



A Unit of Study for Grades K-2 and 3-5



CHILDREN'S
MUSEUM
INDIANAPOLIS



ACKNOWLEDGEMENTS



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The museum provides special programs and experiences for students as well as teaching materials and professional development opportunities for teachers. To plan a visit or learn more about educational programs and resources, visit the Teacher section of the museum's website at childrensmuseum.org.

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TABLE OF CONTENTS



★ INTRODUCTION	4
★ LESSON 1—CIRCUS LIFE	5
Experience 1: The Circus Is Born	6
Experience 2: Joining the Circus	9
★ LESSON 2—CIRCUS ART	12
Experience 1: Getting the Word Out	13
Experience 2: Looking the Part	15
★ LESSON 3—CIRCUS SCIENCE	18
Experience 1: Balancing Act	19
Experience 2: Flying Through the Air	21
★ CULMINATING EXPERIENCE: CREATE YOUR OWN CIRCUS	24
★ RESOURCES	
Glossary	26
Books	27
Websites	28
Academic Standards	29

INTRODUCTION



Left: *The Barnum & Bailey Greatest Show on Earth* featuring “wonderful performing geese, roosters and musical donkey.” Chromolithograph printed by The Strobridge Litho. Co. in Cincinnati and New York in 1900.

Students will learn:

- ★ The history of the modern circus
- ★ How to map an efficient circus tour route
- ★ About jobs that people have in a circus
- ★ How art and words are used to attract circus audiences
- ★ How to design an appropriate circus costume
- ★ How the laws of physics make circus acts possible

What's Ahead

In Lesson 1 of this unit of study, layered for grades K–2 and 3–5, students become immersed in the circus, learning the history of how the modern circus evolved and about the lives of those who run them. In Lesson 2, students make connections between the written word and visual and performing arts, and discover how these things come together to create a captivating experience for audiences of all ages. In Lesson 3, students learn more about the science behind some of the circus's most popular acts.

Before You Begin

Before beginning your class exploration, create a media center in your room about the circus. Include picture and early reader books about the circus and life in the circus. The circus is a very visual experience, so be sure to include images from the circus to help inspire your students as they conduct their investigations. These images should include performers of some of the iconic circus acts, such as trapeze, tight rope, aerial performances, and clowns, as well as scenes from circus environments.

The circus lets us directly experience a world of exotic sights, uproarious laughter, daring displays of skill and bravery, and heart-stopping excitement, taking us out of our daily lives and pushing us to imagine our own opportunities for extraordinary experiences. In The Children's Museum exhibit *Circus: Starring You* visitors become part of the excitement.

ENDURING IDEA

A circus brings sights and sounds to us that we cannot see and hear every day and allows us to imagine the world beyond our front door.



Left: Gentry Bros. Circus—Miss Louise Hilton, *The Greatest Rider the World has Ever Known*. Circus poster showing Louise Hilton perched on a white horse, about to leap over a scarf held by a clown and a ringmaster. Gentry Brothers Circus, owned by Henry, Frank, Walter, and J. W. Gentry, was based out of Bloomington, Indiana, and operated between 1887 and 1922.

Objectives

Students will

- ★ Use a timeline to learn about the evolution of the circus
- ★ Identify the major developments of the circus
- ★ Use maps to plot a travel route
- ★ Explain that it takes many people working together to operate a circus
- ★ Identify jobs that need to be done in the circus
- ★ Explore different performance roles in the circus

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VOCABULARY

★

advantages

circus

equestrian

menagerie

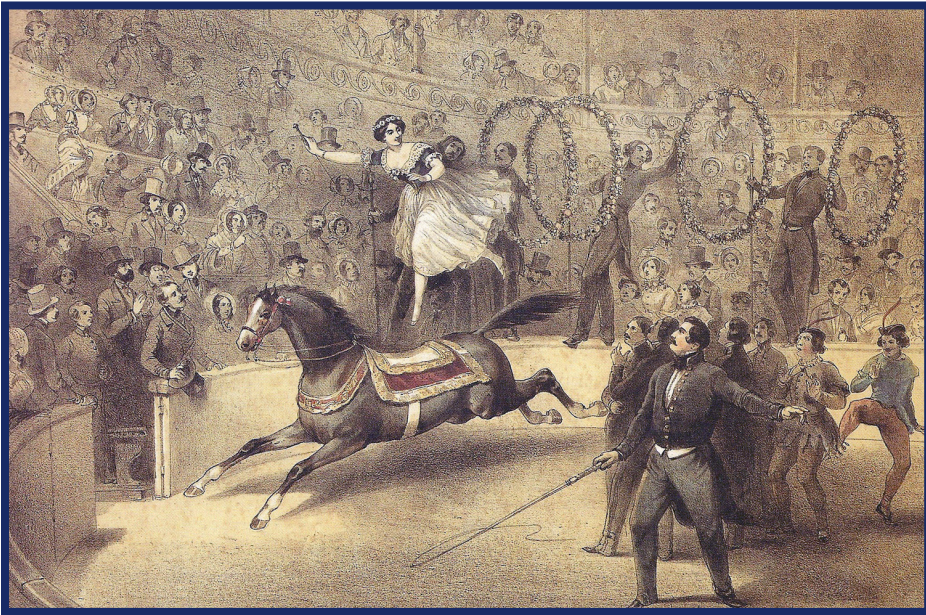
YOU WILL NEED

★

- ★ Handout: A Child's Life in the Circus, page 8
- ★ Internet access for web resources
- ★ Books about the circus

LESSON 1: CIRCUS LIFE

This lesson focuses on the history and nature of circuses. Students learn about the development of the circus and consider what life might be like in a traveling circus. Through readings, students will compare their expectations with the reality of life in the circus. Students will also focus on the heyday of the traveling circus and consider all of the jobs that need to be done to make a circus function smoothly.



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Palmyre Annato at the Cirque des Champs-Élysées (1840)—Private Collection

EXPERIENCE 1: THE CIRCUS IS BORN

In this experience, students will learn about the origins of the modern circus, starting with equestrian displays in 18th-century England, through the development of permanent circuses in the great cities of Europe, to the advent of the traveling circus in the United States. Students will explore what life was like in a traveling circus.

THE CIRCUS by Any Other Name

The term “circus” has been used since Roman times, but the modern circus shares very little with the circuses of ancient Rome. The term “circus” comes from the Latin word meaning circle. The Roman circus got its name from its featured circular racetrack. The modern circus refers to circular areas called performance “rings.” Originally, they were used primarily for equestrian displays.

ACADEMIC STANDARDS

Indiana Academic Standards
Kindergarten–Grade 2

English Language Arts

K.RL.1, K.RL.2.1; 1.RL.1, 1.RL.2.1; 2.RL.1,
2.RL.2.1; 3.RN.1, 3.RN.2.1

Grades 3–5

English Language Arts

4.RN.1, 4.RN.2.1; 5.RN.1, 5.RN.2.1

Procedures

- ★ Ask students if they have ever heard the word **circus** before.
- ★ Ask: Have you ever read a book or seen a movie with a circus in it? Have you ever been to the circus?
- ★ Have students share what they know about circuses.
- ★ Explain that the circus as we know it has not always existed. The modern circus evolved, or developed, over time. It started as something very different and changed, adding and losing parts over time.
- ★ Help students understand that the circus started as **equestrian** (horse) shows displayed in permanent buildings and that other acts were added over time, including acrobats and clowns. Eventually exotic animal collections, called **menageries**, joined the circus. Circuses began to travel and were no longer confined to a permanent building.
- ★ Tell students that in the 19th and early 20th centuries, traveling circuses were one of the most popular entertainments available.
- ★ Explain that the use of railroads allowed circuses to move more easily from one location to the next across large areas. Wagons allowed circuses to travel to places that railroads didn't reach.
- ★ Allow students time to use the classroom media center to read books and look at images from the circus.
- ★ Explain that traveling circuses still exist today, moving from town to town and from country to country, though most circuses no longer include exotic animals.
- ★ Ask students what they think life would be like as part of a traveling circus.
- ★ Record students' answers for later comparisons.

Grades K-2

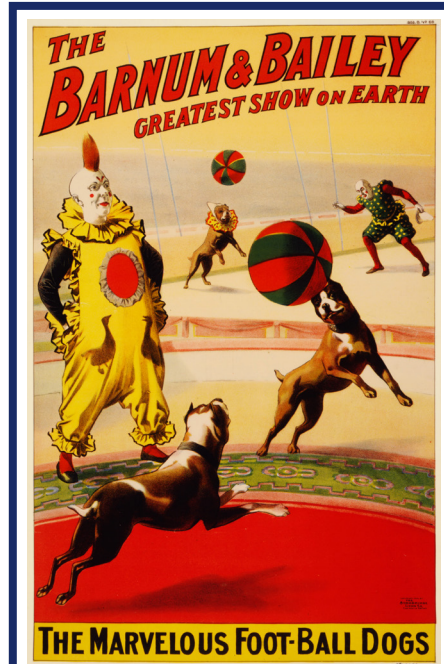
- ★ Have students read or listen to the fictionalized account of the life of a child in a traveling circus on page 8.
- ★ Explain that although the child is make-believe, her experiences are based on real experiences of children in the circus.
- ★ Ask students how the life of the child in the story is different from theirs. What is the same?
- ★ Ask students how the story compares to what they thought life would be like in the circus.
- ★ Have students cite examples from the text when talking about life in the circus.

Grades 3-5

- ★ Divide students into groups of 4 or 5.
- ★ Have teams of students research and read interviews and news articles about real people who live and work in a traveling circus. (See Resources, pages 26-27.)
- ★ Students should share what they have learned within their groups, since not all experiences living in a traveling circus will be the same.
- ★ Each group should write a brief report on what they have learned.
- ★ Have groups share what they have learned and discuss how life in the circus is different from their life. How is it the same?
- ★ Compare what they have learned to what they thought life in a circus might be like.

Extending Activity

Have students interview adults in their lives to see what memories they may have of visiting a circus. What kind of circus was it? Do they remember any of the acts? How did watching the performances make them feel?



The Barnum & Bailey Greatest Show on Earth. The marvelous foot-ball dogs. Promotional poster for Barnum & Bailey showing clowns with performing dogs in 1900.

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THE END OF AN ERA

Perhaps the last great traveling circus in the United States, Ringling Bros. and Barnum and Bailey®, recently announced that it was packing up its tents for good. Founded by five Ringling brothers in 1884, the circus was in operation for over 100 years. In recent years, the circus employed between 250 and 300 people and visited 115 cities a year. The circus recently retired the elephant acts they were known for and attendance dropped significantly. The parent company decided it was no longer profitable to operate. Traveling circuses do still exist, but mostly on a more regional scale or in Europe.



Carle Vernet, *Exercices de Franconi*. Debuourt, 1800.

A Brief History of THE CIRCUS

The modern circus started modestly in the mid-18th century with a trick rider, Philip Astley, performing an equestrian show. The building featured a circular arena that Astley referred to as the circle, or circus, but later became known as the ring. People came from all around to see his act, but Astley realized he needed to add new entertainments to keep the audience interested. Astley hired acrobats, jugglers, rope dancers, clowns, and other performers to add novelty to his equestrian show. The circus was born! In the early years, circuses were housed in permanent structures throughout Europe. In North America, the young cities were not large enough to support resident circuses and the ever-expanding frontier offered enthusiastic audiences longing for entertainment. Permanent buildings were swapped for wagons and tents and the traveling circus came into being. Over time, **menageries** full of exotic animals joined with the circus to travel to the eager audiences, adding the last element of the classic traveling circus. The expanding railroad system of the late 19th and early 20th centuries made traveling easier.

