bright balloon. Do your students know the science behind his flight? Have them join the high fliers with a balloon of their own! Older students should be able to build their own hot-air balloons to demonstrate the upward force of buoyancy, but younger students can also discuss and explore buoyancy using helium balloons. Helium, like hot air, is less dense than surrounding air, and sends balloons floating upward. The challenge for your students is to design a basket that holds a rider (such as a small photo of the student) and can achieve neutral buoyancy—so that it hovers without moving up or down. Let students also experiment with air pressure to move their balloons around before using them to decorate for Dr. Seuss's Birthday.

## ABSOLUTELY AMAZING MAZE

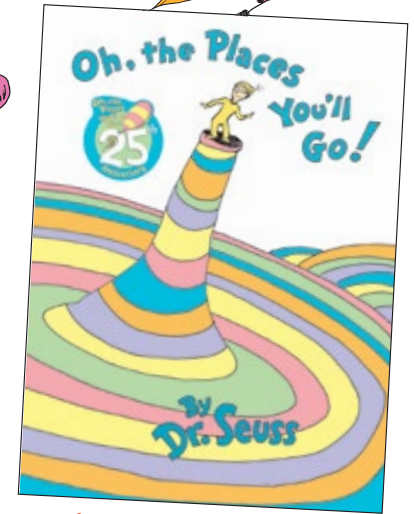
*Oh, the Places You'll Go!* has been called the perfect send-off for children starting out in the maze of life. Why not have students design and create a *real* maze of challenges and surprises inside or outside your school? Give students measurements for the maze space and limit their design for barriers to what you have on hand, like cubicle partitions, large cardboard boxes, rope, fabric, or stacks of books. Have the class choose the design that's most doable and enlist their help in planning and building. Surprise kids with guest readers in the maze who pose riddles that help students get out of a Slump, pass Hakken-Kraks, walk the Great Balancing Act (on a balance beam?), and get to the bright place where Boom Bands are playing—and readers are reading.

## KID, YOU'LL MOVE MOUNTAINS!

Read *Oh, the Places You'll Go!* aloud and point out how the little guy moves his mountains at the end. Ask students what they would do to lift such a large weight, then challenge them to work in teams to create their own simple machines to move baseball-sized rocks. Have them research and then test ideas with materials you are able to provide, such as a wheel and axle, levers, an inclined plane, or a pulley. Once students have built an effective machine, let them paint and decorate their rocks in Seussian style. Have each team present and demonstrate their machines.

## STEERING YOUR SHOES

Your students are going to want some sturdy footwear to go on life's adventures! After reading *Oh, the Places You'll Go!*, get kids thinking about those functional objects on their feet that are necessary for navigating most environments. Have students imagine and sketch the ideal shoe for a future profession or a pastime that they've researched. Have them write about their choice and explain why their shoe design is a perfect fit. Hold a footwear fashion show. Have students walk the catwalk with their illustrations, then explain to the class the reasoning behind their designs.



*Oh, the Places You'll Go!* 

HC: 978-0-679-80527-4

GLB: 978-0-679-90527-1

**Junior Balloonist** has an extensive tutorial for building and flying a hot-air balloon constructed from tissue paper: [JuniorBalloonist.com](http://JuniorBalloonist.com)

**NASA** offers a simpler hot-air balloon model with this Bag Balloon activity: [NASA.gov/pdf/205702main\\_Bag\\_Balloons.pdf](http://NASA.gov/pdf/205702main_Bag_Balloons.pdf)



# S for Science—A body of knowledge and a process of discovery

## SOUNDS OF SCIENCE

In the Jungle of Nool, Horton the elephant is the only one who can hear the faint cry for help coming from a tiny speck of dust. Other animals can't hear what Horton hears and attempt to put an end to Horton's efforts to safeguard the creatures—called *Whos*—living on the dust speck. With great effort, the *Whos* eventually make themselves heard and win the protection of all the jungle animals.

Enlist students in ensuring the safety of the *Whos* by having them investigate the properties of sound. Then have them build noisemakers that even the sourest of kangaroos can hear.

