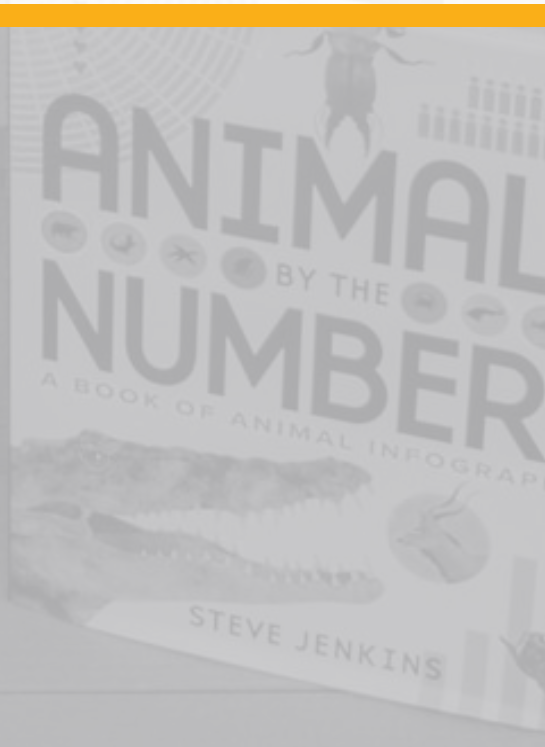
Integrated Learning:
Science Through Diverse Books

SHERMAN CENTER | for Early Learning in Urban Communities



UMBC

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Contents

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Director, Sherman Center for Early Learning in Urban Communities

The Sherman Center's Diverse Books Project was launched in April 2018 to increase young children's access to high quality, culturally diverse literature. The current collection, curated by early childhood faculty at UMBC, includes over 70 books that open new worlds to young learners. In *Integrated Learning: Science Through Diverse Books*, Olivia Grimes has selected several books from the collection to introduce children in grades pre-K-2 to ecology, space, engineering and design, the senses, and weather. We hope that the featured books and the fun and creative learning activities inform, excite, and inspire you! Science is all around us, so why not bring it into early childhood classrooms through beautifully written and illustrated books.

Olivia Grimes

Early Childhood Educator, Maree G. Farring Elementary/Middle School

Olivia Grimes graduated with honors from the University of Maryland, Baltimore County (UMBC) with a bachelor's degree in Individualized Studies and certification in early childhood education. While at UMBC, she was a member of the Sherman STEM Teacher Scholars Program and received the Diane M. Lee Rising Star award. She also helped to advance the work of the Sherman Center for Early Learning in Urban Communities as a program assistant. Ms. Grimes is now an early childhood educator at Maree G. Farring Elementary/Middle School in Baltimore, Maryland, and committed to introducing young children to the world of science and culturally diverse books through integrated lessons.

Overview

The books, *Olinguito, from A to Z!*, *Animals by the Numbers: A Book of Infographics*, and *Du Iz Tak?*, introduce students to a variety of plants and animals as well as facts about where and how they live. Students can use these books to complete many different activities. These include researching an animal referenced in one of the texts and building a habitat for it; recreating the life cycle of an insect or plant; or going on a field trip to a local natural or restored ecosystem to compare and contrast animal habitats and natural environments.

MDK-12 Related Standards

Standard 3.0 Life Science: The students will use scientific skills and processes to explain the dynamic nature of living things, their interactions, and the results from the interactions that occur over time.

Topics Covered: Plants, Animals and Habitats

Key Vocabulary:

- Habitat – The natural home of an animal, plant, or other living things
- Ecosystem – A community of interacting organisms

Olinguito, from A to Z! Unveiling the Cloud Forest
By Lulu Delacre

Age Range: 5 – 11 years (Publisher / Amazon)

Grade Level: 1 – 4 (slj.com)

This review was written by Melissa Martinez, Pantoja Charter School, PA and published in the School Library Journal, February 2016. (slj.com)

Delacre uses a creative A–Z format to write a description in verse of a cloud forest, or a moist ecosystem found in tropical areas, in the Andes. The author mentions different animals or plants located here; each page features foliage or creatures related to a different letter of the alphabet. The text is lyrical, and the mixed-media illustrations are vibrant and striking. This book would make a wonderful resource for students who are learning about forest environments or different animal species. Further information about the cloud forest, with an animal and foliage glossary, is appended.

Photo By Brandon Grimes

VERDICT: **A great addition to school and public libraries.**

Animals by the Numbers: A Book of Infographics
By Steve Jenkins

Age Range: 6 – 9 Years (Publisher / Amazon)

Grade Level: 2 – 6 (slj.com)

This review was written by Steven Engelfried, Wilsonville Public Library, OR, and published in the School Library Journal, October 2016. (slj.com)

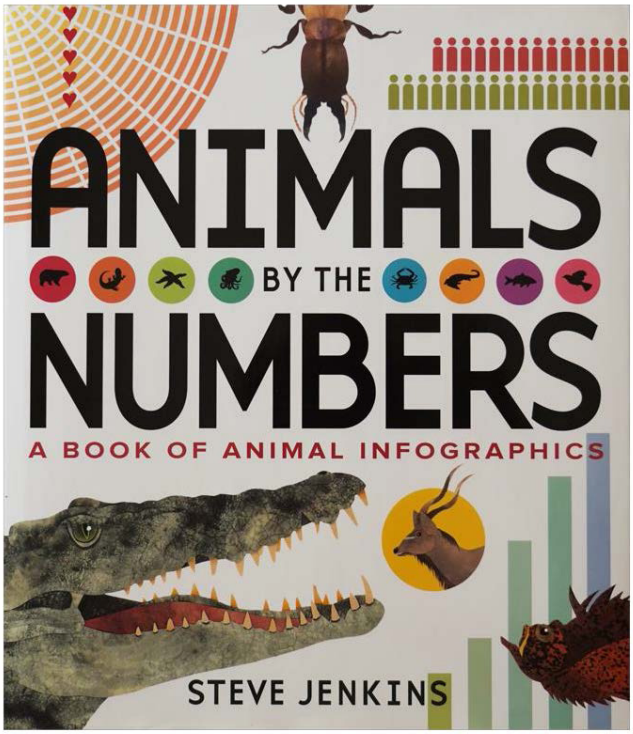


Photo By Brandon Grimes

Jenkins combines cut-and-torn-paper illustrations with infographics to present highly engaging visual comparisons from the animal kingdom. Ranging from one to four pages in length, the graphic sections feature careful layouts that convey well- chosen and fascinating data. Clean lines and abundant white space lead readers to absorb the information without strain or confusion. In one example, a horizontal bar graph examines the speeds of 15 animals, each identified by name and a silhouette figure. In addition, illustrations highlight two particular examples with captions. Varied graph formats demonstrate each topic to maximum effect. Concentric circles show the surprising differences between wing speeds of hummingbirds and gnats. Cut- paper horns are neatly placed within a bar graph of horn lengths. There's even a logic tree outlining the decision-making process of an armadillo. Scales are clearly noted, even when they shift on the following page, as in the impressive four-page look at the deadliest animals that reveals the mosquito's clear dominance. Estimated data is always identified, such as numbers representing the combined biomass of species. In some cases, two graphs are used to offer different perspectives on the topic: a horizontal bar graph details tongue lengths, for example, while on the facing page a vertical depiction compares those lengths to the size of each animal (and the bars are cleverly rounded to resemble tongues).

VERDICT: **Compelling visual presentation makes the information accessible and exciting. Highly recommended for all science collections.**

Du Iz Tak?
By Carson Ellis

Age Range: 4 – 8 Years (Publisher / Amazon)

Grade Level: Pre-K – Gr 5 (slj.com)

This review was written by Lonna Pierce, formerly at the Binghamton City School District, NY and published in the School Library Journal, August 2018. (slj.com)

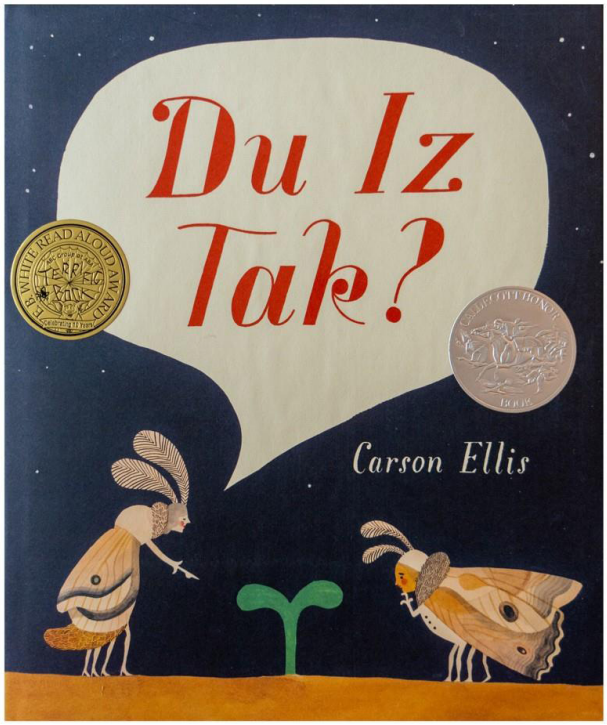


Photo By Brandon Grimes

A small community of insects discover something new in their midst. They speak an invented language as they explore a growing object they've never seen before. "Du iz tak?!" one of them asks (meaning, "What is that?!"), thinking it is a big tree. When it blossoms into a sturdy flower, the industrious bugs build a fort together that they all enjoy. Nine different narrators— including kids—whistle, hum, and even sing an original song. Background music changes fittingly along with the scenes, with jarring piano discord as a spider covers the fort with a sticky web. The tale is imaginatively animated as a hilarious assortment of bugs walk, climb, and slide. (One plays the violin while tapping its tiny foot to the beat.) The passing of the seasons is marked as the dying flower becomes part of the soil and the wind howls with the first snow. The story line comes full circle when another plant pops up in the spring. Animator/director Galen Fott has deftly adapted Carson Ellis's Caldecott Honor picture book, infusing it with meaning and conveying the joy of discovery. Includes pre- and post-viewing questions and activities.