Above: Exercices de Franconi (Laurent Franconi) by Carle Vernet (1758-1835), engraved by Debuourt, enhanced with aquatint (1800) – Dominique Jando Collection

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A Child's Life in the Circus

My name is Caterina. I am 8 years old and I live in a traveling circus with my mom, dad, and little brother, Carl. Instead of a house, our home is a train car, with beds and comfortable chairs. Our car is one of many that carry all of the circus performers from one town to the next.

My parents are performers. They have a trapeze act, swinging through the air high above the ring. I love to watch them practice and hope that I can join them someday. I look after my little brother, and help my mom put on her costume and her makeup before she performs. It takes a lot of work to get ready! My aunt is also in the circus, performing on the lyra, or aerial hoop. My uncle works as a clown, making people laugh. My grandmother used to be a performer, but now works at the concession stand. I get to be with my family all day!

Every time we pull into a new town, everyone works together to set up the circus and get everything ready for the show. This process is called the "load in" and can take up to 12 hours! I watch as people pull equipment out of train cars and set up high poles with platforms and wires. They hang swings for the trapeze act and lay out the performances ring. They set up nets to keep people safe. They have to put up lights and set up the sound system so that the audience can hear the ringmaster.

I am not the only child traveling with the circus. Many other performers have their families with them, too. They come from all over the world to be a part of the circus. I have friends from many countries, like Russia, Argentina, Italy, and China. We do not go to regular school, but we have a teacher who travels with us. We usually have classes while our parents perform.

After the shows are all over, I help pack everything up. We call this the "load out" and it can take around eight hours! Once everything is all packed up, we move out and head to the next town, where we do it all over again.

I love my life in the circus!



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Aladdin & The Parade of Gold—Chinese boy in the center with wild animals emerging from the green foliage on the right side. Two horn players on horses in the front left corner. The circus ran for five days in San Francisco, circa 1939.

EXPERIENCE 2: JOINING THE CIRCUS

In this experience, students will start to think about all of the people needed to present a circus. There are many types of jobs and many people needed to fill them in order to have a successful show. These people may travel with the circus or be hired from the local population. These jobs can include, for example, all of the performers, the ringmaster, clowns, animal trainers, roustabouts, costume designers, and lighting technicians.

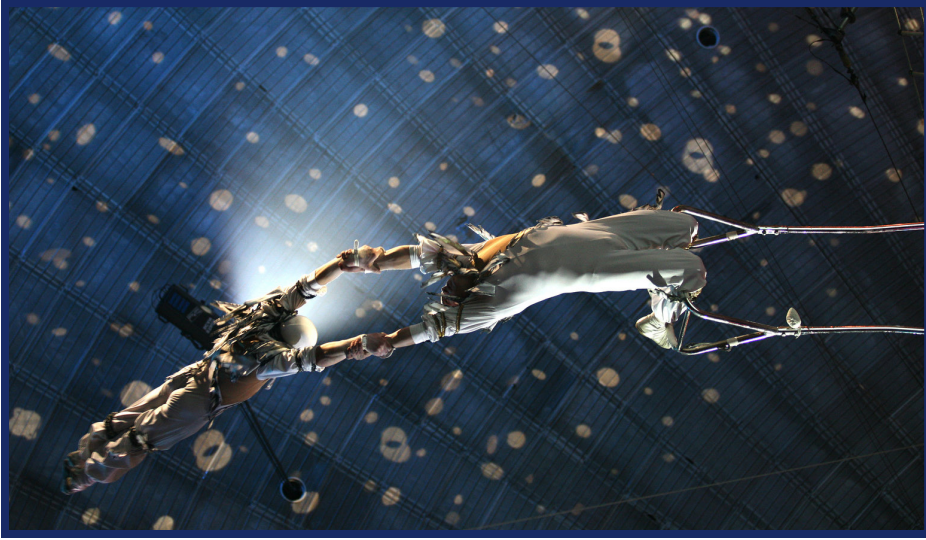
ACADEMIC STANDARDS

<p>Indiana Academic Standards Kindergarten-2 English Language Arts K.W.1, K.W.5; 1.W.1, 1.W.5; 2.W.1, 2.W.5 Social Studies K.4.2; K.4.3; 1.4.3; 2.4.3, 2.4.7; 3.4.4</p>	<p>Grades 3-5 English Language Arts 3.W.1, 3.W.5; 4.W.1, 4.W.5; 5.W.1, 5.W.5</p>
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Procedures

- ✦ Ask students to think about a time they worked together with other people as a team. What were they doing?
- ✦ Ask students if everyone on the team did the same thing or if there were different things for people to do.
- ✦ Ask: What would have happened if somebody didn't do what they were supposed to do?
- ✦ Explain that some activities take teams working together to accomplish and that each person on the team has their own role to play. If someone does not do what they are supposed to do, the whole team may fail to accomplish their goal.
- ✦ Have students think about the roles people play in their own school and community, such as teacher, principal, custodian, or cafeteria worker.
- ✦ Ask: What does each of these people do? How does what they do benefit the school and/or community? What would happen to the school if they did not perform their duties?
- ✦ Explain that these people are performing jobs to earn an income. If any one of these people did not perform his or her job, the school would not be able to operate like it should.
- ✦ Now, ask students to think about a circus and describe what it looks like. What happens at the circus?
- ✦ Ask students to discuss how things happen at the circus. Who might be involved in making things happen?
- ✦ Explain to students that it takes many people working together to operate a circus. Each of these people earns an income for performing specific services, just like the people who work at their school.
- ✦ Give students time to read about the circus and/or view images of the circus in photos or picture books.
- ✦ Ask them what kind of jobs they see. Examples might include performers, such as trapeze artist, tight rope walker, clown, or ringmaster.

LESSON 1



Top: Performers thrill audiences with daring displays of skill—both in the center ring and high above it. Trapeze artists swing through their routine. **Above:** A trick rider shows off his abilities on horseback.

- ✦ Distribute the Help Wanted handout on page 11 and have students use their research to complete the Help Wanted signs for the job they researched.
- ✦ Encourage students to use exciting language to make the jobs sound interesting enough to attract candidates. It is important to think about why someone would want to do this job.
 - ★ Is the job fun? Or exciting?
 - ★ Does the person doing this job get to help people? How?
- ✦ Once they are all complete, post the “Help Wanted” signs around the classroom so that students can learn about a variety of jobs in the circus.
- ✦ What are some of the **advantages** (good things) about working in the circus? What are some of the disadvantages?



Cole Bros. Circus—This full-color lithograph shows Harold Barnes on the high wire. The full text says, “Cole Bros. Circus” across top, and “Harold Barnes, World’s Greatest Somersaulting Juvenile Acrobat on the Tight Wire” on lower right, circa 1936.

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- ✦ Explain that there are jobs in the circus that they may never have even heard of.
- ✦ Ask them to think about some of the behind-the-scenes jobs that need to be done that they might not see. For example, is there a photo or illustration with a performer in a spotlight? Point out that someone needs to operate that spotlight.
- ✦ Have students pick a job from the circus, either from the list of jobs on page 11, or from a list generated by the class.
- ✦ Allow students time to research the details of a job they choose. Have students consider the following:
 - ★ What are the duties of this position?
 - ★ What skills are required to perform these duties?
 - ★ Does this job require working with any particular equipment?
 - ★ How much might the job pay?

HELP WANTED

★ JOB TITLE ★



LESSON 2



"Startling Skill," a montage of scenes depicting both male and female performers exhibiting a variety of rope walking and foot juggling feats.

LESSON 2: CIRCUS ART

The circus is a very visual experience from beginning to end, and using the arts to effectively enhance the viewing experience is important for the success of the performance. In this Lesson, students consider some of these artistic elements and how they contribute to the overall circus-going experience. They work in groups to use research, visual arts concepts, and language arts skills as they create and demonstrate circus posters and costumes designed to attract and awe an audience.

Objectives

Students will

- ★ Examine circus posters as an advertising medium and consider their visual impact
- ★ Analyze the use of exaggerated language on posters
- ★ Consider how words and other visual elements work together to create an emotion or send a message
- ★ Use what they have learned to create a circus poster designed to attract and excite viewers
- ★ Identify the purposes of circus costumes
- ★ Use mixed media and found objects to create images of circus costumes



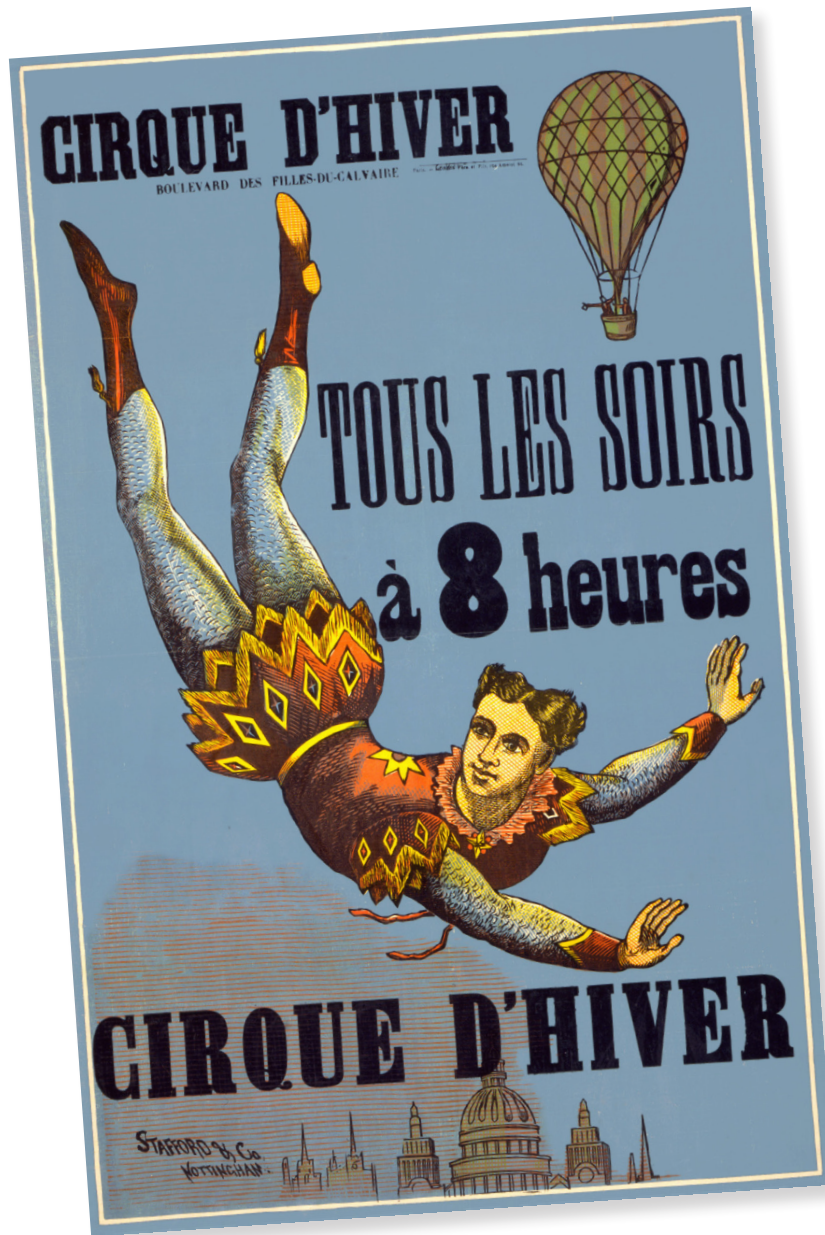
YOU WILL NEED

- ★ Access to circus poster images on page 25 or elsewhere
- ★ Paper
- ★ Writing and drawing utensils
- ★ Mixed media art materials: poster paper, pencils, crayons, markers, glue, scraps of colored paper, and small 3D decorations, such as feathers, sequins, etc.
- ★ Picture books, storybooks, and nonfiction books about the circus (K-2)
- ★ Fiction and nonfiction books (Grades 3-5)
- ★ Internet connection and selected websites (see Resources, page 28)

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A seamstress attaches sequins to a costume one-by-one.