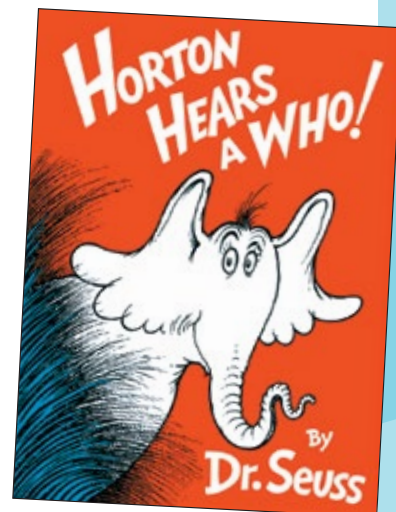
### Students should:

- 🔊 Listen to *Horton Hears a Who!* read aloud
- 🔊 Write and share their ideas in class about what causes sound, things that generate sound, and why sound can be heard
- 🔊 Investigate vibrations by touching their throats while whispering, speaking, and shouting
- 🔊 Partake in blowing whistles, screaming, and noisemaking around a bowl covered tightly with foil and sprinkled with salt (also try rice) to observe the effects of sound waves on the salt
- 🔊 Further investigate vibration by plucking rubber bands of various thicknesses—but uniform lengths—stretched over plastic cups or containers
- 🔊 Add notes about their observations to their original ideas about sound
- 🔊 Discuss what they discovered about vibrations, loudness, and pitch (high or low sounds) based on their investigations and observations
- 🔊 Offer ideas for how the *Whos* could have made louder noises
- 🔊 Experiment with a variety of instruments and identify what vibrates to make sound, what creates the vibration, how to change the pitch, and how the vibration is transmitted
- 🔊 Use their knowledge about energy, vibration, and sound to compete with other students to create a new, very loud instrument

Encourage students to return to *Horton Hears a Who!* for Seussian instrument ideas. Before they sketch an idea for their instrument, have them take a look at the materials available for building, such as plastic bottles and containers, cardboard boxes and tubes, plastic caps with extended nozzles, a garden hose, plastic tubing, funnels, rubber bands, straws, tin cans, small wood boards, and tape.

When instruments are playable, use a sound meter (or sound meter app) to test loudness and frequency and give students the opportunity to improve and fine-tune their designs. Have students keep track of decibel and frequency readings as they make alterations. Recognize students' work with awards, like the Vlad Vlad-i-koff Volume Award or the Wickersham Brothers Booming Bass Award. Finally, begin rehearsals for a special reading of *Horton Hears a Who!*, complete with accompaniment by your *Who*-ville players!

🔗 [CCSS.ELA-LITERACY.W.2.8](#); [CCSS.ELA-LITERACY.SL.2.1](#); [CCSS.ELA-LITERACY.SL.2.2](#). Please adapt and adjust the activities to attain specific Common Core grade level standards for your classroom and students!



*Horton Hears a Who!* 🎧  
HC: 978-0-394-80078-3  
GLB: 978-0-394-90078-0








# T for Technology—Tools for science and for modifying the natural world

## TECHNOCAT

Though Dr. Seuss never learned how to use computers before his death in 1991, he was fascinated by them and thought that computer technology held enormous possibilities for reading, teaching, and learning. And while computer and information technology is more prevalent in the classroom than Dr. Seuss may have ever imagined, many students have a narrow idea about what technology is and how long humans have benefited from it.

Have students make use of digital tools to tell their own tech-packed tales about the Cat in the Hat, new messes he makes, and new technologies students devise to clean them up.

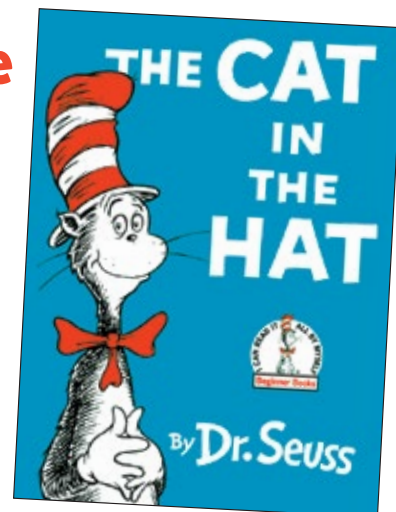
### Students should:

-  Listen to *The Cat in the Hat* and *The Cat in the Hat Comes Back* read aloud
-  Discuss what “technology” is and when the creation and use of technology began
-  Identify the real and imagined technology in *The Cat in the Hat* and *The Cat in the Hat Comes Back*. Discuss what some of the advantages and disadvantages of these technologies would be.
-  Work in teams to research, identify, and note the variety of technology used in cleaning. Use the Internet and perhaps even interview school custodial staff.
-  Work in teams to create, illustrate, and share a story using digital storytelling tools

