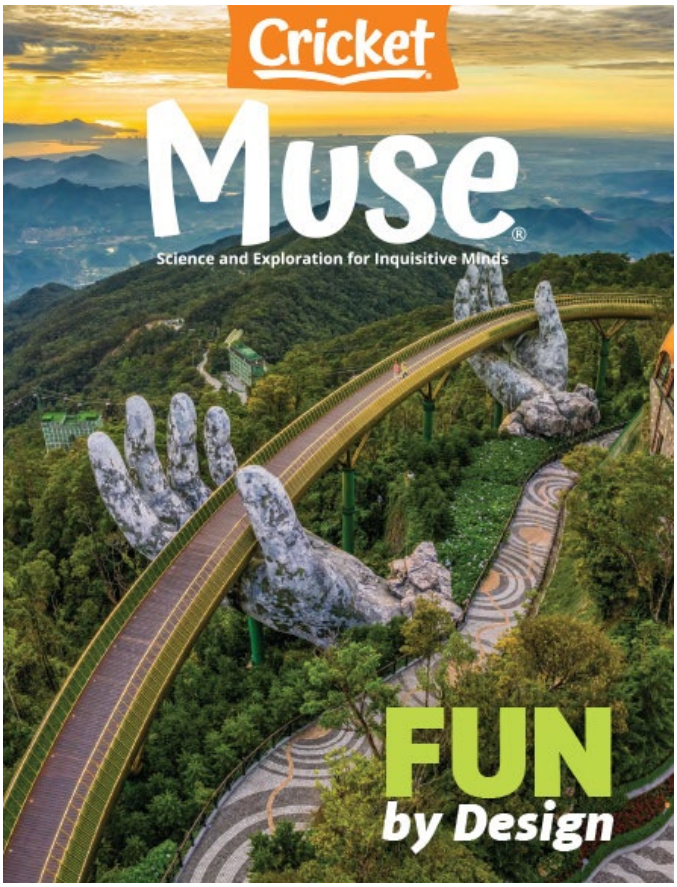
Muse® Teacher Guide: May/June 2025

Muse®

Fun by Design

Beyond the obvious physical benefits, playgrounds help children to learn important life skills, such as taking turns, communication, role playing, and problem solving. This month's issue of MUSE magazine emphasizes the importance of modifying play spaces so that they are equally accessible to all "playful" individuals.



CONVERSATION QUESTION

What is important when designing play spaces?

TEACHING OBJECTIVES

- **Students will learn how and why playground design has changed over time.**
- **Students will learn how designers make playgrounds universally accessible.**
- **Students will learn why pinball has been a favorite pastime throughout the ages.**
- **Students will analyze cause and effect relationships.**
- **Students will identify problems and solutions.**
- **Students will construct explanations examining forces and interactions.**
- **Students will create a timeline chronicling the progression of playground design.**
- **Students will work with a team to design an accessible playground.**
- **Students will create a rule set for a theme-based pinball game.**

In addition to supplemental materials focused on core STEAM skills, this flexible teaching tool offers vocabulary-building activities, questions for discussion, and cross-curricular activities.

SELECTIONS

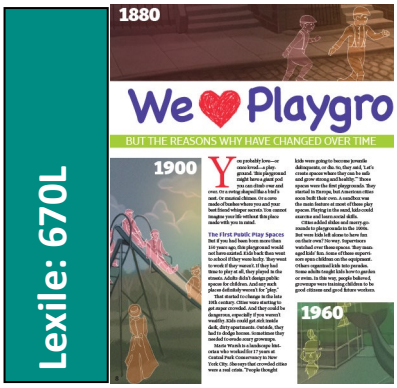
- **We Love Playgrounds!**
Expository Nonfiction, 670L
- **Fun for Everyone**
Expository Nonfiction, 820L
- **Pinball!**
Expository Nonfiction, 1040L

Muse® Teacher Guide: May/June 2025

We Love Playgrounds!

pp. 8-9, Expository Nonfiction

Today, playgrounds of all shapes and sizes are scattered across both rural and urban areas. This article examines the evolution of playground design and examines the reasons for change.



RESOURCES

Cause and Effect: It's Playtime!

OBJECTIVES

- Students will learn how and why playground design has changed over time.
- Students will analyze cause and effect relationships.
- Students will create a timeline chronicling the progression of playground design.