ACADEMIC STANDARDS

Indiana Academic Standards

Kindergarten-2

English Language Arts

K.RV.1, K.ML.1; 1.RV.1, 1.RV.2.1, 1.ML.1;
2.RV.1, 2.RV.2.1, 2.RV.2.5, 2.ML.1;
3.RV.1, 3.RV.2.1, 3.RV.2.5, 3.ML.1

Visual Arts

K.1.2, K.1.3, K.5.1; 1.1.1, 1.5.1; 2.1.1,
2.5.1; 3.1.2

Grades 3-5

English Language Arts

4.RV.1, 4.RV.2.1, 4.RV.2.5, 4.RV.3.1,
4.ML.1; 5.RV.1, 5.RV.2.1, 5.RV.2.5,
5.RV.3.1, 5.ML.1

Visual Arts

3.6.3, 3.6.6, 3.7.1, 3.7.4, 4.1.2, 4.6.3,
4.6.5, 4.7.1, 5.1.6, 5.6.6, 5.7.1, 5.7.2

Procedures

- ✦ Ask students how they hear about special events in their communities. Answers will likely include commercials on TV, radio, or the web. Some might answer from their parents, so ask them how their parents find out.
- ✦ Ask students how things were advertised before the age of digital media.
- ✦ Help students understand that ads in print media were once a very important part of advertising, and remain so even today.
- ✦ Ask the students if they can remember seeing a picture or poster that made them feel excited or eager to learn more about the topic.
- ✦ Remind students about the nature of a traveling circus and the fact that the circus moved from city to city, never staying long in one place.
- ✦ Explain that circuses often used **posters** as a type of print media used to advertise their arrival in town and get people interested in seeing the show.

EXPERIENCE 1: GETTING THE WORD OUT

This experience focuses on the tradition of circus posters. Students learn about the importance of posters in the early days of the modern circus. Before television, before radio, and before social media, circuses had to rely on posters to get the word out about their performances. Students look at a selection of posters and examine the graphic design, the way artists use words, images, and other visual elements together in a poster to inspire interest in the circus.

Above: Poster for “Cirque d’Hiver” (winter circus) shows an aerialist floating with arms outstretched above a city skyline with a balloon in the background. Date between 1880 and 1900.

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LESSON 2

- ✦ Before the circus came to a town, it would send out “advance men” to start putting up posters and generating interest.
- ✦ Show students the examples of historic circus posters on page 25.
- ✦ Have students describe the images they see in the posters.
 - ★ What is happening in the image?
 - ★ How does the poster make you feel about the circus?
 - ★ What colors, shapes, and lines do you see? How are these elements organized to catch your attention?
 - ★ Does the image make you want to know more? Why?
 - ★ Why might it have been interesting to people in the past?
- ✦ Point out that circus posters are more than just exciting images. Ask students to identify what else is on the posters.
- ✦ Read aloud or have students read the advertisements on the posters.
 - ★ Help younger students identify context clues that can help them understand any unfamiliar words.
 - ★ Have older students guess at the meaning of any unfamiliar words based on the context clues in the poster and find definitions to see how close their guesses were.
- ✦ Many posters make use of **hyperbole**, or exaggerated language used for emphasis or to make a point. Can students find any examples of hyperbole?
- ✦ Ask students to think about the use of language on these posters.
 - ★ What is the purpose of these words?
 - ★ Are there words that invoke the senses or certain emotions?
 - ★ Do the words make the viewer want to see more? Why?
- ✦ Ask students to consider how these words and images work together in the posters to send a message to the viewer.



- ✦ Introduce the term **graphic design** and explain that students will now use words and images to design their own posters advertising an imaginary circus.
- ✦ First, allow students time to do some research on the circus. Have students use children’s books about the circus and look (under close supervision) at online photos taken at the circus. Instruct students to pay attention to details: Who or what is shown in the images? What colors, lines, shapes, and spaces do they see? What is the background like?
- ✦ Have students pick one visual image to inspire their poster. What image might make people want to see the circus? Do they want to show an exciting circus performance? What performers will they feature?
- ✦ Once students have picked the visual theme of their poster, have them write a sentence or two to advertise their circus. Encourage them to use colorful and grandiose language, just like the hyperbole used in the posters they studied.
- ✦ Have students consider what art elements, such as shapes, colors, and lines will make their artwork exciting.

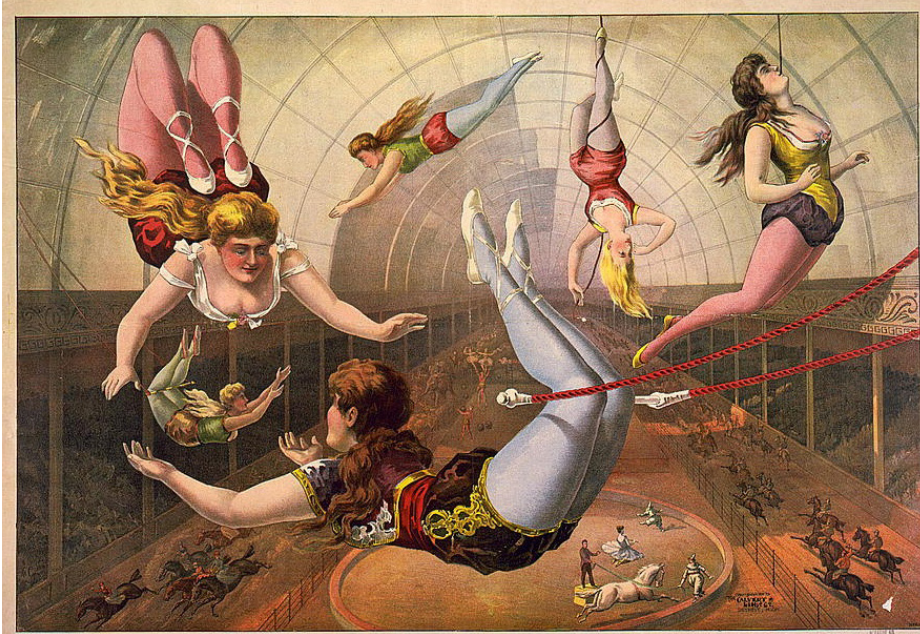
Ask how the words they have chosen will work together with other visual elements. Do they want to make certain words stand out? How?

- ✦ Once the posters are finished, hang them around the room. Allow students time to discuss their poster with the class and explain their artistic choices.



Above: Adam Forepaugh Circus, 1889, “Cleopatra’s Barge.” The poster advertises a float designed to be pulled by horses in a street parade. Portraits of Adam Forepaugh and Adam Forepaugh Jr. can be seen in the upper left corner.

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Procedures

Kindergarten–Grade 2: Three-Ring-Circus

- ✦ Return to the posters students examined in Lesson 1 and ask them to focus on the **costumes**. Help students identify the costumes different types of performers wear.
- ✦ Write the words *circus* and *costume* on the whiteboard and help students identify letters and syllables as they pronounce the words. Ask: Would you like to wear a circus costume? Which one would you like?
- ✦ Ask students if they have ever worn a costume. Ask students: What kind of a costume did you wear? Why did you wear it? How did wearing the costume make you feel?
- ✦ Follow up with a picture book, storybook, or nonfiction book with illustrations about the circus. Have students use illustrations and text to identify different performers and the types of costumes they wear. Students in Grades 1 and 2 should use text and text features to ask and answer questions and gather information.
- ✦ Use the whiteboard to make a list of the different types of performers students have identified. Read the list with students and discuss the costumes each person might wear.
- ✦ Help students identify special features of each costume and consider that circus costumes must be easy for the audience to see. For this reason, they may have bright colors or colors that contrast with the surroundings, like black or white. They might have special shapes or details, such as capes, plumes, or features that sparkle and catch the light. They might be beautiful or funny to please and entertain the audience.

EXPERIENCE 2: LOOKING THE PART

Costumes are an important part of the circus performance, adding beauty and drama to the spectacle, but there are many practical considerations that must be taken into account as well. In this experience, students compare and contrast costumes designed for different performers, such as a ringmaster, trapeze artist, or clown. Students research the physical needs of different types of performers as well as the visual messages performers intend to convey to the audience. They use visual arts and language arts skills to create an exhibit of their own costume designs and present it to an audience.

Above: Poster from the 1890s of aerialists in the circus.

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ACADEMIC STANDARDS

Indiana Academic Standards Kindergarten–Grade 2

English Language Arts

K.RL.2.1, K.RL.2.3, K.RL.4.1, K.RV. 3.1, K.RV.3.2, K.SL.2.3, K.SL.4.1; 1.RL.4.1, 1.RV.2.2, 1.RV.3.2, 1.SL.2.1; 2.RL. 4.1, 2.RN.3.1, 2.RV.2.1, 2.RV.3.2, 2.W.5, 2.SL.1

Visual Arts

K.1.2, K.1.4, K.1.5, K.7.1, K.7.2, K.7.3; 1.1.2, 1.5.2, 1.6.4, 1.6.5, 1.7.1; 2.1.1, 2.5.1, 2.6.4, 2.7.1, 2.7.2, 2.7.4

Grades 3–5

English Language Arts

3.RL.2.1, 3.RL.4.1, 3.RN.2.1, 3.RN.3.1, 3.RV.2.1, 3.RV.3.2, 3.W.5; 4.RF.1, 4.RL.2.1, 4.RN.1, 4.RV.3.1, 4.2.3.2, 4.SL.1, 4.SL.2.1, 4.SL.2.2; 5.SL.2.2, 5.RV.2.2, 5.RV.3.1, 5.W.3.2, 5.W.5

Visual Arts

3.1.2, 3.4.1, 3.7.1, 3.7.2, 3.7.4; 4.1.2, 4.7.1, 4.7.2, 4.7.4; 5.1.5, 5.1.7, 5.4.1, 5.7.1, 5.7.2, 5.7.4

DRESSED TO THRILL

For a performer, wearing a beautiful or unique costume is one of the greatest pleasures in being part of the circus! Many performers design and sometimes even make their own costumes or work with a designer who travels with the circus and creates and maintains the costumes for all the performers. The bright colors and imaginative designs of costumes serve to thrill and delight the audience. They focus attention on the act and enhance the dramatic effect. At the same time costumes must be durable and allow performers a wide range of movement.