VERDICT: **This multilayered and beautifully and thoughtfully designed adaptation encourages inference, creativity, and teamwork and will delight audiences of all ages.**

Building a Habitat

In this activity, students will have the opportunity to research an animal of their choosing and build a habitat of their own design. Students will fill out a graphic organizer with the information they found in their research, draw and write rationales for their prototype, and build their habitats. The research that the students complete could be guided by questions such as: Who is this habitat for? What are its needs? What are key features of the habitat?

To introduce this activity, the text, *Olinguito, from A to Z! Unveiling the Cloud Forest*, can be used as a read aloud and to give students ideas about what animals to research. This text can also be used to point out different aspects of the olinguito's habitat and the information in the back can be used as a reference for research. The text, *Animals by the Numbers: A Book of Infographics*, can also be used by students as a reference text for their research.

Materials

- Shoe box or plastic container (for each student or group)
- Plastic sheet to cover tables or floor for easy clean up
- Natural materials (dirt, sticks, rocks, leaves)
- Craft materials
- Paint
- Paint brushes
- Construction paper
- Glue
- Tape

Steps

Students (individually or in small groups) will:

1. Choose an animal to research
2. Fill out a graphic organizer with information about their animal (Handout 1a for older age groups and 1b for younger age groups)
3. Draw a prototype of the habitat for their animal, and describe why the habitat is fitting
4. Build their habitat

Name:_____ Date:_____

1a. Animal Research Project

Animal Name:_____

Draw Your Animal

Where does your animal live?

_____

_____

_____

_____

_____

_____

_____

When and how does your animal sleep?

_____

_____

_____

What does your animal eat?

_____

_____

_____

_____

Name:_____ Date:_____

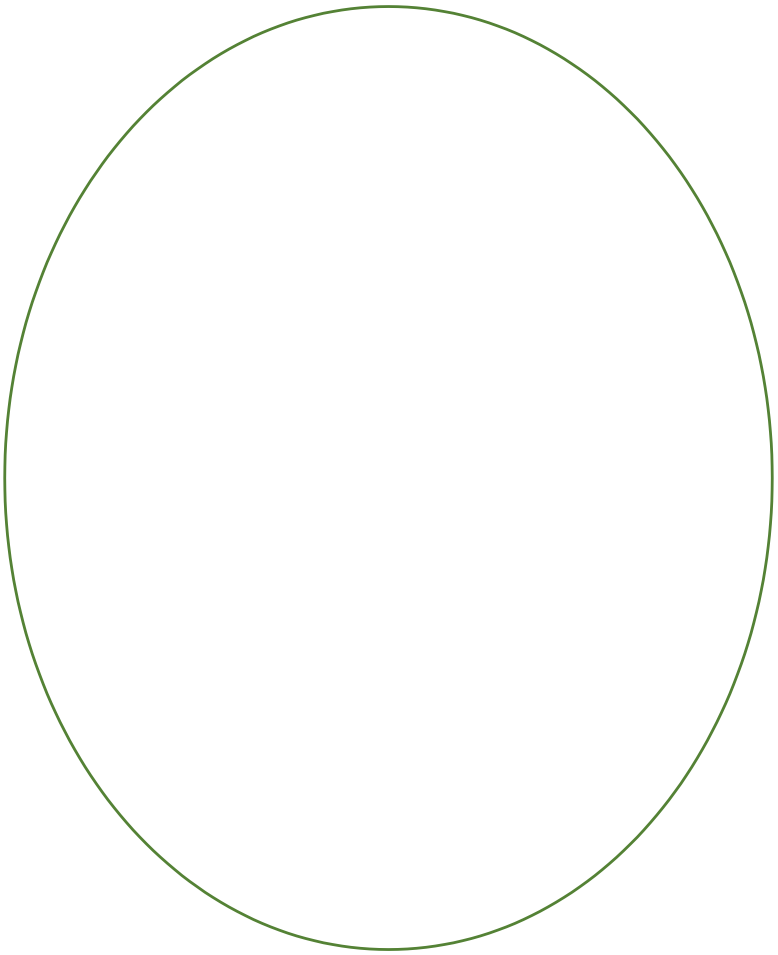
1b. Animal Research Project

Animal Name:_____

Draw Your Animal

Where does your animal live?

_____



When or how does your animal sleep?

_____

What does your animal eat?

_____

Life Cycle of a Plant or Animal

In this activity, students will choose an animal or plant to research and will then recreate its life cycle (including details such as its diet, needs, and habitat) in a format of their choosing. Students will then share their findings and their life cycle design.

To begin this lesson, the text, *Du Iz Tak?*, can be used as a read aloud to depict the life cycle of a plant or a butterfly. The class can then complete a life cycle chart for the plant or the butterfly. The text, *Animals by the Numbers: A Book of Infographics*, can be used as a reference text for further student research on animals.

Materials

- Paper
- Crayons
- Markers
- Pencils
- Texts with animal, insect, and plant facts

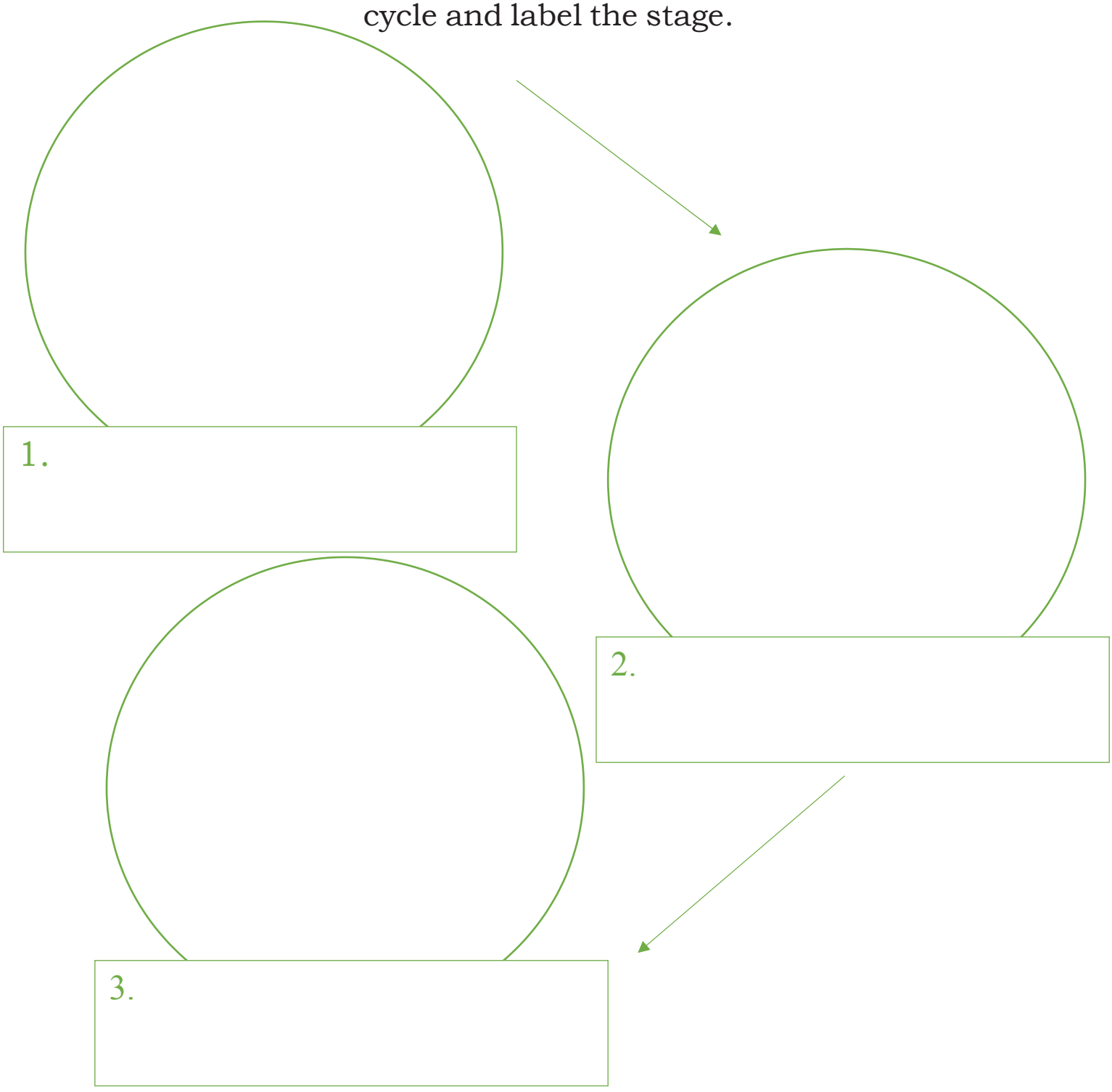
Steps

Students (individually or in small groups) will:

1. Choose an animal or plant to research
2. Read about their selected animal or plant
3. Complete the attached life cycle organizer (Handout 1c or 1d based on teacher preference)
4. Create their own displays of the organism
5. Share their life cycles with the class during share time