KEY VOCABULARY

- ***dodge* (p. 8)** move quickly to get out of the way
- ***delinquents* (p. 8)** young persons who regularly do illegal or immoral things
- ***supervisors* (p. 8)** people who oversee to make sure things are going well
- ***leisure* (p.9)** free time used for pleasure

ENGAGE

Conversation Question: What is important when designing play spaces?

Allow students a few moments to talk with a partner about various playgrounds they have been to. Have them discuss what they liked and didn't like. Pose the question: *How do you think that the criteria and elements of playground design has changed in the last 100 years?* Have students predict how playgrounds have changed before reading the article. Revisit predictions after reading and completing the activities.

INTRODUCE VOCABULARY

Post and review the four vocabulary words and definitions. Allow students to roll a die for vocabulary activities for each word.

1 = Use the word in a sentence.
2 = Draw a picture that demonstrates the word.
3 = List 2 antonyms for the word.
4 = List 2 synonyms for the word.
5 = Break the word into syllables and list the part of speech.
6 = Make a connection between the word and your life, a book or a movie.

READ & DISCUSS

As a post-reading activity, lead a discussion based on the following prompts:

1. Why didn't playgrounds exist 150 years ago?
2. Why were the first playgrounds started in the early 1900s?
3. How did the World Wars affect playtime for children?
4. How did playground designs in the 1960s cause new problems?
5. Why is playground design more complex now than it was in the past?

SKILL FOCUS: Cause and Effect

INSTRUCT: Review cause and effect relationships: A **cause** makes something happen and an **effect** is what happens as a result of the cause. Introduce the graphic organizer, *It's Playtime!,* and tell the class that they will be searching through the article for such relationships. Students will work independently to record the causes and effects.

ASSESS: Review the worksheet to assess if students are correctly able to identify cause and effect relationships. Arrange peer remediation, if necessary.

EXTEND

Social Studies: Review how to properly set up a timeline and remind students that a timeline is an infographic tool for organizing information and can show how events in history are related. Have pairs of students work together to create a timeline chronicling the progression of playground design. They will use information from the article, as well as books and online sources, to construct and label a timeline from 1900 – 2025. Timelines should include: dates; short descriptions; title. Small pictures/drawings can be added to enhance the information.

It's Playtime!

Cause and Effect Consult the article to identify the cause and effect of the events listed in the center column.

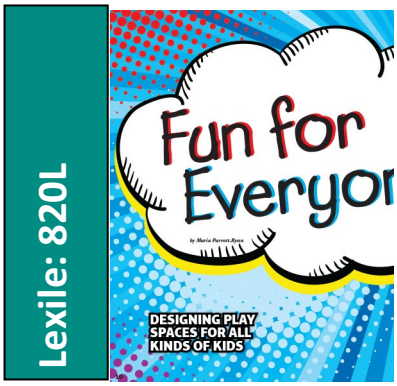
Cause	Event/Situation	Effect
	People thought children were going to become juvenile delinquents or die in the streets.	
	Suddenly, people had leisure time and were seeking sources of pleasure.	
	People started to notice that accidents happened on playgrounds.	
	Child development experts shared ideas about how they thought children should play.	

Muse® Teacher Guide: May/June 2025

Fun for Everyone

pp. 10-13, Expository Nonfiction

The concept of universal design means creating environments that are easy for all people to use. Readers will learn how expert designers are using creativity and problem solving skills to meet this challenge.



RESOURCES

Identify Problems and Solutions: Creative Construction

OBJECTIVES

- Students will learn how designers make playgrounds universally accessible.
- Students will identify problems and solutions.
- Students will work with a team to design an accessible playground.

KEY VOCABULARY

- ***accessible* (p. 11)** able to be reached or approached
- ***inclusive* (p. 13)** covering or including everyone or everything
- ***universal* (p. 13)** available equally to all members of a society

ENGAGE

Conversation Question: What is important when designing play spaces?

Begin a brainstorming session by asking students to share what playground features and equipment would be a problem for children with different physical abilities. Have students share examples of how playgrounds can be adapted to include children of varying abilities. Share that the article, "Fun for Everyone," extensively reviews this topic.

INTRODUCE VOCABULARY

Post the key words and discuss the meanings of the terms. Then display the following prompts and have students discuss responses with a partner.

- Discuss the structural accommodations in your town/city that help to make public places **accessible** to all.
- Why do some travelers choose to stay at all-**inclusive** resorts?
- What functions would you expect a **universal** TV remote control to perform?