- ★ Have students identify and mimic the different kinds of movements, such as walking a tight rope, or juggling objects, that each of these performers makes as they do a circus act. Ask students how this influences the kind of costumes performers wear.
- ★ Provide mixed media materials, such as poster paper, pencils, crayons, scraps of colored paper, and small found objects, such as feathers and sequins, to add texture and 3D features to drawings.
- ★ Allow students to select a performer and design a costume that would allow him or her to move freely and enhance the performance.
- ★ After students finish the design, have them share their work in a three-ring-circus. Establish three areas where students can sit in a circle and discuss their work with peers.

- ★ All students should be able to identify the performer they have chosen, describe colors, lines, shapes, and materials they used, and explain how different features of the costume allow the performer to move and carry out his or her circus act.
- ★ Ask students: How would the audience react to the costume? Students should be able to discuss how the costume would make an impression on the audience.
- ★ After students debrief in the three small groups, help them label their artworks and create a display. This might be an opportunity for students to invite another class or parents to visit so they can discuss their work with a larger audience.

Grade 3-5: The World-Famous Circus

- ★ Ask students if they have ever worn a costume. Ask: Why did you wear it? How did wearing the costume make you feel? What kind of reaction did you get from other people?

- ★ Ask: What is a costume? What is the purpose of a costume? How is it different from a **uniform**? Help students develop definitions of both words and understand their different purposes.
- ★ Remind students of the circus posters they examined in **Lesson 1** and ask them to focus on the different types of historical costumes they noticed. Have they seen more modern circus costumes? How are they different and similar? Why do circus performers wear costumes?
- ★ Help students understand the importance of costumes in focusing the attention of the audience and in highlighting the glamor and drama of the circus.
- ★ Place students in groups of 5 or 6 students. Each group will be a design team for a small circus that wants to become the most famous circus in the world.
- ★ Each member of the team represents a group of performers, such as tumblers, acrobats, trapeze artists, etc.

- ★ Remind students about what they learned about hyperbole in Lesson 1. Ask students to discuss the exaggerated language and images used in historical posters. Each group can use this information to meet two goals: 1) Come up with an amazing name for their circus; and 2) Design the most imaginative and spectacular but practical costumes for their performers.
- ★ Set up research areas where groups can access the Internet and both fiction and nonfiction books. Students will need to research the work of different types of performers in order to understand the kind of training they do and the physical movements required during a performance.
- ★ Each student will summarize his or her research by writing a brief nonfiction piece about the performer he or she represents in the group. Each student should describe the type of performance they do and the type of training and skills they need for that performance.
- ★ Students will use their research as they design a costume to meet the performer's needs. Students will need to consider the practical as well as the visual aspects of the costume.
- ★ Each group will brainstorm as a team to determine how the costumes should help their circus become popular and live up to its name.
- ★ Keeping this goal in mind, each student will use poster paper and other mixed media art materials to design a costume for the performer he or she has chosen.
- ★ After costume designs are created, each team will present its work to the rest of the class and make the case that their costumes will help make their circus "world-famous."



WHAT IS A COSTUME?

Clothing can be a form of communication, and costumes, as well as other types of dress, are designed to send a message both to the people who wear them and to others. A costume may represent a particular character, historical time, place, activity, or event. This helps the person wearing the costume feel at home in the role he or she is playing. It helps the viewers imagine they are experiencing a different reality. A costume often includes a degree of exaggeration to help make a point. It may indicate a shift in perspective from the ordinary to the unusual or extraordinary. One of the major purposes of a costume is to create an illusion.

Uniforms, on the other hand, have a very different purpose. Uniforms have a distinctive design and color and are worn by a group of people in order to identify them as being a part of that group. The practicality of a uniform is easy to see. It is important for sports teams, soldiers, police officers, and firefighters to be able to identify each other and for members of the public to be able to recognize them easily. The uniform may also help give the people in that group a sense of belonging and team spirit. Uniforms are also intended to allow freedom of movement and, in some cases, to provide protection for people doing certain types of work. Of course it's possible to wear a uniform as a costume if you are playing the role of a certain type of worker. Just don't try to impersonate a police officer. It's against the law!

LESSON 3



THIS WORK IS IN THE U.S. PUBLIC DOMAIN

Hal Silvers riding a unicycle on the tightwire in a circus backyard. Al G. Barnes Circus, circa 1936. Photographer: H. A. Atwell

YOU WILL NEED

(per group)

- ★ 2 forks
- ★ 1 toothpick
- ★ pencils, pens, rulers
- ★ 1 yardstick or dowel rod (2 for Grades 3-5)
- ★ 2 strings of same length (4 for Grades 3-5)
- ★ 1 pencil (2 of same length for Grade 3-5)
- ★ Play dough or putty

LESSON 3: CIRCUS SCIENCE

No circus is complete without displays of death-defying stunts and amazing skills. All of these acts involve amazing feats of physics that make them possible. In this Lesson, students learn about the physics principles behind some of the most iconic circus acts under the Big Top.

Objectives

Students will

- ★ Explore the physics behind some classic circus acts
- ★ Explain what center of gravity is
- ★ Demonstrate how altering center of gravity affects balance
- ★ Identify potential versus kinetic energy
- ★ Experiment with potential and kinetic energy

VOCABULARY

balance

gravity

kinetic energy

potential energy





- ✦ Explain that for this trick, among other popular circus acts, the performer must rely on his or her ability to balance.
- ✦ Ask students if they have heard the term **balance** before. What does it mean to balance?
- ✦ Explain that balancing is basically the ability to remain upright. Can students think of any activities they enjoy that require balance? Answers can include walking, running, walking a balance beam, riding a bicycle, riding a skateboard, etc.
- ✦ How does balance work? Explain that balance depends on **gravity**.
- ✦ Explain that gravity is the force pulling all things downward. In order for something to stay balanced, its average weight, known as the **center of gravity**, must remain centered over its base.
- ✦ Help students understand that all objects (and people) have what is called a center of gravity—a point where their mass is equally distributed around it. A young person who is standing, for example, tends to have a center of gravity slightly above the waist, because there is generally more weight above the waist than below it. Sitting, crouching, or kneeling pushes the center of gravity lower, making it easier to remain balanced.
- ✦ Explain that the class is going to conduct an investigation into balance and how balance and unbalanced forces affect motion.
- ✦ Have students stand up for a demonstration.
- ✦ Ask students to stand with their feet spread apart and arms at their sides. Do they feel stable and well balanced? How likely are they to fall over? Explain that when balanced, the force of gravity pulls straight down and they do not move.
- ✦ Have students lean to the left or right as far as they can. At some point, they will lose their balance and begin to fall, but they should stop themselves.

EXPERIENCE 1: BALANCING ACT

Walking the tightrope, walking on stilts, and balancing on the rolla bolla, the perch, and the rolling globe are all circus acts that rely on flawless balance to achieve the seemingly impossible. These performers pull off their daring feats with such grace and apparent ease, it astonishes audiences. How do they do it? In this experience, student will learn about mass and the center of gravity as it applies to these amazing circus performances.

ACADEMIC STANDARDS

Indiana Academic Standards Kindergarten-2

Science and Engineering Process Standards
SEPS.1, SEPS.6, SEPS.8

Science
3.PS.1

Grades 3-5

Science and Engineering Process Standards
SEPS.1, SEPS.6, SEPS.8

- ✦ Read students a book about tightrope walking, such as the book *The Man Who Walked Between the Towers* by Mordicai Gerstein. Explain that although the man in this book is not in the circus, he is practicing a popular skill from the circus.
- ✦ Ask students what this book makes them wonder about tightrope walking. For example:
 - ★ What is it like to walk a tightrope?
 - ★ How is it possible?
 - ★ Why would someone do that?
- ✦ Explain that in this experience, students will learn more about walking the tightrope in the circus.
- ✦ Give students an opportunity to watch a video of such a performance. There are many videos available online using search terms like "tightrope walking" or "circus tightrope."
- ✦ Have students describe what they see.
- ✦ Ask students how the performer is able to stay on the narrow rope.

Procedures

- ✦ Ask students if they have ever seen or heard of someone walking a tightrope or performing a high-wire act. Ask them to describe what they know or what they have seen.

LESSON 3

- ★ Ask students: What happened?
- ★ Have students identify their “base” (their feet) and their center of gravity (the point just below the waist).
- ★ Students should try the experiment again. Where is their center of gravity when they start to lose their balance? Help students understand that they lose their balance when their center of gravity is no longer over their base. At this point, the forces acting on their body become unbalanced. Their center of gravity is pulled toward the floor, but not over their base, causing them to move.
- ★ Have students try the experiment again with their feet close together, instead of spread apart.
- ★ Ask: Were they able to lean as far without losing their balance? Why not?
- ★ Help students understand that the smaller the base of support, the harder it is to keep the center of gravity directly above the base.
- ★ Students should think back to the video of the tightrope walker. What was their base like? Wide or narrow?
- ★ Ask students how the very narrow base of the tightrope might affect the performer’s balance.

Grades K-2

- ★ This time, have students stand on one foot, arms held tight to their sides. How long can they stay balanced before they need to put their other foot down? Note that their center of gravity remains the same, but their base of support is much smaller.
- ★ Ask students what happened. Note that they were not able to stand for long before losing their balance. How do tightrope walkers do it?
- ★ Have them watch the video again. What does the performer do with his or her arms?
- ★ Students should observe that the performer’s arms are spread out and they may be carrying something.

- ★ Have students stand on one foot again, but this time they should hold their arms out to the sides.
- ★ What happened this time?
- ★ Students should have been able to hold their balance longer with their arms out, perhaps swaying a little to help keep their balance.
- ★ Explain that extending their arms is a way of spreading out their weight, which lowers the center of gravity. When tightrope walkers hold poles and other props, with the added weight held below their natural center of gravity, it lowers the center even more. A lower center of gravity is easier to keep balanced over a narrow base.