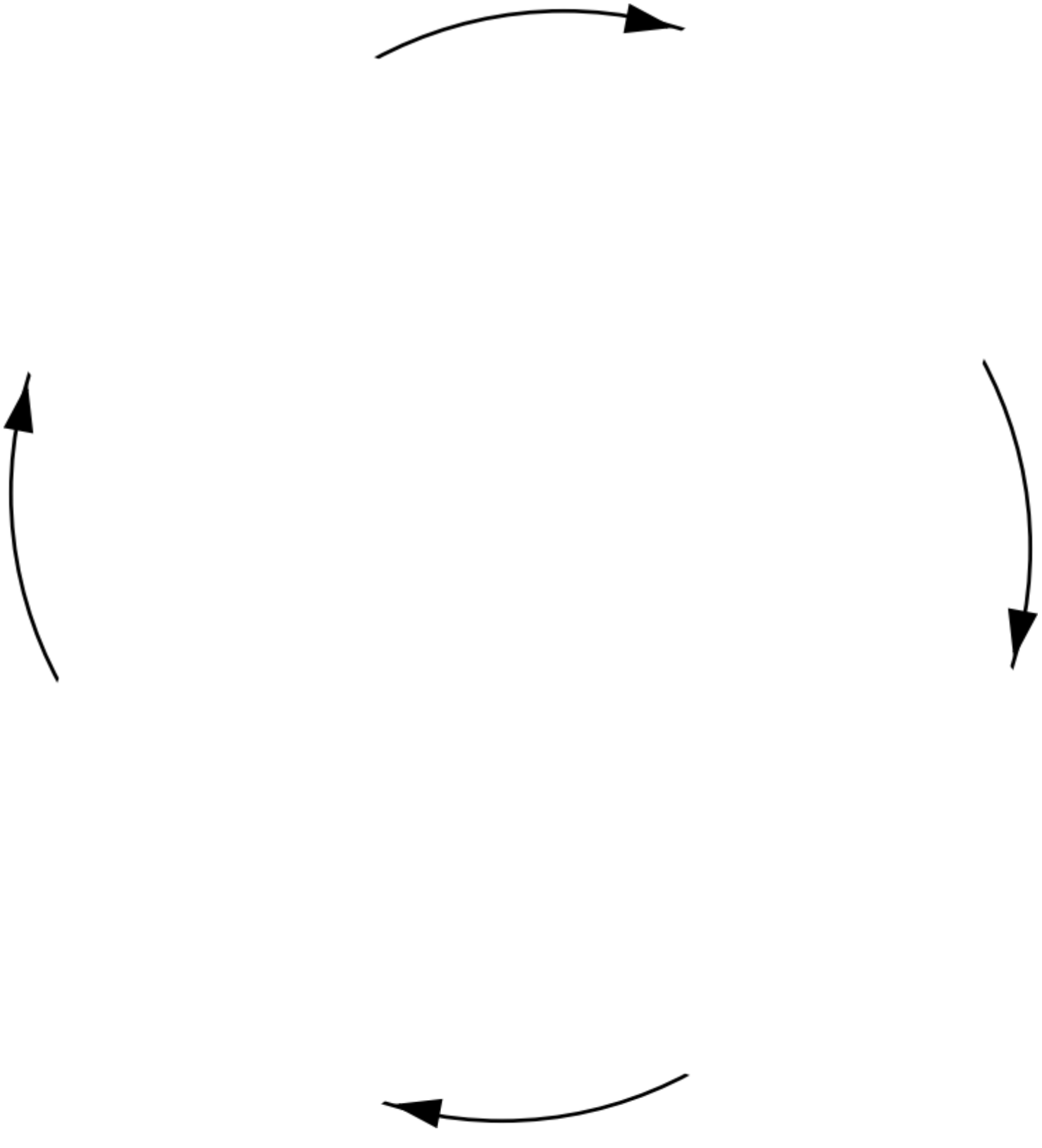
Name:_____ Date:_____

1c. Fill in the bubbles with the stages of your animal's life cycle and label the stage.



Name:_____ Date:_____

1d. Life Cycle of a:_____



Additional Activities

Raising butterflies from caterpillars:
https://www.insectlore.com/butterflies/butterfly-kits-with-live-caterpillars

Field trip to Masonville Cove to explore local ecosystems
Contact: 410-246-0669 Ext 103
Funding Help: https://cbtrust.org/grants/environmental-education-mini/

Science and habitat activities in connection with Dr. Seuss books
https://www.kcedventures.com/blog/exploring-habitats-with-the-cat-in-the-hat-40- projects-science-activities

Overview

The books, *Twinkle Twinkle Little Star I Know Exactly What You Are* and *Star Stuff: Carl Sagan and the Mysteries of the Cosmos*, introduce students to the many aspects of space such as stars, planets, galaxies, and solar systems. Students can use these books to complete a variety of activities. These include building planets and solar systems for the classroom and constructing star constellations.

MDK-12 Related Standards

Standard 2.0 Earth/Space Science: Students will use scientific skills and processes to explain the chemical and physical interactions (i.e., natural forces and cycles, transfer of energy) of the environment, Earth, and the universe that occur over time. **Topic A.** Materials and Processes That Shape a Planet & **Topic D.** Astronomy

Topics Covered: Stars, Space, Gases

Key Vocabulary:

- Galaxy - a system of millions or billions of stars, together with gas and dust, held together by gravitational attraction
- Constellation - a group of stars forming a recognizable pattern
- Solar System - the collection of eight planets and their moons in orbit around the sun, together with smaller bodies in the form of asteroids, meteoroids, and comets

Twinkle Twinkle Little Star I Know Exactly What You Are By Julia Kregenow

Age Range: 4 – 8 years (Publisher / Amazon)

Grade Level: 1 – 3 (slj.com)

This review was written by Kacy Helwick, New Orleans Public Library and published in the School Library Journal, August 2018. (slj.com)

A scientifically accurate rewrite of the classic lullaby. Rather than stick with the continual wondering present in the original version, Kregenow, a professor of astronomy and astrophysics, has crafted a text that fits the familiar melody and states known facts, such as a description of a star as an "opaque ball of hot dense gas, million times our planet's mass." Additional verses explain constellations (as "a cosmic Rorschach's Test"), twinkling (atmospheric turbulence), and other concepts, like types of stars and star systems. About a quarter of the book, the last 10 pages, expands on each of the four-line stanzas, explaining the concepts in greater detail in the same order as it is presented in the text. Also on those pages are the interstellar photographs from which Saldaña's richly textured mixed media illustrations drew their inspiration.

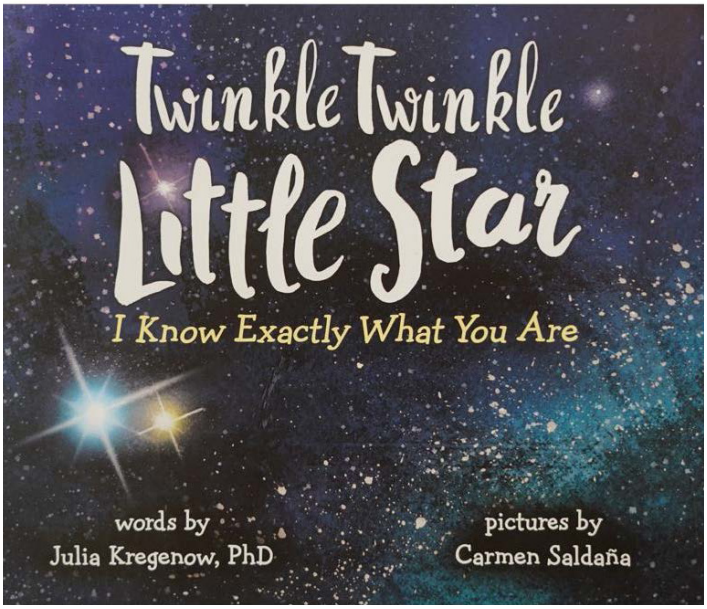


Photo By Brandon Grimes

VERDICT: **Recommended as a fun tool to ignite children's curiosity in astronomy.**

Star Stuff: Carl Sagan and the Mysteries of the Cosmos
By Stephanie Roth Sisson

Age Range: 4 – 8 years (Publisher / Amazon)

Grade Level: 1 – 3 (slj.com)

This review was written by Maggie Chase, Boise State University, ID and published in the School Library Journal, August 2016. (slj.com)

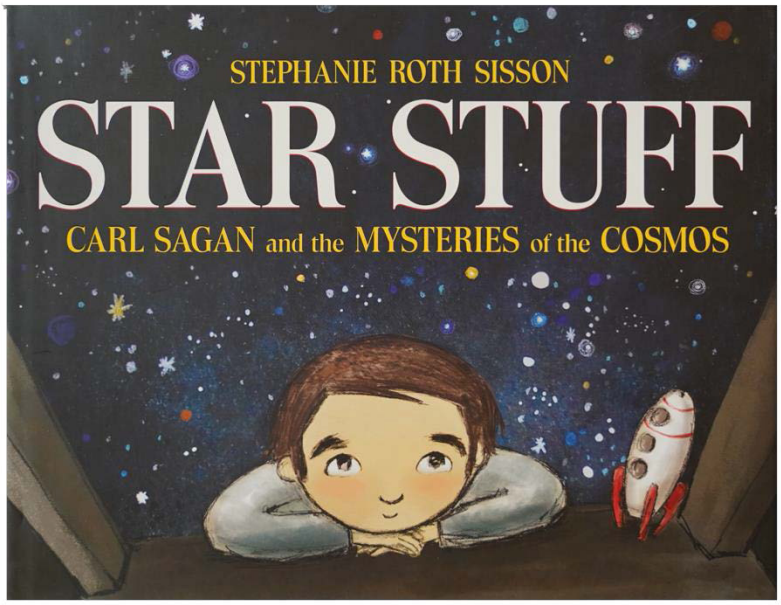


Photo By Brandon Grimes

Told in narrative format, this beautifully designed and illustrated picture book gives readers a glimpse into the childhood wonderings Sagan experienced as he looked at the night sky and imagined the possibilities. The images are wonderfully childlike, many appearing to be chalk on a dark, night sky background. The simple but lyrical text ("Carl thought about the stars hanging down like bulbs on long black wires") conveys a dreamy, wistful quality, and the comic book–style panels and speech bubbles will keep kids intrigued as Sisson takes Sagan from an inquisitive boy to a scientist working in the field of astronomy. One particularly magnificent page should elicit gasps of awe from readers. It folds out to create a marvelous expanse that extends from a library room, where young Sagan is poring over a book about the solar system, up though the city landscape and ever upward toward the sun. Children will easily relate to and may even see themselves in Sagan's youthful exuberance. Detailed notes illustrate the solid research and facts behind the narrative. A gorgeous, informative offering for biography and science collections.