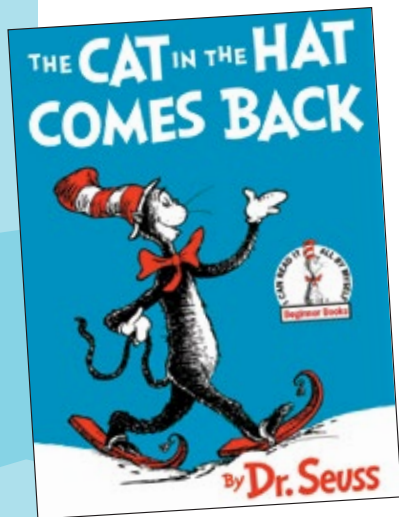
Without his cleanup machine or Voom, the fun-loving Cat would be leaving big messes all over the place. To start their stories, ask students to imagine what would happen if the Cat came to visit their classroom and made a big mess. Direct students to use numerous examples of both real technology and imagined technology to solve this problem in their stories. Encourage students to use their earlier research about cleaning technology as inspiration. Let student teams know you plan to have them present their stories to the school custodial staff at a publishing party as part of your birthday celebration!

● CCSS.ELA-LITERACY.RL.2.7; CCSS.ELA-LITERACY.RI.2.3;  
CCSS.ELA-LITERACY.W.2.3; CCSS.ELA-LITERACY.W.2.6;  
CCSS.ELA-LITERACY.W.2.7; CCSS.ELA-LITERACY.SL.2.1;  
CCSS.ELA-LITERACY.SL.2.5.

Please adapt and adjust the activities to attain specific Common Core grade level standards for your classroom and students!



*The Cat in the Hat*   
HC: 978-0-394-80001-1  
GLB: 978-0-394-90001-8



*The Cat in the Hat Comes Back*   
HC: 978-0-394-80002-8  
GLB: 978-0-394-90002-5

Depending on availability, allow student teams to choose which digital tools to use in telling their story. LittleBirdTales.com lets students use their own art, text, voice, and ideas to create and share a digital storybook, and is a good tool for primary grade students.



# E for Engineering—Solving problems with science and technology

## ONCE-LER DO-OVER

In 1971, when *The Lorax* was first published, this is how Dr. Seuss described the problems faced by the Humming-Fish:

*They'll walk on their fins and get woefully weary  
in search of some water that isn't so smeary.  
I hear things are just as bad up in Lake Erie.*

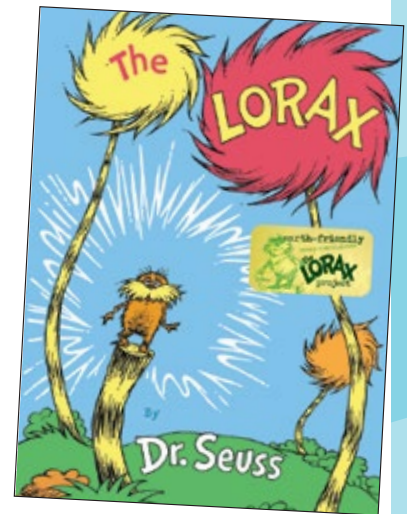


Fourteen years after publication, researchers from the Ohio Sea Grant Program wrote to Dr. Seuss about the cleanup of Lake Erie, and he agreed to have the line about Lake Erie removed from the book. Today, the program's team continues efforts to improve methods to reduce phosphorus loading in Lake Erie.

The Once-ler, however, never focuses on reengineering his factory to balance environmental needs with his own. And in the end, that ruins more than his business. Help students understand the engineering design process when they evaluate the Once-ler's technology and reengineer his factory to keep the natural environment safe.

### Students should:

- Discuss the types, roles, and responsibilities of engineers
- Understand that some objects occur in nature, while others are designed and made by people to solve human problems
- Listen to *The Lorax* read aloud
- Work in small groups to examine and discuss the text and illustrations in *The Lorax* that relate to the tools and technology engineered by the Once-ler
- Discuss the specific steps and the flexibility of the engineering design process
- Learn about Lake Erie's ongoing problems and discuss why problems can never be solved with certainty
- Work in small groups to use the engineering design process to evaluate a tool or technology in *The Lorax* and develop a plan for reengineering it Seussian-style. Consider both public and environmental health and a reasonable profit for the Once-ler.



**The Lorax**   
HC: 978-0-394-82337-9  
GLB: 978-0-394-92337-6

Since students are reengineering existing technology, they may think they are beginning their engineering project at the end of the engineering design process. Help guide them to recognize the value of starting with the first step: asking about a problem or need. Also encourage them to investigate real technologies and methods to use.