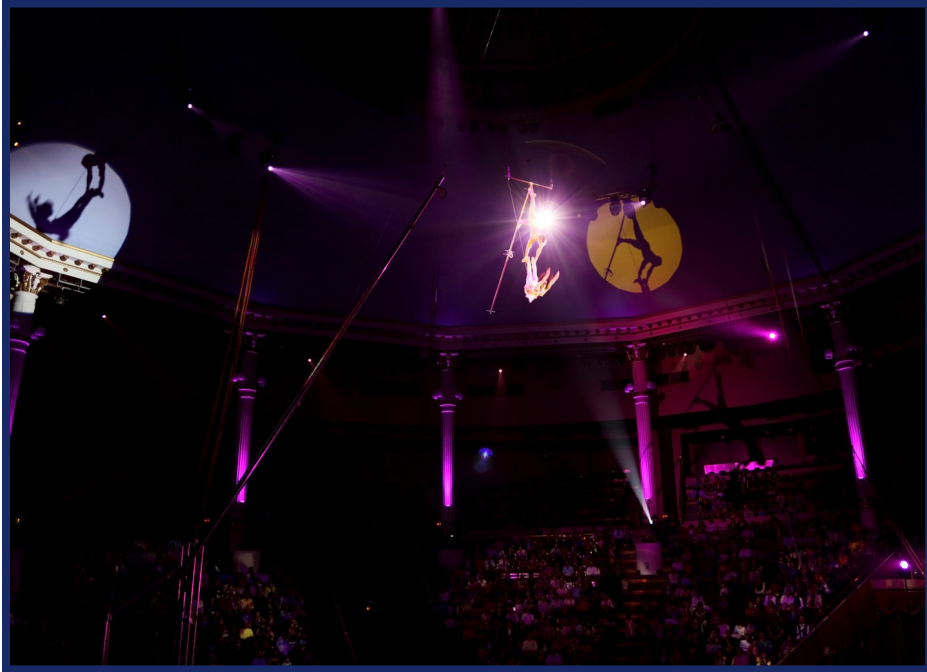
Extension

Have students conduct a contest to see who can balance on one foot the longest. Observe what the winner does to stay upright. The winner will likely hold his or her arms out and sway back and forth as their body makes little adjustments to keep their center of gravity above their base.

Grades 3-5

- ★ Have students experiment with finding the center of gravity of ordinary objects, like pencils, pens, and rulers, by balancing them on one fingertip.
- ★ The ruler should be the easiest to balance. A 12-inch ruler should have a center of gravity at 6 inches, since half the ruler will be on one side, and half on the other. Pencils will be a little more difficult, as the eraser end will weigh more than the tip end, moving the center of gravity toward the eraser and away from the physical center.
- ★ Have students draw a diagram representing each object, indicating the balance point, or center of gravity, of each.
- ★ Add a small ball of play dough or putty to the end of the pencil. How does this affect the center of gravity?
- ★ Students should draw a diagram the pencil with the putty, indicating the center of gravity.

- ★ Ask students to discuss what they see in their diagrams. What can they describe about the center of gravity of these objects?
- ★ Once students are confident about finding the center of gravity on long, easy to balance objects, ask them to balance the tip of a toothpick on their fingertip. (See page 27 for a visual reference.)
- ★ Students will observe that the tip of the toothpick will not balance. Why not?
- ★ Explain that the center of gravity is in the middle of the toothpick, and the tip of the toothpick is too small of a base to balance it on. In this way, it is kind of like a tightrope walker trying to balance on the narrow base of the rope.
- ★ Give students two forks.
- ★ Have students intertwine the tines on the forks so that the forks make a rough “L” shape.
- ★ Students should insert the toothpick into the center of the intertwined tines.
- ★ Students should balance the tip of the toothpick on their fingertip again, with the handles of the forks on either side of their finger.
- ★ Have students adjust the angle of the forks until the tip of the toothpick and the forks balance on their finger. This may take a few minutes and several attempts.
- ★ Ask: How is this possible?
- ★ Explain that the forks spread out the mass of the toothpick and the added weight of the forks help lower the center of gravity over the base. The center of gravity now rests on the tip of the toothpick, so it is able to balance.
- ★ Show students the video of the tightrope walker again.
- ★ What does the performer do to lower his or her center of gravity? Students should observe that the performer spreads his or her arms to the side and possibly uses a prop like a long pole bent down on the ends to drop the center of gravity, making it easier to balance on the narrow base of the rope.



Procedures

- ✦ Ask students if they have ever seen a trapeze act performed before.
- ✦ Have them describe what they remember.
- ✦ Show students a video of a trapeze performance. There are many videos available online.
- ✦ Have students describe the motion of the trapeze and the performers. The trapeze swings like a pendulum, back and forth.

Grades K-2

- ✦ Explain to students that they are going to be conducting an investigation into the movement of the trapeze. Understanding these movements is very important for the performer.
- ✦ Divide students into groups of 4 or 5.
- ✦ Give each group a ruler or dowel rod, two strings of equal length and a pencil, and help them create a model of a trapeze using the diagram on page 23. If supplies are limited, you can create one model and set it up for the whole class to see.
- ✦ Have students pull the pencil swing back and release it.
- ✦ Have students describe what happens.
- ✦ Next, have students draw the swing back and use a measuring tool to mark the height of the swing before it is released.
- ✦ Instruct students to watch carefully as the model trapeze swings. Does it swing back as high as it started?
- ✦ Have groups conduct 3 more trials, making observations as they raise the swing, marking its starting height and seeing how far the model comes on the return swing. Does it ever return to the starting height?
- ✦ Ask students: What happens if you let the model swing? It eventually stops.

EXPERIENCE 2: FLYING THROUGH THE AIR

No circus is complete without a performance on the flying trapeze. Acrobats swing high above the ring, jumping from one trapeze bar to the next, tossing each other and somersaulting through the air. These death-defying displays of grace and endurance would not be possible without a lot of science and many years of practice. In this experience, students learn about the science that makes a trapeze act possible. Students will learn about potential and kinetic energy and the pendulum-like swing of the trapeze.

Above: Caption

ACADEMIC STANDARDS

Indiana Academic Standards Kindergarten-2

Science and Engineering Process
Standards

SEPS.1, SEPS.2, SEPS.6, SEPS.8; K.PS.3

Physical Education
K.1.2; 1.1.2; 2.1.2

Grades 3-5

Science and Engineering Process
Standards

SEPS.1, SEPS.2, SEPS.6, SEPS.8; K.PS.3

Science
4.PS.4

Trapeze Trivia

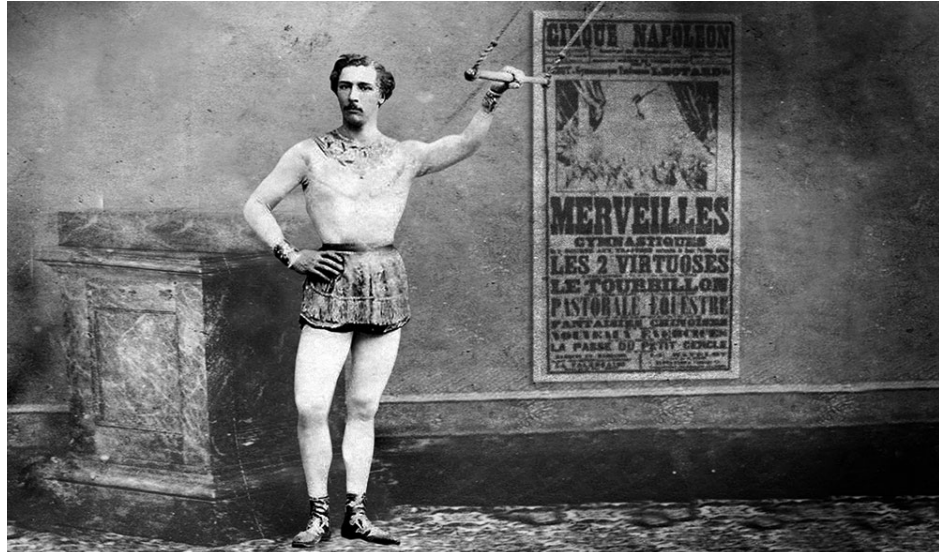
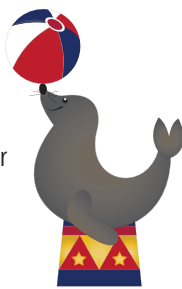
The three main types of trapeze performances are stationary, swinging, and flying trapeze.

- ✦ In stationary trapeze, the performer moves around a hanging trapeze bar without moving it. These performances are almost like a dance, with the artist displaying grace and flair.
- ✦ In swinging trapeze, the performer starts in a seated position and builds momentum to perform tricks.
- ✦ Flying trapeze is what people often think of when they think "trapeze." In this type of performance, the artist jumps off of a platform and uses that momentum to perform tricks. The artist is often caught by another performer on a second swinging trapeze.

- ★ Ask students if they have any ideas why that might happen.
- ★ Have students observe the pattern of the swing's motion. Students should observe that the swing moves in a curve pattern, slowing down with each pass until it eventually stops.
- ★ Ask students to think back to the video of the trapeze performance or show the video again.
- ★ Does the trapeze swing the same way as it did in their model, losing energy until it stops?
- ★ Have students think about what is different in the video.
- ★ Point out that the performer is doing things to keep the trapeze moving.
- ★ Ask students: What could they do to keep the trapeze moving?
- ★ Explain that the speed and motion of an object can be changed by adding energy by pushing or pulling on it. In this case, the performer adds energy to the trapeze with their body movements, so it is not left to swing and lose energy until it stops, like the model.
- ★ Ask students if they have ever swung on a swing in the playground before. How do they get the swing moving higher? They pump their legs! Point out that the performers do the same thing to change the speed of the swing.

Extending activity:

If you have access to a playground, take the students outside and let them take turns on the swing. Encourage them to try different movements on the swing (like pumping their legs, leaning back, pumping their legs while leaning back) to make it move like the trapeze artists do.



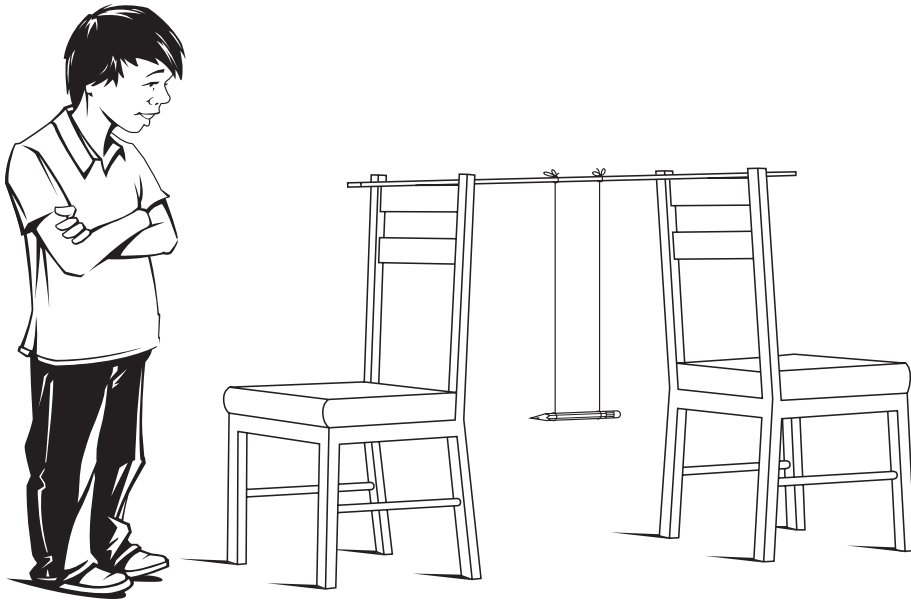
That Daring Young Man on the Flying Trapeze

The young French acrobat Jules Léotard invented the art of the flying trapeze in the 1850s. His father operated a gymnasium with a large pool. Jules got the idea of performing his acrobatics on moving bars and practiced over the swimming pool for safety. He later joined the *Cirque Napoleon* and his act brought him great fame. He was the inspiration for the song "The (Man on the) Flying Trapeze." This 19th-century aerial artist discovered that a close-fitting body stocking allowed him freedom of movement and reduced aerodynamic drag. These garments became known as leotards and are now worn by a variety of athletes, including dancers and gymnasts.