Build a Solar System

In this activity, students will have the opportunity to research and build a planet of their choosing. After all of the planets have been built, they can be presented and hung around the classroom in the order of our solar system. The text, *Star Stuff: Carl Sagan and the Mysteries of the Cosmos*, can be used as a read aloud to introduce our solar system and give students ideas about which planet they would like to create.

Materials

- Building materials (Paper bowls, paper, balloons, Styrofoam, paper mache)
- Table covering
- Glue
- Paper
- Markers
- Paint
- Paint brushes
- Crayons
- Pencils

Steps

Students will:

1. Work in pairs or individually to choose a planet to research and create
2. Complete the planet research project organizer (Handout 2a for older students or 2b for younger students)
3. Build a model of their selected planet using materials of the teacher's choosing such as paper bowls glued together, Styrofoam, paper mache, balloons, or paper.
4. Share their planets with the class, describing what they learned and why they think humans will or will not ever live on their planet.

Constellations Answer Key: 2c - Ursa Major; 2d - Ursa Minor; 2e - Cassiopeia; 2f - Canis Major

Name:_____ Date:_____

2a. Planet Research Project

(Can be adapted by teacher)

1. The name of my planet is_____.
2. My planet is the_____planet from the sun.
3. My planet has_____rings.
4. My planet has_____moons.
5. The temperature on my planet is degrees.
6. My planet is between _____and_____.
7. Has a spacecraft ever landed on your planet?

8. Do you think humans will ever live on your planet? Why?

_____

_____

9. Draw a picture of your planet on the back.

Name:_____ Date:_____

2b. Planet Research Project

1. The name of my planet is_____.

2. My planet is the _____ planet from the sun.

3. My planet is between_____and_____.

4. Draw a picture of your planet.

Constellation Drawing

In this activity, students will be able to create star constellations on paper using a variety of materials. The text, *Twinkle Twinkle Little Star I Know Exactly What You Are*, can be used as a read aloud to introduce students to constellations and stars before beginning the activity.

Materials

- Connectors (toothpicks, straws, wikkisticks)
- Constellation print outs
- Stars or small marshmallows
- Paper
- Pencil

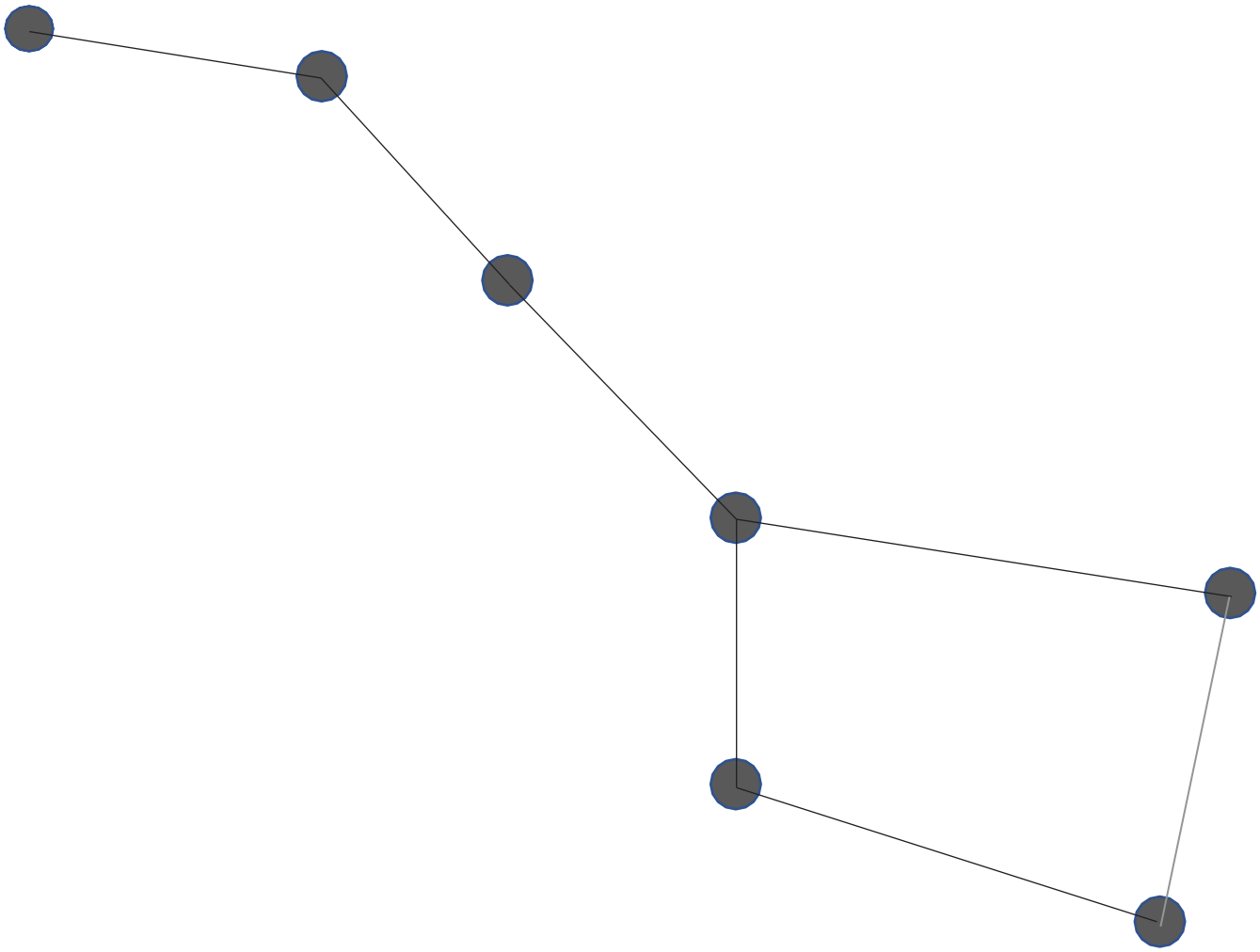
Steps

Students will:

1. Choose one or two constellations to build (Handouts 2c, 2d, 2e, 2f)
2. Collect the materials they need to build the full constellation (count how many stars or small marshmallows they need and how many connectors)
3. Glue or press the connectors on the lines that connect the stars
4. Glue or press on the material they are using to represent stars
5. Label their paper with the name of their constellation