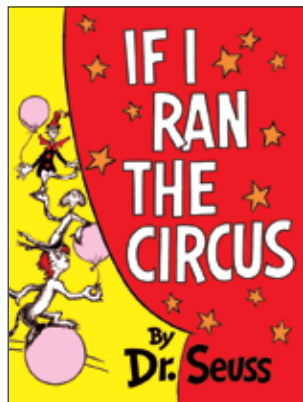
Each student group should produce a plan for their Lorax-friendly technology that includes a detailed labeled diagram and a list of materials and tools needed for development. Since students will likely be unable to create prototypes, ask that they provide ideas for how they would test their technology to ensure that it works, is affordable, and safeguards the environment. Have students present their designs to the entire class (and perhaps a panel of special guest engineers)!

### Engineering Is Elementary

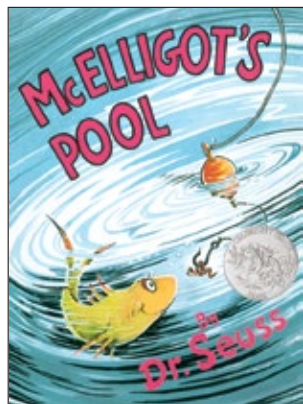
offers a simplified version of the engineering design process for younger children:  
[EIE.org/overview/engineering-design-process](http://EIE.org/overview/engineering-design-process)

● [CCSS.ELA-LITERACY.RL.2.3](#); [CCSS.ELA-LITERACY.RL.2.7](#); [CCSS.ELA-LITERACY.RI.2.3](#); [CCSS.ELA-LITERACY.W.2.5](#); [CCSS.ELA-LITERACY.W.2.7](#); [CCSS.ELA-LITERACY.SL.2.1](#); [CCSS.ELA-LITERACY.SL.2.4](#). Please adapt and adjust the activities to attain specific Common Core grade level standards for your classroom and students!

# A for the Arts—An outlet for human expression that communicates our relationship with our environment



**If I Ran the Circus**  
HC: 978-0-394-80080-6  
GLB: 978-0-394-90080-3



**McElligot's Pool**  
HC: 978-0-385-37906-9  
GLB: 978-0-394-90083-4

## SEUSS ANIMAL KINGDOM

Amazing animals and curious creatures are everywhere in Dr. Seuss's books, cartoons, and fine art. Before he became Dr. Seuss, young Ted Geisel learned a lot about animals and their unique characteristics from the time he spent with his father, who was a parks commissioner in charge of the Zoo in Forest Park in Springfield, Massachusetts. Ted would fill sketch pads—and sometimes his bedroom walls—with exaggerated doodles of animals.

Those early doodles later helped Dr. Seuss fill books with bizarre and fantastic beings. Have students follow in Dr. Seuss's footsteps as they research and study real animals, then create Seussational new ones!

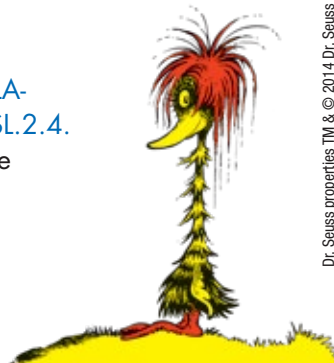
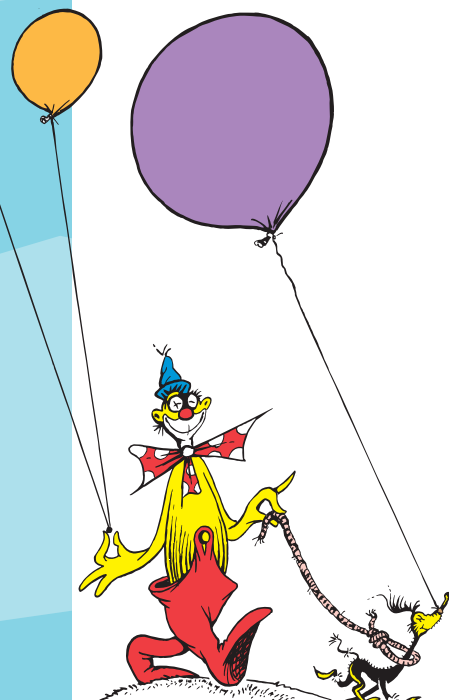
### Students should:

- ★ Read and review Dr. Seuss titles featuring imaginary animals like *On Beyond Zebra!*, *Scrambled Eggs Super!*, *If I Ran the Circus*, and *McElligot's Pool*
- ★ Choose a Seuss creature and record its external characteristics, adaptations, and habitat
- ★ Choose a real animal with similar characteristics or habitat that may have inspired the Dr. Seuss creature
- ★ Complete a Venn diagram to record the characteristics that the Seuss creature has in common with its real animal counterpart
- ★ Discuss what makes Dr. Seuss's creatures interesting and impossible—or possible
- ★ Observe real animals, if possible, such as class pets, birds on the playground, animals at the zoo via webcams
- ★ Keep a drawing journal during their animal observations to sketch what they see, doodle ideas, and attempt drawing animals from all different angles and perspectives
- ★ Choose another real animal as inspiration to develop their own imaginary creature that would fit into the Dr. Seuss animal kingdom

Have students sketch their creature, name it, and write a description that include details on diet, habitat, young, predators, and prey. Drawings should include the imaginary creature as well as its habitat. Let students get more hands-on with the anatomy of their creature by making a mixed-media sculpture (modeling clay and feathers, fun fur, found objects). Display their drawings and/or sculptures and offer an opportunity for each artist to read their animal descriptions, identify its parts and characteristics, and show off their artistic contributions to the Seuss animal kingdom!

● [CCSS.ELA-LITERACY.RL.2.7](#); [CCSS.ELA-LITERACY.RI.2.9](#); [CCSS.ELA-LITERACY.W.2.2](#); [CCSS.ELA-LITERACY.SL.2.2](#); [CCSS.ELA-LITERACY.SL.2.4](#).

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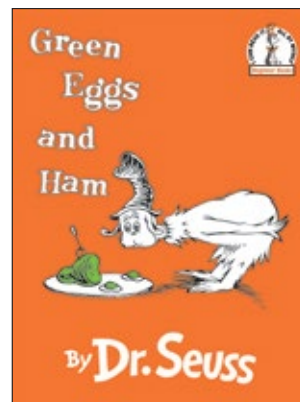


# M for Mathematics—How to create, manipulate, and understand the relationship between things real or imagined based on logic

## START AT THE END

No one turns a phrase on its head quite like Dr. Seuss. Pay tribute to the unique way Dr. Seuss has with words by having students write word (or story) problems that have a specific answer. In other words, you provide answers and directions and students work backward to pose the problem.






For example, ask students to write a word problem that has “eight green eggs” as the answer. Have them look at *Green Eggs and Ham* to help inspire their word problem. You might get some marvelous questions like, “Sam-I-Am wants to invite a mouse, a fox, and a goat over to have breakfast with him. If everybody eats 2 green eggs, how many eggs does Sam-I-Am need to cook?”



*Green Eggs and Ham*   
HC: 978-0-394-80016-5  
GLB: 978-0-394-90016-2


To boost students' creativity in writing their problems, choose items from the Seuss lexicon that you know your students are familiar with or make time to read a specific Dr. Seuss title aloud before handing out answers.

## Students should:

-  Understand what a word (or story) problem is
-  Participate in class discussion about important details included in word problems and how to recognize what is being asked
-  Have access to and review a variety of Dr. Seuss's books
-  Practice writing word problems using a specific answer and solving problems written by peers
-  Use a provided answer to write and illustrate a word problem featuring characters or items from Dr. Seuss's books

If students are less comfortable with word problems, you may want to offer a story map or a formatting template to provide additional structure and support. Depending on your mathematical goals, you may want to specify the operation to be used or ask students to create a multistep problem.

To celebrate Dr. Seuss's Birthday, have students create a poster that features their illustrated word problem and place each poster around the school with a box for collecting student names and their answers to the problem. Hold raffle drawings of correct answers for Seussational prizes!

 **CCSS.ELA-LITERACY.W.2.3; CCSS.ELA-LITERACY.W.2.5; CCSS.ELA-LITERACY.SL.2.1.** Please adapt and adjust the activities to attain specific Common Core grade level standards for your classroom and students!



The Cat in the Hat knows a lot about math! For students who aren't ready for word problems, *The Cat's Math Safari* ([PBSKids.org/catinthehat/games/math-safari.html](http://PBSKids.org/catinthehat/games/math-safari.html)) offers a collection of online games that focus on building early math skills and complement the Cat's small-screen adventures on *The Cat in the Hat Knows a Lot About That!*