Grades 3-5

- ★ Do students notice that the different trapeze bars swing at different rates? Why might this be? There are numerous possible answers to this, including the fact that the trapeze swings are hung on different lengths of wire, that different performers will raise the bar to different heights before releasing it or swing it with lesser or greater force.
- ★ Point out that even though they swing at different speeds, they need to match up and meet in the middle for the tricks to work.
- ★ Ask students what happens if the timing is off and the trapeze bars do not meet in the middle?
- ★ Tell students that they are going to conduct an experiment on types of energy: **potential** and **kinetic energy**.
- ★ Explain that potential energy is stored energy created by the position of the bar—the higher up it is raised, the more potential energy the trapeze has. Kinetic energy is the energy of motion. When the trapeze is released, it has kinetic energy as it swings.
- ★ Divide the class into groups of 4 or 5 students.
- ★ Give each group two rulers or dowel rods, 4 strings of equal length and two pencils, and help them create 2 models of a trapeze using the diagram on page 23. If supplies are limited, you can create one set of models and set it up for the whole class to see.

LESSON 3



- ★ Secure the models using the back of chairs or something similar, placing them at such a distance that the two pencils meet when fully extended toward each other.
- ★ Instruct the students to first raise each model trapeze to the same height opposite one another using a measuring tool to verify the height and release at the same time. The two pencils should meet more or less in the middle.
- ★ Ask students why they think the two pencils met in the middle. Both pencils had the same amount of potential energy because they were raised to the same height, their potential energy became the same amount of kinetic energy as they began to move, and they had to travel the same distance because the wires are the same length. Thus they arrived at the same time.
- ★ Next, raise the pencils to different heights and release.
- ★ Ask: What happened? Why did they not meet in the middle?

- ★ Now, have teams try the experiment again with a variation. Have half the class shorten the strings of one model trapeze and reposition the two models so that the two pencils meet when fully extended. Have the other half of the class add clay or putty to the center of one pencil to change the weight.
- ★ Teams should again raise their pencils to the same height and release at the same time.
- ★ Ask: What happened? Why did they not meet in the middle?
- ★ Note that this is a challenge faced by trapeze artists.
- ★ Ask students what can be done to make the pencils meet in the middle. What factors can students change? For example, they can change the timing of when they release the second pencil, delaying the use of kinetic energy, or the height from which they release it, changing the amount of potential energy.
- ★ Allow groups time to experiment. Teams should record each trial, what factor they changed and the outcome.

- ★ Once teams are successful, have them repeat the trial three times to verify the results.
- ★ Have groups report their results and their conclusions.



Extending activity:

If you have access to a playground, take the students outside and let them take turns on the swing. Encourage them to sync their swinging with another student swinging next to them. Is it easy or difficult? What factors did they need to change to be successful?

CULMINATING EXPERIENCE



CULMINATING EXPERIENCE: CREATE YOUR OWN CIRCUS

In this culminating experience, students can use what they have learned to create and present their own circus. Each student will take on a job, perhaps one from the Help Wanted ads created in Lesson 1, either as a performer or behind the scenes. Students will create posters to advertise their circus and costumes to add to the visual spectacle. Student performers will demonstrate their “acts” for the audience.

Procedures

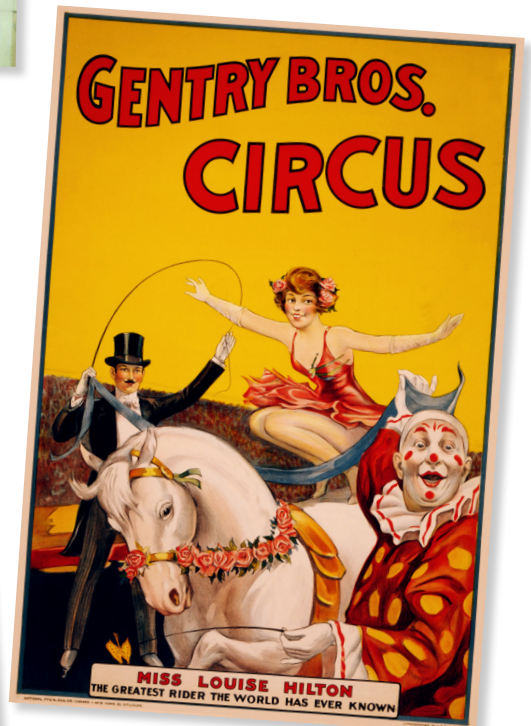
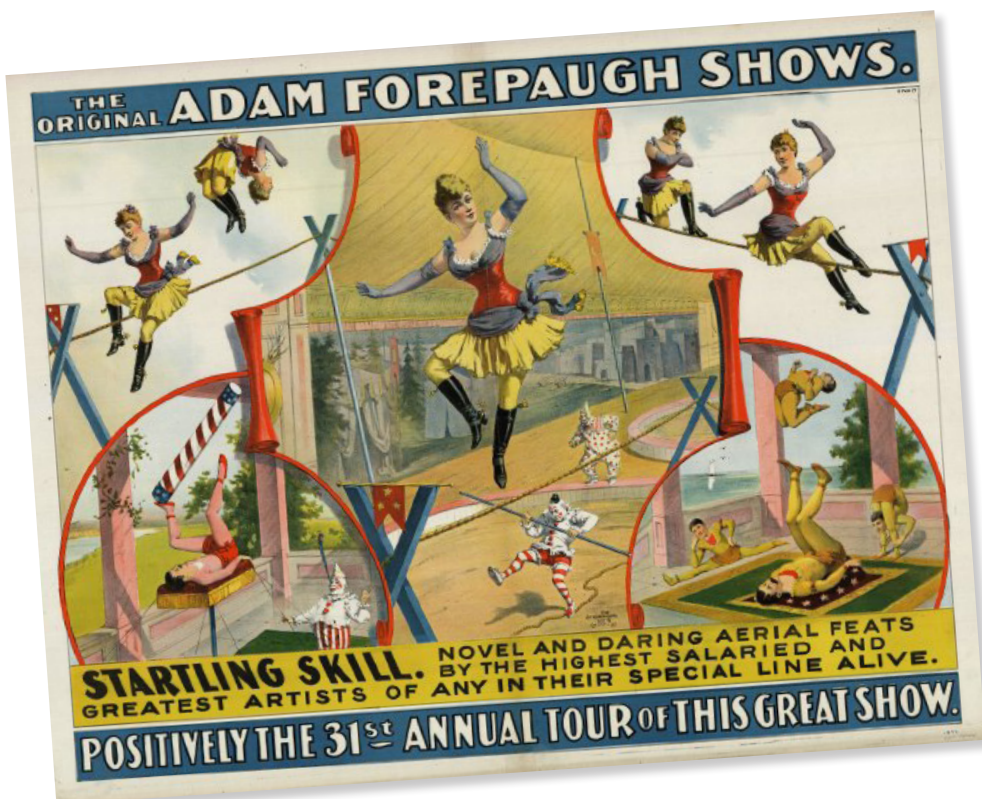
- ★ Explain to the class that they will get to put together their own “circus” for an audience at their school.
- ★ The first step, like with any circus, is to evaluate their resources and start making plans.
- ★ The class will not have a Big Top tent to perform in, so they will need to determine what space they do have available. This could be your classroom, the cafeteria or gymnasium, or an outdoor space.
- ★ Next, evaluate the class resources for performers. Does anyone in the class have any particular skills? Does anyone juggle? Do gymnastics? Dance? Ride a skateboard? Do magic tricks? Is anyone particularly funny?
- ★ Let students be creative in developing their acts. Encourage them to use real circus acts as inspiration, but be sure that what they choose can be done safely. For example, students may not be trained to perform on a lyra (aerial hoop), but they might be able to perform using a hula hoop. Students cannot walk a tight rope, but they may be able to use a balance beam or even walk along a tape line on the floor without stepping off, or demonstrate good balance by balancing books on their head as they walk across the room.
- ★ Once performers are picked and you have your acts identified, it is time to find job assignments for the rest of the class. Who will be the ringmaster? Who will work the spotlight (perhaps a flashlight)? Who will be responsible for advertising and finding an audience (these are the “advance men”)? Who will be responsible for costumes? Makeup? For inspiration, have students think back to the jobs they explored in Lesson 1 Experience 2.

- ★ Have the class create posters to advertise their circus around the school. These posters should focus on the acts featured in their circus and should use hyperbolic (exaggerated) language to increase interest in their circus, like the posters they learned about in Lesson 2 Experience 1.
- ★ Each performer should prepare to wear some kind of costume. These costumes can be designed by a costume designer(s), if that role has been assigned, or by the performers themselves. The quality of the costumes will depend on the resources and abilities of the class. They could be as simple as construction paper creations.
- ★ The class will need to decide on the order of performances and work out the details of the event together.
- ★ Once preparations are complete, the class will need to work together to succeed in their circus performance, just like the employees of a real circus work together to produce a show to thrill and entertain visitors of all ages.

RESOURCES

IMAGE REFERENCES

Circus Posters



GLOSSARY



advantage: A circumstance or opportunity that is favorable to success, such as a lower center of gravity over a narrow base.

balance: An even distribution of weight that enables someone or something to remain upright and steady, such as a circus performer walking a tightrope.

circus: A traveling company of acrobats, animals, and other entertainment typically performed inside a large round tent, or Big Top.

costume: A special outfit worn to create the appearance characteristics of a particular person, place, or thing, such as a circus clown.

equestrian: A circus performer or other athlete who rides on horseback; anything related to horse riding.

graphic design: The art or skill of combining words and images to convey ideas or information to the viewer.

gravity: The force that attracts a body toward the center of the earth or toward any other physical object having mass.

hyperbole: Exaggerated claims not meant to be taken literally but that may attract attention.

kinetic energy: Energy that a person or object possesses because of its motion.

lithograph: An artwork made by using acid to etch a design or image on a stone or metal plate. After color is applied, prints can be made on a printing press.

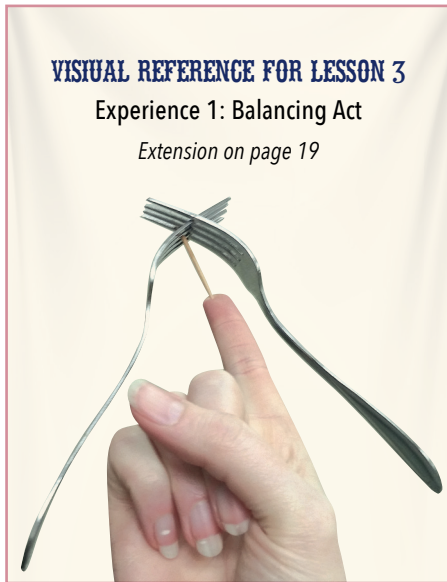
menagerie: A collection of wild animals kept in captivity for exhibition and/or performance.

poster: A large printed photo or illustration with words added, used for decoration and advertising.

potential energy: Stored energy that a person or object possesses because of its position relative to some other person or object.

uniform: A distinctive outfit worn by members of the same group, such as police officers or firefighters.