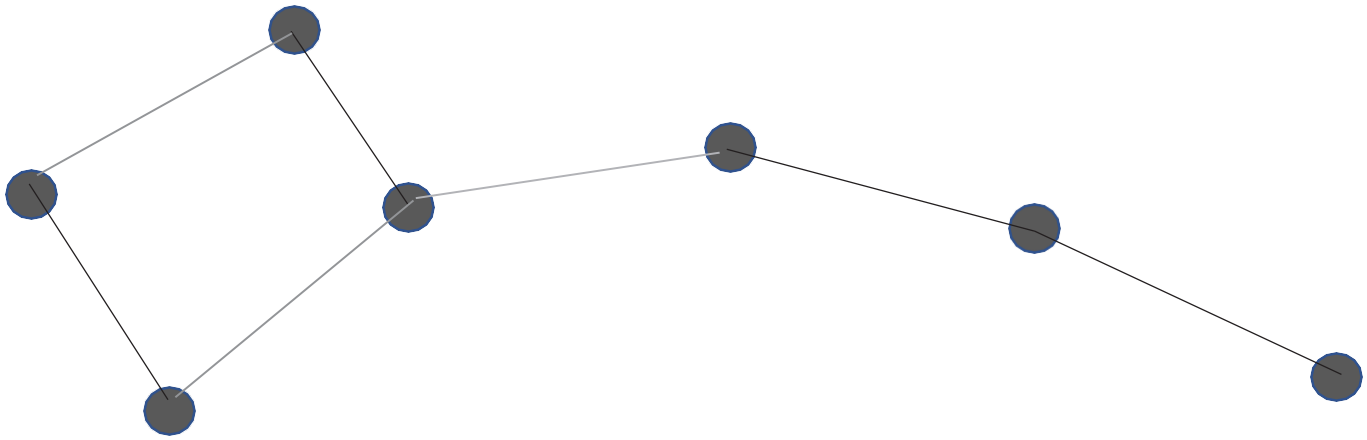
Name:_____ Date:_____

2c. This Constellation is:_____



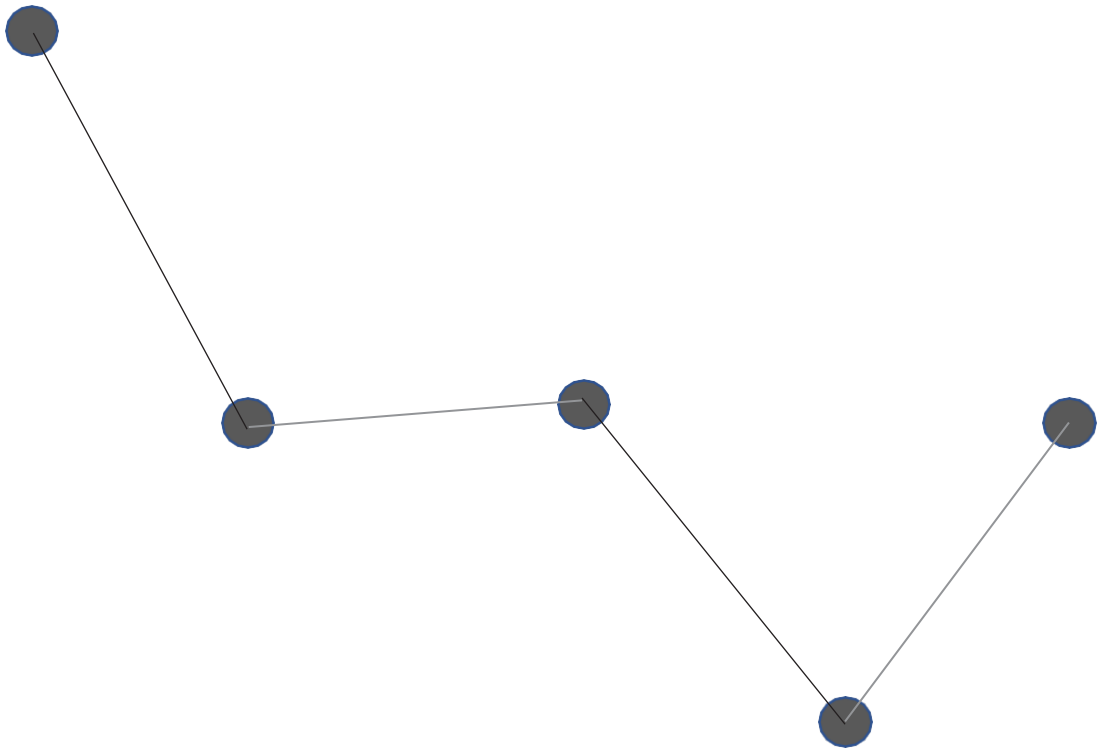
Name:_____ Date:_____

2d. This Constellation is:_____



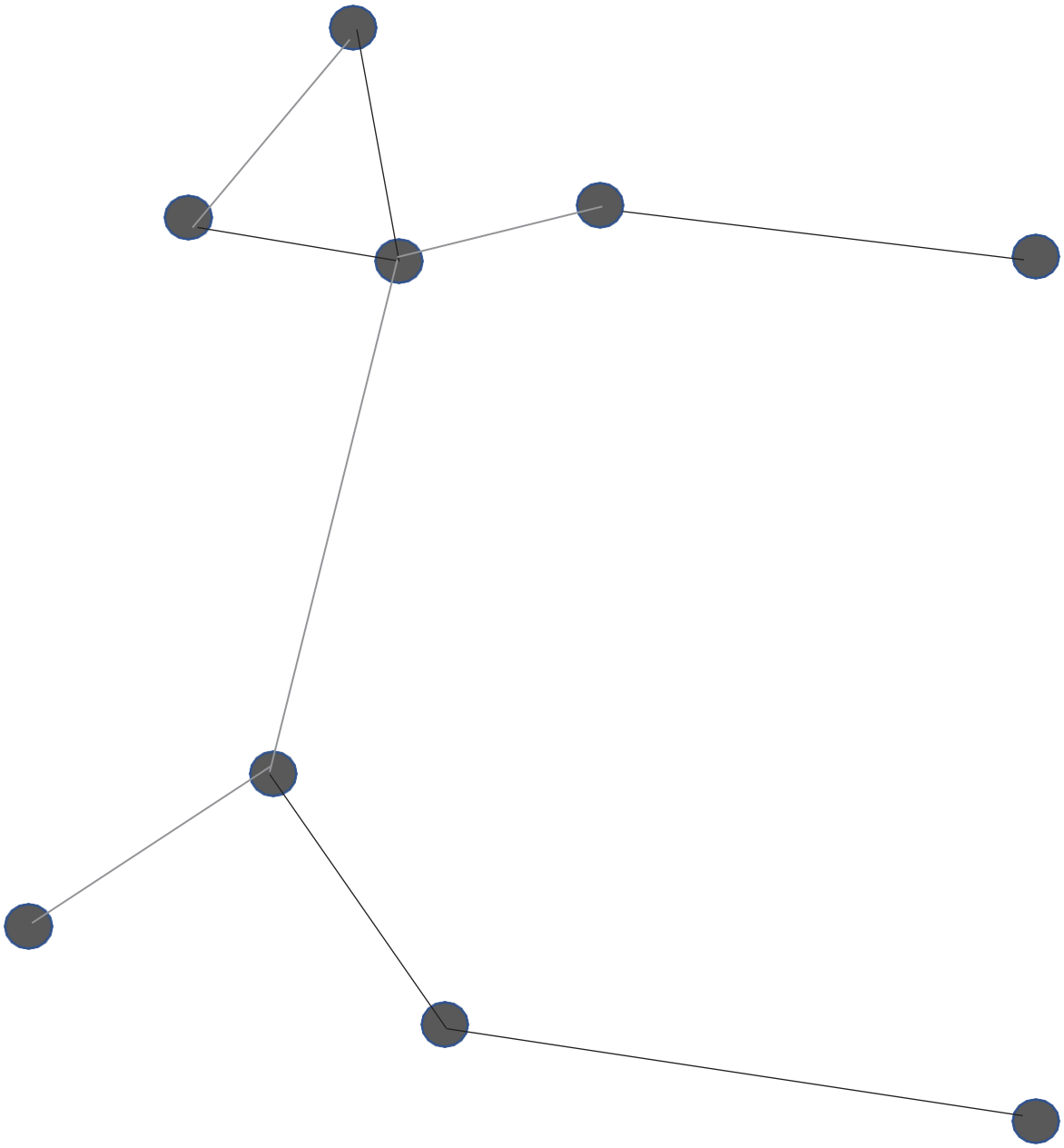
Name:_____ Date:_____

2e. This Constellation is:_____



Name:_____ Date:_____

2f. This Constellation is:_____



Field Trip to the Davis Planetarium

Maryland Science Center

Contact: (410) 685-2370

https://www.mdsci.org/explore/planetarium/

Field trip to The Earth and Space Science Lab

Frederick, MD

Contact: (240) 236-2694

https://education.fcps.org/essl/

Overview

The books, *The World is not a Rectangle*, *Mr. Ferris and His Wheel*, and *Ticktock Banneker's Clock*, introduce the design process to young learners. They describe how the main characters identified problems or areas for improvement, brainstormed solutions, and built and refined prototypes. These books can be used to spark ideas and conversations about inventions that could make everyday tasks easier or buildings that could make our environments more efficient and beautiful.

MDK-12 Related Standards

Standard 1.0 Skills and Processes: Students will demonstrate the thinking and acting inherent in the practice of science. **Topic A**. Constructing Knowledge **Indicator 1**. Raise questions about the world around them and be willing to seek answers to some of them by making careful observations and trying things out.

Topics Covered: Engineering, Design, Invention

Key Vocabulary:

- Invention – A creation or design of something that has not been designed before
- Prototype – The first model of something

The World is Not a Rectangle
By Jeanette Winter

Age Range: 5 – 10 Years (Publisher / Amazon)

Grade Level: 1 – 5 (slj.com)

This review was written by Nancy Menaldi-Scanlan, formerly at LaSalle Academy, Providence and published in the School Library Journal July 2017 issue. (slj.com)

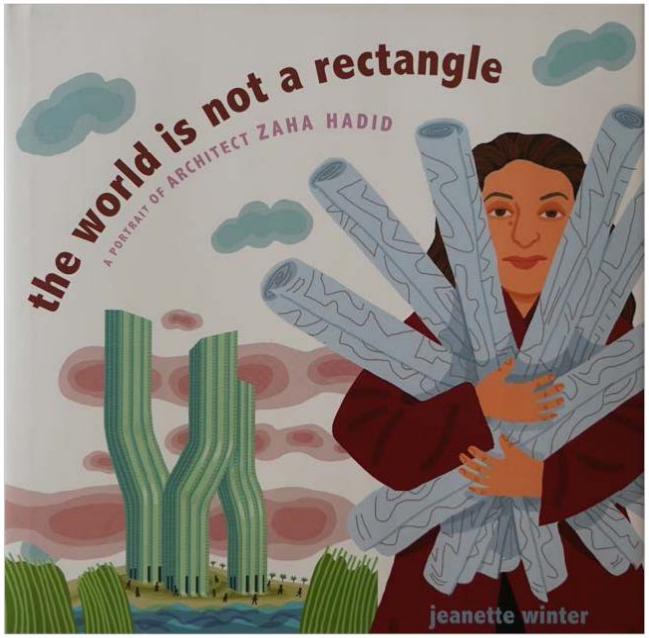


Photo By Brandon Grimes

Even as a child, Zaha Hadid was fascinated by the landscapes and ruins of her native Iraq, seeing patterns in them she later repeated in her urban designs.

Her unusual ideas prompted her to study architecture in London and eventually open Studio 9, an office in which she and her colleagues designed unconventional buildings that epitomized her mantra, "The world is not a rectangle." Despite criticism and setbacks, Hadid's belief in the impossible led to commissions to design a museum, an opera house, a stadium, and even a ski jump, which incorporated their surrounding landscapes into the core of their structures. When she died in 2016, Hadid had the distinction of being the only woman to receive both the Pritzker Prize and the Royal Gold Medal for her inventive sense of design. From its catchy title to the clear depiction of its extraordinary subject, this book will appeal to elementary students, particularly those craving daring role models. The simple text flows as easily as Hadid's ideas, and Winter's painterly acrylic illustrations are its perfect complement, bringing to life a rather stern artist intent on realizing her artistic visions against all odds. Art teachers can use the endpapers' portrayals of Hadid's unusual structures to help students create their own landscape-inspired designs, and mention of her Iraqi heritage could prompt discussions on global artists.