IMAGE REFERENCE



NONFICTION BOOKS FOR STUDENTS

Bontinck, Helga. *At the Circus.*

Milwaukee, WI: Gareth Stevens, 2006.

Learn to draw nine different circus animals and objects in three simple steps! The colorful illustrations are easy to follow and focus on the main shapes that can be combined to create a final drawing of a happy clown, a skillful seal, a circus wagon, and other Big Top favorites. Suitable for Grades K through 3.

Granfield, Linda. *Circus: An Album.* **New York: DK Ink, 1998.**

How did the Big Top we know today get its start? Follow the evolution of the circus from ancient Egypt and Greece to medieval street performers to P. T. Barnum. Grades 3 through 5 can use this history book for research reports while all ages can enjoy the circus posters and other colorful illustrations.

Levinson, Cynthia. *Watch Out for Flying Kids! How Two Circuses, Two Countries, and Nine Kids Confront Conflict and Build Community.* **Atlanta: Peachtree Publishers, 2015.**

Explore the world of young circus entertainers who perform remarkable acts on a professional level. The author follows participants of two circuses that sometimes work together: Circus Harmony, in St. Louis, whose participants are inner-city and suburban kids, and Circus Galilee in Israel, whose participants are Jews and Arabs. As the kids' relationships evolve over time, the members learn how to overcome assumptions, animosity, and obstacles both physical and personal. This big book is densely packed with information that adults can help interpret, but the colorful photos are inspiring for all ages.

Meinking, Mary. *Who Walks the Tightrope? Working at a Circus.* **Chicago: Raintree, 2011.**

Go behind the scenes at a circus to meet the workers and performers and learn the importance of collaboration to meet team goals. This brief but illustrated book is suitable for Grades K through 5.

Nobleman, Marc Tyler. *Contortionists and Cannons: An Acrobatic Look at the Circus.* **Chicago: Raintree, 2011.**

How did circuses get their start? How do early circus acts compare to what happens under the big top today? Grades K through 5 can learn about the history of circus performance in this brief but illustrated overview.

Royston, Angela. *Circus Performer.* **Chicago: Heinemann Library, 2014.**

Kindergarten through Grade 2 will enjoy the color photographs that are highlighted with vocabulary words in a big font. Grades 3 through 5 can read the short text passages, which clearly describe the details of circus life, including rehearsing, choosing a costume, and performing for an audience.

Turnbull, Stephanie. *Circus Skills.* **Mankato, MN: Smart Apple Media, 2013.**

A practical and fun introduction to the various skills circus performers need in order to put on an exciting show, this book includes step-by-step instructions for basic tricks, stunts, and performances such as juggling, plate spinning, tumbling, acrobatics, and clown costumes and acts. The text is suitable for readers in Grades 3 through 5.

WEBSITES FOR TEACHERS

Some sites may be suitable for students with supervision. Please preview these before sharing them to make sure they are appropriate for your students.

Circus4Youth: Circus Fans Association of America created a site to promote circus history and skills to young students. Read articles and see photos and videos of contemporary young people in traditional and cutting-edge circus acts.
<http://circus4youth.us/>

What happens to your body when you walk on a tightrope? According to a magazine writer, tightrope walking is a science as well as an art. Learn more about the amazing skill from people who teach it: <http://www.smithsonianmag.com/science-nature/what-happens-your-body-when-you-walk-tightrope-180956897/>

'One big family': A woman born into the 12th generation of a circus family describes her unusual childhood. She never lived in one place very long and didn't get a normal education, although she speaks many languages fluently because of all her travels. She's happy that her daughter is already following the same artistic lifestyle as a circus performer. <http://www.independent.co.uk/life-style/health-and-families/features/circus-life-it-was-chaotic-but-we-were-one-big-family-8145009.html>

This family DOES live in a circus! Dad is a lion tamer and Mom hangs by her hair in the aerial ballet with Ringling Bros. and Barnum & Bailey circus, and they say their children learn a lot from traveling to many cities and meeting workers from other countries. http://www.cnn.com/2009/LIVING/wayoflife/01/25/circus.family.life/index.html?eref=rss_us

Life in the Circus: Go inside a family-run circus outside of Mexico City to see what it's like to live and work there. <http://video.nationalgeographic.com/video/circus-life-ainsworth-yeg>

Home is where the train is: About 250 circus workers live year-round in apartments aboard the Ringling Bros. and Barnum & Bailey train as it travels from one venue to another. The children have their own teacher and day care on board. <http://www.nytimes.com/2009/04/11/nyregion/11metjournal.html>

Circopedia: The Big Apple Circus, founded in 1977 and currently in bankruptcy proceedings, sponsors this archive of international circus information, including oral histories, famous acts, performer biographies, photos, videos, and posters. http://www.circopedia.org/index.php/Main_Page

Circus posters depict star performers and acts in order to entice new audiences, and old photos document the wagons, living quarters, animals, acts, and other elements of circus life. Image collections are available online, including from:

Indiana Historical Society
<http://images.indianahistory.org/cdm/search/searchterm/circus/order/title>

Library of Congress <http://www.loc.gov/pictures/search/?q=circus%20posters%20american&sg=true>

New York Public Library
<https://digitalcollections.nypl.org/search/>

INDIANA ACADEMIC STANDARDS

English Language Arts

Kindergarten

Reading: Literature

- K.RL.1 Actively engage in group reading activities with purpose and understanding.
- K.RL.2.1 With support, ask and answer questions about main topics and key details in a text heard or read
- K.RL.2.3 Identify important elements of the text (e.g. characters, settings, or events).
- K.RL.4.1 Use illustrations and details in a story to describe its characters, setting, or events.

Reading: Vocabulary

- K.RV.1 Use words, phrases, and strategies acquired through conversations, reading and being read to, and responding to literature and nonfiction texts to build and apply vocabulary.
- K.RV.3.1 With support, ask and answer questions about unknown words in stories, poems, or songs.
- K.RV.3.2 With support, ask and answer questions about unknown words in a nonfiction text.

Writing

- K.W.1 Write for specific purposes and audiences.
- K.W.5 With support, build understanding of a topic using various sources.

Speaking and Listening

- K.SL.2.1 Participate in collaborative conversations about grade-appropriate topics and texts with peers and adults in small and larger groups.
- K.SL.2.3 Listen to others, take turns speaking, and add one's own ideas to small group discussions or tasks.
- K.SL.4.1 Speaking audibly, recite poems, rhymes, and songs, and use complete sentences to describe familiar people, places, things, and events and, with support, provide additional details.

Media Literacy

- K.ML.1 Recognize various types of media.

Grade 1

Reading: Literature

- 1.RL.1 With support, read and comprehend literature that is grade appropriate
- 1.RL.2.1 Ask and answer questions about main ideas, and key details in a text
- 1.RL.4.1 Use illustrations and details in a story to describe its characters, setting, or events.

Reading: Vocabulary

- 1.RV.1 Use words, phrases, and strategies acquired through conversations, reading and being read to, and responding to literature and nonfiction texts to build and apply vocabulary.
- 1.RV.2.1 Demonstrate understanding that context clues (e.g., *words and sentence clues*) and text features (e.g., *glossaries, illustrations*) may be used to help understand unknown words.
- 1.RV.2.2 Define and sort words into categories (e.g., *antonyms, living things, synonyms*).

Writing

- 1.W.1 Write routinely over brief time frames and for a variety of purposes and audiences.
- 1.W.5 With support, conduct simple research on a topic.

Speaking and Listening

- 1.SL.2.3 Listen to others, take turns speaking, and add one's own ideas to discussions

Media Literacy

- 1.ML.1 Recognize the role of the media in informing, persuading, entertaining, or transmitting culture.

Grade 2

Reading: Literature

- 2.RL.1 Read and comprehend a variety of literature within a range of complexity appropriate for Grades 2 and 3. By the end of Grade 2, students interact with texts proficiently and independently at the low

end of the range and with scaffolding as needed at the high end.

- 2.RL.2.1 Ask and answer questions (e.g., Who was the story about?; Why did an event happen?; Where did the story happen?) to demonstrate understanding of main idea and key details in a text.
- 2.RL.4.1 Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.

Reading: Nonfiction

- 2.RN.3.1 Use various text features (e.g., *table of contents, index, headings, captions*) to locate key facts or information and explain how they contribute to and clarify a text.

Reading: Vocabulary

- 2.RV.1 Use words, phrases, and strategies acquired through conversations, reading and being read to, and responding to literature and nonfiction texts to build and apply vocabulary.
- 2.RV.2.1 Use context clues (e.g., *words and sentence clues*) and text features (e.g., *table of contents, headings*) to determine the meanings of unknown words.
- 2.RV.2.5 Consult reference materials, both print and digital (e.g., *dictionary*), to determine or clarify the meanings of words and phrases.
- 2.RV.3.2 Determine the meanings of words and phrases in a nonfiction text relevant to a second grade topic or subject area.

Writing

- 2.W.1 Write routinely over brief time frames and for a variety of tasks, purposes, and audiences; apply reading standards to write in response to literature and nonfiction texts.
- 2.W.5 With support, conduct short research on a topic.

Speaking and Listening

- 2.SL.2.1 Listen actively and adjust the use of spoken language (e.g., vocabulary, conventions) to communicate effectively with a variety of audiences and for different purposes.

Media Literacy

- 2.ML.1 Recognize the role of the media in informing, persuading, entertaining, and transmitting culture.

Grade 3

Reading: Literature

- 3.RL.2.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- 3.RL.4.1 Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., *create mood, emphasize aspects of a character or setting*).

Reading: Nonfiction

- 3.RN.1 Read and comprehend a variety of nonfiction within a range of complexity appropriate for Grades 2 and 3. By the end of Grade 3, students interact with texts proficiently and independently.
- 3.RN.2.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- 3.RN.3.1 Apply knowledge of text features to locate information and gain meaning from a text (e.g., *maps, illustrations, charts, font/format*).

Reading: Vocabulary

- 3.RV.1 Build and use accurately conversational, general academic, and content-specific words and phrases.
- 3.RV.2.1 Apply context clues (e.g., *word, phrase, and sentence clues*) and text features (e.g., *maps, illustrations, charts*) to determine the meanings of unknown words.
- 3.RV.2.5 Consult reference materials, both print and digital (e.g., *dictionary*), to determine or clarify the meanings of words and phrases.
- 3.RV.3.2 Determine the meanings of general academic and content-specific words and phrases in a nonfiction text relevant to a third grade topic or subject area.

Writing

- 3.W.1 Write routinely over a variety of time frames and for a range of discipline-specific tasks, purposes, and audiences; apply reading standards to write in response to literature and nonfiction texts.
- 3.W.5 Conduct short research on a topic.

Speaking and Listening

- 3.SL.1 Listen actively and adjust the use of spoken language (e.g., *conventions, style, vocabulary*) to communicate effectively with a variety of audiences and for different purposes.
- 3.SL.2.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) on grade-appropriate topics and texts, building on others' ideas and expressing personal ideas clearly.
- 3.SL.2.2 Explore ideas under discussion by drawing on readings and other information.

Media Literacy

- 3.ML.1 Recognize the role of the media in informing, persuading, entertaining, or transmitting culture.

Grade 4

Reading: Foundations

- 4.RF.1 Apply foundational reading skills to demonstrate reading fluency and comprehension.