VERDICT: **Ripe with ties to curricula, this is a great choice for art and biography collections.**

Mr. Ferris and His Wheel
By Katheryn Gibbs Davis

Age Range: 6 – 10 years (Publisher / Amazon)

Grade Level: K – 3 (slj.com)

This review was written by Jill Ratzan, I. L. Peretz Community Jewish School, Somerset, NJ and published in the School Library Journal, June 2014. (slj.com)

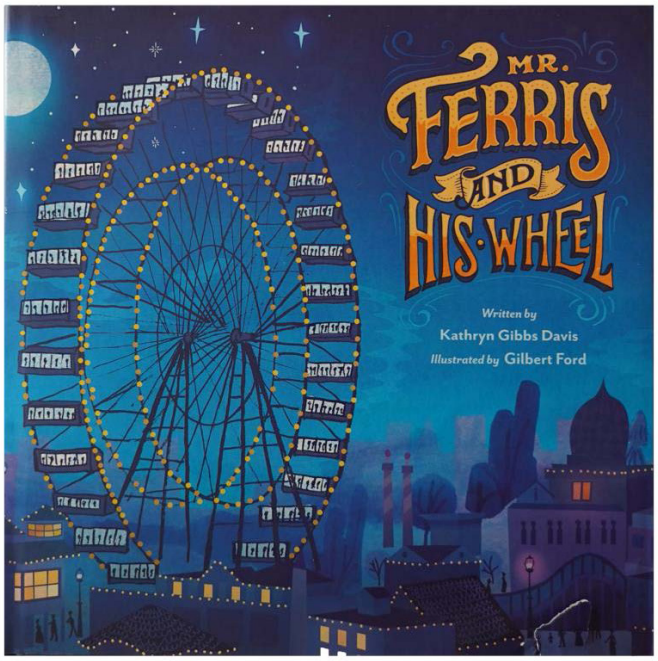


Photo By Brandon Grimes

It's almost time for the 1893 Chicago World's Fair, and American architects are hoping to design a star attraction to rival the French Eiffel Tower. Mechanical engineer, George Washington Gale Ferris Jr., has a daring idea: a huge, round, *moving* structure made from steel, a new metal unrivaled in both lightness and strength. After overcoming obstacles ranging from mockery to quicksand, Ferris and his team finally complete their wheel, which delights fairgoers and goes on to become a staple of fairgrounds around the world. Librarians familiar with Erik Larson's *The Devil in the White City* (Random, 2002) already know this story, but the focus here is less on the Chicago World's Fair and more on the process involved in building a mechanical marvel. Details such as why support structures were necessary and how tension wheels work will engage emerging engineers, while those with a less scientific bent can nevertheless appreciate the excitement felt by the Ferris Wheel's very first passengers. The primary story is told in an easy-to-read serif font, and secondary details are added in smaller sans-serif sections. A purple-dominated color scheme contrasts with occasional greens and yellows, although the placement of text in low-contrast areas sometimes interferes with readability. Overall, the modernist look, inherently interesting topic, and strong documentation (including quotations from primary sources) make this title a positive addition, especially those looking to enhance their nonfiction offerings in view of new Common Core standards.

Ticktock Banneker's Clock
By Shana Keller

Age Range: 6 – 9 Years (Publisher / Amazon)

Grade Level: K – 2 (slj.com)

This review was written by Megan Kilgallen, Packer Collegiate Institute, Brooklyn and published in the School Library Journal, September 2016. (slj.com)

This cheerfully illustrated volume centers on Benjamin Banneker's invention of a striking clock. The story begins just as Banneker (1731–1806) has finished his farm chores for the day. He decides to take a moment to study a pocket watch lent to him by a friend. Inspired by the tiny, dazzling machine, he imagines a much larger version, one that chimes. Readers watch him over a number of seasons as he works toward completing his invention. The rich illustrations highlight Banneker's spirit and the beauty of his farm. (A faithful hound dog appears on nearly every page.) This book offers a glimpse into the brilliant mind and hard work of an engineer. An author's note provides more information on his life.

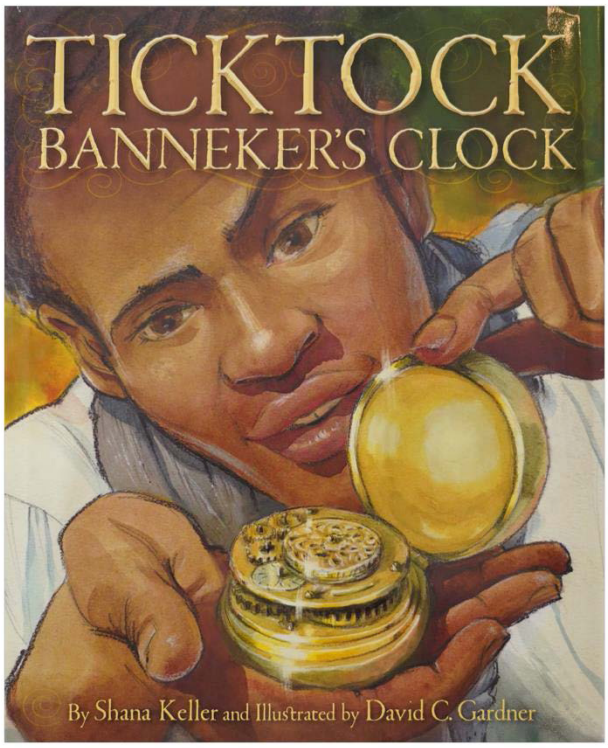


Photo By Brandon Grimes

VERDICT: **A concise introduction to Banneker and a welcome addition to any picture book biography collection.**

Building Design and Proposal

In this activity, students will design a building and describe what their building would be used for, how it would look, and why they think it should be built. After completing a peer review process where students give feedback on each other's drawings and ideas, students will submit their final versions to be "Approved" by the teacher. After their designs are approved, students will use materials provided by the teacher to create prototypes of their buildings. The texts, *Mr. Ferris and His Wheel* and *The World is not a Rectangle*, can both be used as read alouds to introduce the concept of designing and building a structure before introducing the activity.

Materials

- Popsicle sticks
- Tape
- Glue
- Pipe cleaners
- Graph paper
- Pencil

Steps

Students will:

1. Design a building on graph paper and write a description of what the building would be used for and how and why it should be built (Handout 3a)
2. Use the peer review process to share their designs with a partner for suggestions and edits
3. Create a prototype of their building using class materials after receiving teacher approval

Name:_____ Date:_____

3a. Building Design

Purpose of my building:

_____

_____

_____

Shape of my building:

Why is your building needed?

_____

_____

Inventor's Workshop

In this activity, students will be given the opportunity to get creative and invent something new! The book, *Ticktock Banneker's Clock*, can be used as a read aloud to introduce the concept of invention to students. After listening to the story, students can brainstorm different things that they think would make their lives easier. Then, they can name their inventions and build prototypes.

Materials

- Tub for materials
- Cardboard (Toilet paper rolls, paper towel rolls, shoe boxes, paper plates and bowls)
- Foil
- Tape
- Glue
- Markers
- Crayons
- Pipe cleaners
- Anything else you can find to add to the tub

Steps

Students will:

1. Brainstorm ideas of products that could make their lives easier
2. Draw a prototype of and describe one of their ideas (Handout 3b)
3. Build their prototype using materials from the inventors' tub
4. Share their invention with a partner or the class

Name:_____ Date:_____

3b. Invention

What my invention does:

_____

_____

_____

Name of my invention:

_____

Design of my invention:

Why is your invention helpful?

_____

_____

_____

Overview

The books, *One is a Piñata: A Book of Numbers*, *Round is a Tortilla: A Book of Shapes*, and *Green is a Chile Pepper: A Book of Colors*, introduce different ways objects can be sorted including by color, shape, and number of sides. Students can use these books to complete many different activities involving their senses. These include sorting fruits and vegetables by their taste, shape, texture, and color while also promoting healthy eating habits!

MDK-12 Related Standards

Standard 1.0 Skills and Processes: Students will demonstrate the thinking and acting inherent in the practice of science. **Topic C**. Communicating Scientific Information. **Indicator B**. Describe and compare things in terms of number, shape, texture, size, weight, color, and motion.

Topics Covered: Senses, Colors, Numbers, Shapes

Key Vocabulary:

- Senses – any of five ways the body experiences and understands the things around it

One Is a Piñata: A Book of Numbers
By Roseanne Greenfield Thong

Age Range: 3 – 5 years (Publisher / Amazon)

Grade Level: Pre-K – 1 (slj.com)

This review was written by Natalie Romano, Denver Public Library and published in the School Library Journal, March 2019 (slj.com)

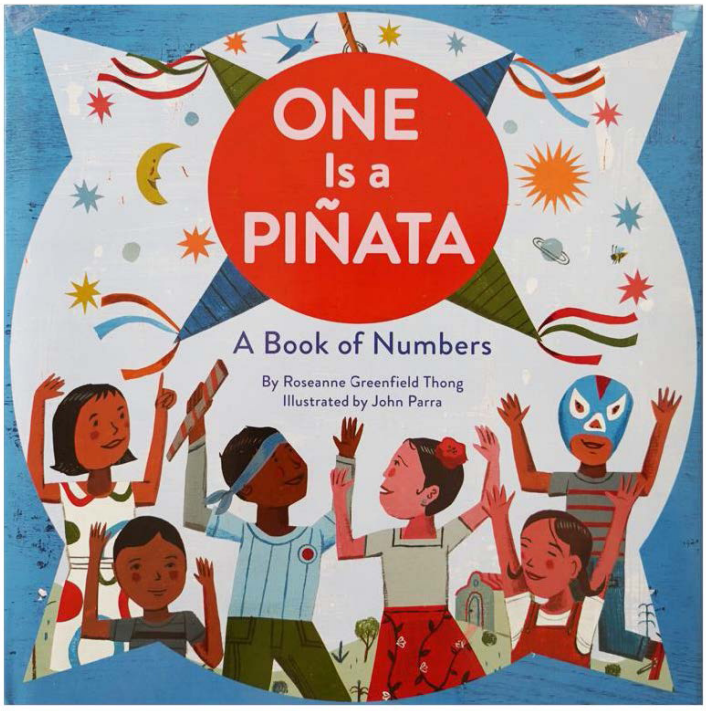


Photo By Brandon Grimes

This companion to *Green Is a Chile Pepper* and *Round Is a Tortilla* makes learning numbers in English and in Spanish a fun fiesta for young readers. Through rhyming stanzas, children can count from one to 10, using *bolillos*, *burbujas*, *paraguas*, and *calaveras* along the way. Each number has its own theme, representing a year's worth of seasonal pastimes and festivals. The book is playful and fun to read and offers plenty of opportunities for bilingual vocabulary development, incorporating recognizable symbols of Latinx cultural heritage. Short, catchy text will hold the attention of very young learners and add to the book's buoyant appeal. Brightly colored, animated illustrations blend the imaginative with the realistic and complement the singsong rhythm, with words and pictures evenly placed throughout. Colors are vibrant, with a diversity of skin tones represented. Plenty of space around the text will facilitate letter recognition and comprehension for beginning readers; Spanish and English words are woven together seamlessly, accurately relating concepts in both languages.