Reading: Literature

- 4.RL.2.1 Refer to details and examples in a text when explaining what a text says explicitly and when drawing inferences from the text.

Reading: Nonfiction

- 4.RN.1 Read and comprehend a variety of nonfiction within a range of complexity appropriate for Grades 4 and 5. By the end of Grade 4, students interact with texts proficiently and independently at the low end of the range and with scaffolding as needed at the high end.

- 4.RN.2.1 Refer to details and examples in a text when explaining what a text says explicitly and when drawing inferences from the text.

Reading: Vocabulary

- 4.RV.1 Build and use accurately general academic and content-specific words and phrases.
- 4.RV.2.1 Apply context clues (e.g., *word, phrase, sentence, and paragraph clues*) and text features (e.g., *charts, headings/subheadings, font/format*) to determine the meanings of unknown words.
- 4.RV.2.5 Consult reference materials, both print and digital (e.g., *dictionary*), to find the pronunciation and clarify the precise meanings of words and phrases.
- 4.RV.3.1 Determine how words and phrases provide meaning to works of literature, including figurative language (e.g., *similes, metaphors, or hyperbole*).
- 4.RV.3.2 Determine the meanings of general academic and content-specific words and phrases in a nonfiction text relevant to a fourth grade topic or subject area.

Writing

- 4.W.1 Write routinely over a variety of time frames and for a range of discipline-specific tasks, purposes, and audiences; apply reading standards to support reflection and response to literature and nonfiction texts.
- 4.W.5 Conduct short research on a topic.

Speaking and Listening

- 4.SL.1 Listen actively and adjust the use of spoken language (e.g., *conventions, style, vocabulary*) to communicate effectively with a variety of audiences and for different purposes.
- 4.SL.2.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) on grade-appropriate topics and texts, building on others' ideas and expressing personal ideas clearly.
- 4.SL.2.2 Explore ideas under discussion by drawing on readings and other information.

Media Literacy

4.ML.1 Identify how information found in electronic, print, and mass media is used to inform, persuade, entertain, and transmit culture.

Grade 5

Reading: Nonfiction

5.RN.1 Read and comprehend a variety of nonfiction within a range of complexity appropriate for Grades 4 and 5. By the end of Grade 5, students interact with texts proficiently and independently.

5.RN.2.1 Quote accurately from a text when explaining what a text says explicitly and when drawing inferences from the text.

Reading: Vocabulary

5.RV.1 Build and use accurately general academic and content-specific words and phrases.

5.RV.2.1 Select and apply context clues (e.g., *word, phrase, sentence, and paragraph clues*) and text features to determine the meanings of unknown words.

5.RV.2.2 Identify relationships among words, including multiple meanings, synonyms and antonyms, homographs, metaphors, similes, and analogies.

5.RV.2.5 Consult reference materials, both print and digital (e.g., *dictionary, thesaurus*), to find the pronunciation and clarify the precise meanings of words and phrases.

5.RV.3.1 Determine how words and phrases provide meaning to works of literature, including imagery, symbolism, and figurative language (e.g., *similes, metaphors, hyperbole, or allusion*).

Writing

5.W.1 Write routinely over a variety of time frames and for a range of discipline-specific tasks, purposes, and audiences; apply reading standards to support reflection and response to literature and nonfiction texts.

5.W.3.2 Write informative compositions on a variety of topics that:

- Introduce a topic; organize sentences and paragraphs logically, using an organizational form that suits the topic.
- Employ sufficient examples, facts, quotations, or other information from various sources and texts to give clear support for topics.
- Connect ideas within and across categories using transition words (e.g., *therefore, in addition*).
- Include text features (e.g., *formatting, pictures, graphics*) and multimedia when useful to aid comprehension.
- Use appropriate language, vocabulary, and sentence variety to convey meaning; for effect; and to support a tone and formality appropriate to the topic and audience.
- Provide a concluding statement or section related to the information or explanation presented.

5.W.5 Conduct short research assignments and tasks on a topic.

- With support, formulate a research question (e.g., *What were John Wooden's greatest contributions to college basketball?*).
- Identify and acquire information through reliable primary and secondary sources.
- Summarize and paraphrase important ideas and supporting details, and include direct quotations where appropriate, citing the source of information.
- Avoid plagiarism and follow copyright guidelines for use of images, pictures, etc.
- Present the research information, choosing from a variety of sources.

Speaking and Listening

5.SL.2.2 Reflect on and contribute to ideas under discussion by drawing on readings and other resources.

Media Literacy

5.ML.1 Identify how information found in electronic, print, and mass media is used to inform, persuade, entertain, and transmit culture.

Social Studies

Kindergarten

K.4.2 Identify and describe different kinds of jobs that people do and the tools or equipment used in these jobs.

K.4.3 Explain why people in a community choose different jobs.

Grade 1

1.4.3 Compare and contrast different jobs people do to earn income.

Grade 2

2.4.3 Identify community workers who provide goods and services for the rest of the community and explain how their jobs benefit people in the community.

2.4.7 Define specialization and identify specialized jobs in the school and community.

Grade 3

3.4.4 Define interdependence and give examples of how people in the local community depend on each other for goods and services.

Visual Arts

Kindergarten

K.1.2 Speculate on the function of a work of art.

K.1.3 Identify simple images and subject matter in works of art.

K.1.4 Identify what an artist does and find examples of artists' work in the community.

K.1.5 Discuss and identify how and where art is used in everyday life such as home, school, or community.

- K.5.1 Demonstrate curiosity and personal insight through observing and discussing works of art.
- K.7.1 Begin to recognize and use elements (such as line, shape, texture, and color) and principles (such as repetition) in artwork.
- K.7.2 Discriminate between types of lines (characteristics), shapes (geometric), textures (tactile), and colors (primary/secondary hues) in own work and the work of others.
- K.7.3 Distinguish between two-dimensional and three-dimensional works of art.

Grade 1

- 1.1.1 Explore ways that art reflects a culture.
- 1.1.2 Identify works of art and artifacts associated with customs, festivals, and celebrations. 1.5.1 Demonstrate curiosity and personal insight through observing and discussing works of art.
- 1.5.2 Discuss art as creations of humans for the purpose of visual pleasure or communication.
- 1.6.4 Demonstrate thoughtfulness and care in creating artwork.
- 1.6.5 Reflect on and share work with others.
- 1.7.1 Identify and apply elements (line, shape, texture, color, and space) and principles (repetition and variety) in artwork.

Grade 2

- 2.1.1 Identify connections between works of art and artifacts and their culture of origin.
- 2.5.1 Engage in critical inquiry into works of art through discussion and actively listen to alternative peer responses.
- 2.6.4 Demonstrate evidence of reflection and care in creating artwork.

- 2.7.1 Identify and apply elements (line, shape, form, texture, color, and space) and principles (repetition, variety, rhythm, proportion) in artwork.
- 2.7.2 Discriminate between types of lines (characteristics and qualities), shapes (geometric and organic), textures (tactile and visual), colors (primary and secondary), and space (placement/overlapping/negative/positive/size), in own work and the works of others.
- 2.7.4 Identify and use a balance of two-dimensional and three-dimensional media, techniques, and processes to effectively communicate ideas, experiences, and stories.

Grade 3

- 3.1.2 Speculate on the function or purpose of a work of art and make connections to culture.
- 3.4.1 Identify artwork made from the artist's philosophy that art is at its best when it evokes strong emotions from viewers (emotionalism).
- 3.6.3 Demonstrate ability to successfully generate a variety of symbols, then select and refine a symbol that communicates that idea.
- 3.6.6 Demonstrate respect for personal work and the work of others.
- 3.7.1 Apply elements (line, shape, form, texture, color, and space) and principles (repetition, variety, rhythm, proportion, movement, balance, emphasis) in artwork that effectively communicates ideas.
- 3.7.2 Identify and discriminate between types of lines (characteristics and qualities), shapes (geometric and organic), textures (tactile and visual), colors (primary, secondary, complementary), and space (placement/overlapping/negative/positive/size), in own work and the works of others.
- 3.7.4 Identify, control, and use a balance of two-dimensional and three-dimensional media, techniques, and processes to effectively communicate ideas, experiences, and stories.

Grade 4

- 4.1.2 Identify and research the function of a work of art or artifact and make connections to the culture (focus: Indiana, including the diversity of past and contemporary cultures and ethnicities).
- 4.6.3 Identify and use a variety of symbols and subject matter that clearly communicates ideas.
- 4.6.5 Identify and apply criteria for self-assessment and peer critiques.
- 4.7.1 Apply elements (line, shape, form, texture, color, and space) and principles (repetition, variety, rhythm, proportion, movement, balance, emphasis) in work that effectively communicates ideas.
- 4.7.2 Identify and discriminate between types of lines (characteristics, quality), shapes (geometric and organic), textures (tactile and visual), colors (primary, secondary, complementary, tints, and shades), space (placement, perspective, overlap, negative, positive, size), balance (symmetrical, asymmetrical, radial), and the use of proportion, rhythm, variety, repetition, and movement in own work and the works of others.
- 4.7.4 Identify, control, and use a balance of two-dimensional and three-dimensional media, techniques, and processes to effectively communicate ideas, themes, experiences, and stories.

Grade 5

- 5.1.5 Identify connections between art in the community and that experienced in daily life.
- 5.1.6 Identify uses of imagery in visual culture found in, but not limited to, advertisements, graphic novels, the Internet, video, and video games.
- 5.1.7 Analyze and respond to art at local museums, exhibitions, performances, and work of visiting artists in the school.
- 5.4.1 Identify artwork made from the artist's philosophy that art is at its best when it is functional, ritually motivated, or moves people to act for the betterment of society (instrumentalism).

5.6.6 Demonstrate respect for personal work and the work of others.

5.7.1 Apply elements (line, shape, form, texture, color, value, and space) and principles (repetition, variety, rhythm, proportion, movement, balance, emphasis, and unity) in work that effectively communicates ideas.

5.7.2 Identify and discriminate between types of lines (characteristics, quality), shapes (geometric and organic), textures (tactile and visual), colors (primary, secondary, complementary, intermediates, neutrals, tints, tones, shades, and values), space (background, middle ground, foreground, placement, perspective, overlap, negative, converging lines, positive, size, color), balance (symmetrical, asymmetrical, radial), and the use of proportion, rhythm, variety, repetition, and movement in own work and the works of others.

5.7.4 Identify, control, and use a balance of two-dimensional and three-dimensional media, techniques, and processes to effectively communicate ideas, themes, experiences, and stories.

SEPS.8 Obtaining, evaluating, and communicating information

Physical Education

K.1.2 Perform basic nonlocomotor skills

1.1.2 Perform nonlocomotor skills with developmentally appropriate challenges to reinforce learning fundamental movements.

2.1.2 Perform stability skills proficiently and in combinations, with developmentally appropriate challenges.

Science

K.PS.3 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

3.PS.1 Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

4.PS.4 Describe and investigate the different ways in which energy can be generated and/or converted from one form of energy to another form of energy.

Science and Engineering Process Standards

SEPS.1 Posing questions (for science) and defining problems (for engineering)

SEPS.6 Constructing explanations (for science) and designing solutions (for engineering)