VERDICT: **An obvious choice for any picture book collection, this book teaches counting skills and new words while celebrating Hispanic and Latinx culture.**

Round is a Tortilla: A Book of Shapes
By Roseanne Greenfield Thong

Age Range: 3 – 5 Years (Publisher / Amazon)

Grade Level: Pre-K – 2 (slj.com)

This review was written by Susan Lissim, Dwight School, New York City and published in the School Library Journal, April 2013 (slj.com)

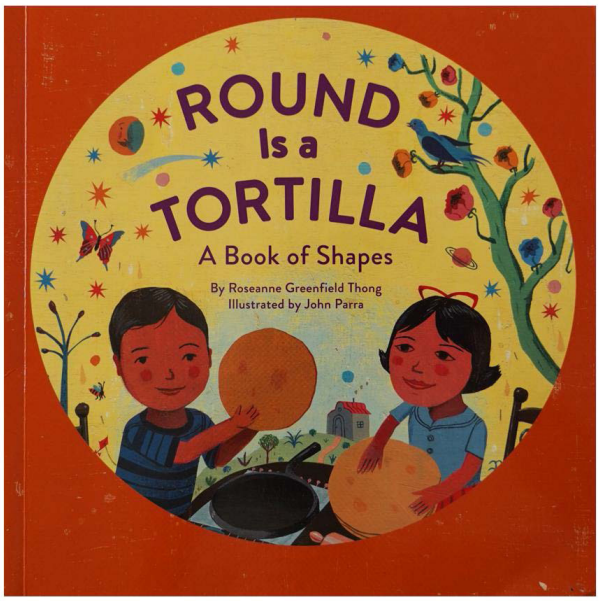


Photo By Brandon Grimes

This picture book in rhyme focuses on everyday things-a square for a park, a round pot of stew, a rectangle for the scoreboard at the baseball game. All of the shapes and activities reflect Hispanic culture-stars are for parties and the celebration depicted is a fiesta. Round is a sombrero; squares are ventanas, or windows; and triangles are for chips and guacamole. Some of the shapes appear on two spreads, some have one, but all end with the refrain: "how many more… can you find?" The realistic illustrations feature lots of people of various ages. The paintings are colorful and lend a sense of movement and joy to the activities. The Spanish words are integral to the story but will be clear from context to non-Spanish speakers. This is a lovely book for teaching and sharing shapes within a culture or for just the concepts themselves. It is also a terrific title about family, fun, and sharing.

Green is a Chile Pepper: A Book of Colors
By Roseanne Greenfield Thong

Age Range: 5 – 6 Years (Publisher / Amazon)

Grade Level: Pre-K – 2 (slj.com)

This review was written by Shelley Diaz and published in the School Library Journal (slj.com)

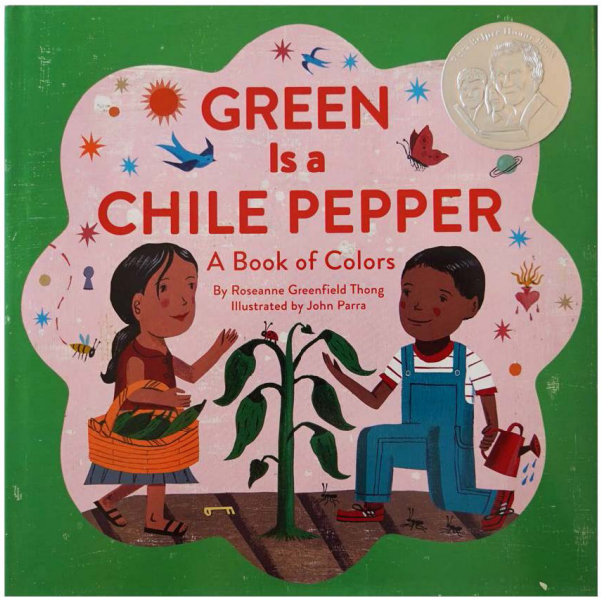


Photo By Brandon Grimes

The creators of Round Is a Tortilla (Chronicle, 2013) are back with another Mexican American culture—infused concept book with universal appeal. A little girl and boy walk around their town pointing out the vivid palette that permeates their home and community. "Green are the cornstalks./Green are the pails./Green is a bench/for abuela's tales." The Spanish translation of the featured color is also provided on each spread. Excellent for building vocabulary, this work introduces festive customs such as the Day of the Dead and Mexican folk dance, which are further explained in an extensive glossary. The diversity of the characters refreshingly reflects the diversity of the Latino community. Thong's buoyant rhyming text is perfect for reading aloud and Parra's stunning folk-art illustrations offer vibrant scenes that children will return to again and again. The exuberant depictions of cooking, outdoor parties, and fun craft-making invite myriad extension activities. A choice book for bilingual or STEAM-powered storytimes.

Sorting with Your Senses

In these activities, students will use their senses to sort objects into a variety of categories. The texts, *One Is a Piñata: A Book of Numbers*, *Round is a Tortilla: A Book of Shapes*, and *Green is a Chile Pepper: A Book of Colors*, can be used as both read aloud texts and reference texts. These activities can be adapted to fit the materials you have in your classroom as well as the senses on which you are focusing.

Activity 1a
Sorting Fruits and Vegetables

Senses: Taste, Sight, and Touch

Materials

- Multicolored fruit (oranges, strawberries, blueberries, lemons, peaches, grapes, apples, bananas, kiwis)
- Multicolored vegetables (carrots, tomatoes, cauliflower, broccoli, kale, bell peppers)
- Hand sanitizer

Steps

Students will (in small groups or individually based on quantity of fruit and/or vegetables):

1. Clean their hands with hand sanitizer
2. Sit around a plate or bowl filled with a variety of fruits and vegetables
3. Taste, feel, and observe each fruit/vegetable
4. Sort the food into categories based on their observations by writing the name of the food into the sorting organizer (Handouts 4a, 4b, 4c)

Activity 1b
Sorting Shapes

Senses: Touch and Sight

Materials

- Plastic shapes (each shape should be a specific color - e.g., red triangles, blue squares)
- Large bowl or container (for the shapes)

Steps

Students will:

5. Sit around a bowl or container of multicolored shapes
6. Count how many sides each shape has
7. Using the senses of sight and touch students will observe all objects, sort them into groups based on their shape, and then write the names of the shapes into the correct color categories (Handout 4a)

Name:_____ Date:_____

4a. Sight/Color

Red

1. _____
2. _____
3. _____

Green

1. _____
2. _____
3. _____

Blue

1. _____
2. _____
3. _____

Orange

1. _____
2. _____
3. _____

Yellow

1. _____
2. _____
3. _____

Other

1. _____
2. _____
3. _____

Name:_____ Date:_____

4b. Touch

Smooth

1. _____
2. _____
3. _____

Rough

1. _____
2. _____
3. _____

Fuzzy

1. _____
2. _____
3. _____

Name:_____ Date:_____

4c. Taste

Sweet

1. _____
2. _____
3. _____

Sour

1. _____
2. _____
3. _____

Bitter

1. _____
2. _____
3. _____

Field trip to local community garden

Sensory trail field trip

https://www.recreater.com/DocumentCenter/View/48/Sensory-Trail-Teachers-PDF?bidId=

Contact: 301-600-2051

Catoctin Creek Park

Grades: Pre-K – 3

Overview

The books, *In the Rainfield Who is the Greatest?* and *Lorraine: The Girl who Sang the Storm Away*, introduce topics such as tornados, thunderstorms, and the earthly elements of wind, rain, and fire. These books can be used to introduce many different activities. These activities include making a weather vane to measure the direction of the wind, creating a tornado in a jar, and creating a rain gauge to measure the levels of rain. These texts can also provide a segue into a discussion about what to do in school when there is severe weather.

MDK-12 Related Standards

Standard 2.0 Earth/Space Science: Students will use scientific skills and processes to explain the chemical and physical interactions (i.e., natural forces and cycles, transfer of energy) of the environment, Earth, and the universe that occur over time. **Topic E.** Interactions of Hydrosphere and Atmosphere

Topics Covered: Weather, Elements

Key Vocabulary:

- Tornado – a destructive vortex (or funnel) of rapidly rotating winds
- Weather vane – a revolving pointer to show the direction of the wind
- Cardinal directions – The four main points on a compass: north, east, south, and west

In the Rainfield Who is the Greatest?
By Isaac Olaleye

Age Range: 4+ (Publisher / Amazon)

Grade Level: K – 2 (slj.com)

This review was written by Teri Markson, Stephen S. Wise Temple Elementary School, Los Angeles and published in the School Library Journal, 2000.(slj.com)

Kindergarten-Grade 2-In this compelling Nigerian tale, Wind, Fire, and Rain do battle to determine "who is the greatest" in a world so powerfully rendered that readers cannot help but be drawn into the cosmic competition. With a perfect blending of vivid language and stunning illustrations, Olaleye and Grifalconi have created an exquisite book in which the shrieking Wind sends its hapless victims flying into the treetops, while proud Fire burns so fiercely that the heat practically singes readers' hands. But it is the cooling Rain that reigns supreme, dousing Fire and shaming the Wind into declaring "The gentlest is the greatest!" The tale is rich with sound and imagery, yet it soars when complemented by the visually arresting mixed-media collages that combine photographs with marbleized and textured papers. A glowing effort.

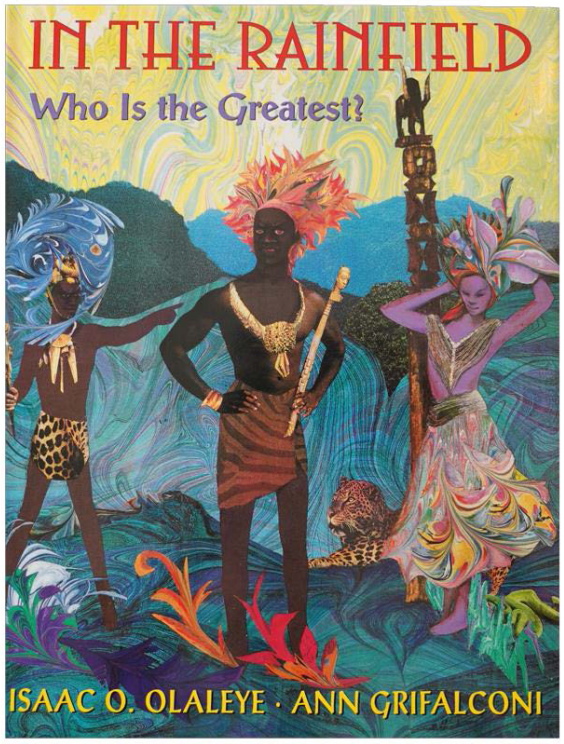


Photo By Brandon Grimes

Lorraine: The Girl who Sang the Storm Away
By Ketch Secor

Age Range: 4 – 8 Years (Publisher / Amazon)

Grade Level: K – 4 (slj.com)

This review was written by Lisa Lehmuller, Paul Cuffee Maritime Charter School, Providence and published in the School Library Journal, October 2018.(slj.com)

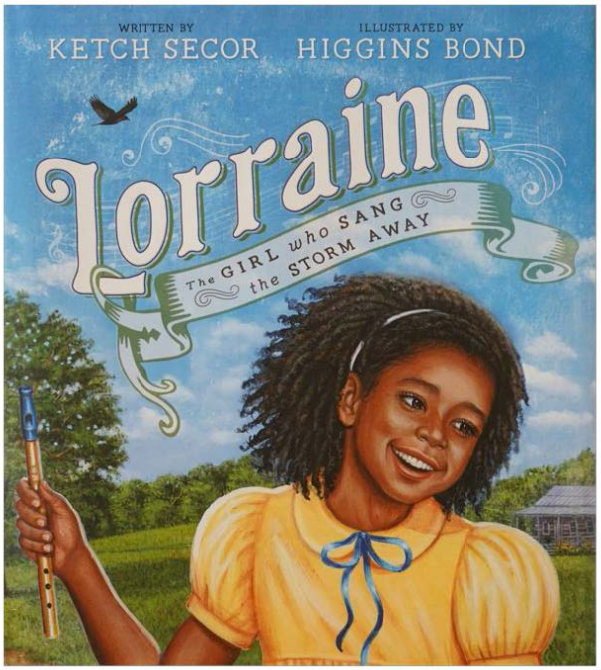


Photo By Brandon Grimes

Roots musician Secor uses his experience with rhythm and rhyme to tell this story of an African American girl and her grandfather in rural Tennessee. Set sometime in the indeterminate past, the story follows the pair as they spend time making music, he on a harmonica and she with a penny whistle. "Even when storms hit those Tennessee hills, the music they played made their worries stand still." When shiny things around the house begin to go missing, they are curious; and one night, during a storm, they discover that their beloved instruments have disappeared, too. How will they get through the storm without the distraction of making music? By singing, of course. After the storm, a fallen tree exposes all the missing items, stolen and then hidden by a crow. Bond's realistic paintings skillfully evoke Lorraine's spirit and the loving relationship she shares with her Pa Paw.

VERDICT: **This bouncy tribute to Southern folkways and intergenerational relationships is an additional purchase.**

Weather Vane

In this activity, students will create their own weather vanes to measure the direction of the wind. To introduce this activity, the text, In the *Rainfield Who is the Greatest?*, can be utilized as a read aloud. Students can then build weather vanes using everyday materials and draw compasses on their vanes to determine the direction of the wind.

Materials

- Paper plate
- Paper cup
- Sharpened pencil
- Straw
- Heavy paper (e.g., cardstock, index cards, poster board)
- Markers
- Sewing pin
- Glue or tape

Steps

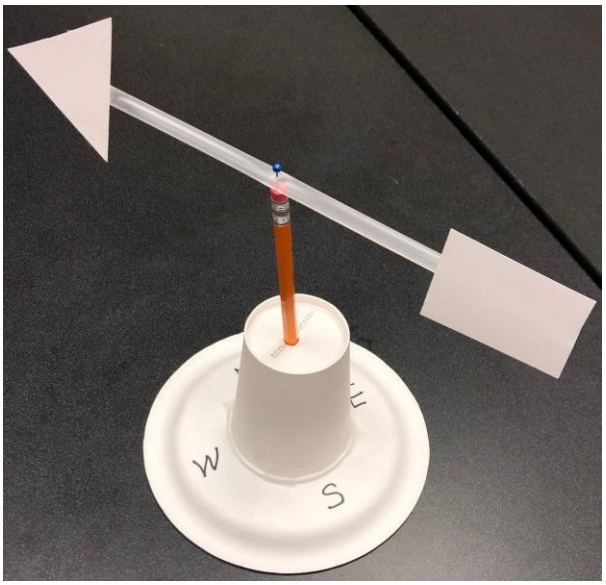
Teacher will:

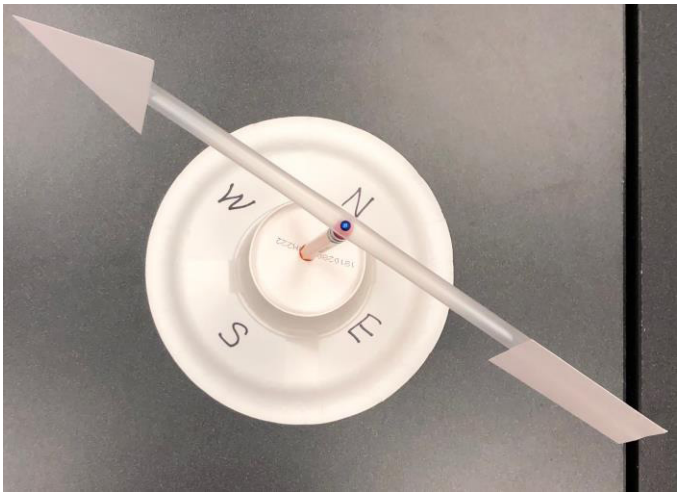
1. Puncture hole in the bottom of the paper cup large enough for a pencil to be inserted and to spin around with little friction (See photos of weather vane included in Handout 5a)

Students will:

2. Use marker to draw cardinal directions (or compass points) onto the bottom of the paper plate
3. Glue or tape the mouth of the cup in the center of the compass with the hole for the pencil facing up
4. Insert the pencil, eraser side up, through the middle of the paper plate so that the tip protrudes slightly and the pencil is stable (Teacher may have to help students with this part of the activity)
5. Cut out fins (one triangle and one square or rectangle that is double the size of the triangle) for the vane
6. Glue or tape fins to plastic straw
7. Secure straw to pencil horizontally using a sewing pin (with help from teacher) that goes through the straw into the pencil eraser
8. Test their weather vane indoors (e.g., by fanning) or outdoors (on a windy day)

Weather Vane





Rain Gauge

In this activity, students will create their own rain gauges to measure the rainfall. Using plastic bottles, students can easily create a rain gauge to use at school or bring home with them! The text, *In the Rainfield Who is the Greatest?* can be utilized as a read aloud to introduce the element of water and how humans can measure the amount of water that falls during a rainstorm.

Materials

- Plastic soda or water bottles
- Rulers
- Permanent markers
- Large plastic container or crate to hold the bottles steady during rain collection (if used at school)

Steps

Teacher will:

1. Cut tops off about 2 inches below the openings (See photos in Handout 5b)

Students will:

2. Take label off of bottle
3. Flip top upside down and place inside the bottle to form a funnel
4. With a ruler, mark the bottle in inches or centimeters
5. Place bottle outside to collect rain (*Bottles should be securely placed in large plastic container or crate so they will not blow away during a storm)
6. Record data for a specified period of time using Handout 5c
   (*Students should empty the container after each measurement)

Rain Gauge

Name:_____ Date:_____

5c. Rain Collection Data

Date	Rain Collected (inches or centimeters)

1. Total amount of rain collected: _____

2. Which date had the most rainfall? _____

3. Which date had the least rainfall? _____

Tornado in a Bottle

In this activity, students will create their own tornado in a bottle! To introduce this activity and the topic of tornados, the text, *Lorraine: the Girl Who Sang the Storm Away*, can be utilized as a read aloud. These tornados in a bottle are a fun way for students to see how a swirling motion can create a funnel and are a great take home experiment to share with families!

Materials

- Rounded plastic bottles with caps
- Name labels
- Water
- Food coloring (Choose a color like blue that will make the tornado easier to see)
- Dish soap
- Vinegar (Optional: Can be used to reduce the amount of bubbles)
- Measuring tools

Steps

Students will:

1. Label plastic bottles with their names
2. Fill bottles with water leaving a few inches of space at the top
3. Squeeze in a teaspoon of dish soap into the water
4. Add one drop of food coloring
5. Add one teaspoon of vinegar
6. Put the caps on the bottles (making sure they are secured tightly) and swirl in a circular motion to create the water tornado; also try swirling upside down by the bottle neck


UMBC