READ & DISCUSS

Reinforce comprehension of the concepts in this article by using the following prompts to direct discussion:

1. What criteria do experts need to consider when designing playgrounds that work for everyone?
2. What is the Americans with Disabilities Act?
3. How does the sandbox example demonstrate universal design?
4. Why can public places be difficult for children with autism and sensory processing challenges?
5. What are curb cuts and how are they useful to all people?

SKILL FOCUS: Identify Problems and Solutions

INSTRUCT: Instruct students to reread the article with a partner and highlight passages that depict specific problems in playground design that experts needed to solve. Distribute the *Creative Construction* graphic organizer. Tell students that they will be responsible for recording and explaining the solutions to the problems listed.

ASSESS: Review worksheet. Have students consider a known playground or public space and evaluate its accessibility.

EXTEND

STEAM: Have small groups of students design a universally accessible playground using information from the article, as well as the online resource discussed on page 13 (www.accessibleplayground.net). They should include captions on how each piece of playground equipment or feature will enhance the playground and solve a particular problem. Provide groups with a large piece of paper and instruct them to use color to enhance their drawings. Groups should name their playgrounds. Have all groups share their creations and then display the finished work.

Creative Constructions

Problems and Solutions Read the problems in the ovals. Use information from the article to explain the solution(s) to the problems. In the final oval and rectangle, identify an additional problem and state the solution(s).

Problem:
Swings made of only a rubber seat and chains…

Solution(s):

Problem:
Uneven playground surfaces…

Solution(s):

Problem:

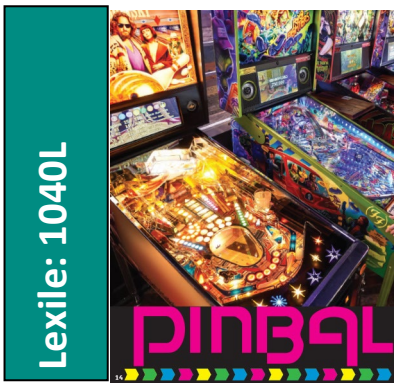
Solution(s):

Muse® Teacher Guide: May/June 2025

Pinball!

pp. 14-17, Expository Nonfiction

This article educates readers about the spring-loaded game of pinball. From flippers to physics, this arcade game delights players of all ages and abilities.



RESOURCES

Construct Explanations: Flippers and Physics

OBJECTIVES

- Students will learn why pinball has been a favorite pastime throughout the ages.
- Students will construct explanations examining forces and interactions.
- Students will create a rule set for a theme-based pinball game.

KEY VOCABULARY

- ***pastimes* (p. 15)** activities that are done for enjoyment during your free time
- ***compelling* (p. 16)** evoking interest or attention in a powerfully irresistible way
- ***innovation* (p. 17)** a new idea, method, or device

ENGAGE

Conversation Question: What is important when designing play spaces?

Introduce the article, "Pinball!" Invite students to share real life or book/movie connections to pinball machines. Ask: *How are pinball machines different from video arcade games?* To get students motivated to learn more about the topic, have the class view the Pacific Pinball Museum's website (p. 16) and play the short video clip.

INTRODUCE VOCABULARY

Display the following statements and underline the key vocabulary terms. Review how to infer the meanings of new words by using context clues and background knowledge. Then have partners work together (or complete as a class) to determine the meaning of each word. Reveal definitions.

- Joe's favorite pastimes include drawing, videogames, and magic.
- The novel was so compelling that I couldn't put it down.
- The telegraph was a remarkable innovation in its day.

Have students underline the key words in the article.

READ & DISCUSS

Pose the following questions to facilitate meaningful discussion:

1. How is the Pacific Pinball Museum different from a typical museum?
2. How do designers create a game that people will want to play over and over?
3. What happens when the player gets extra balls to play?
4. How have pinball machines evolved since their original innovations in the 1700s?
5. What is the legal history of pinball machines in New York City?

SKILL FOCUS: Construct Explanations

INSTRUCT: Instruct students to reread the section of the article on pages 16-17 with subheading "Playing with Physics." Distribute the *Flippers to Physics* graphic organizer and tell students that they will be responsible for explaining how Isaac Newton's laws of motion are in play during a pinball game.

ASSESS: Collect the worksheet to assess students' ability to define each law and then explain how it relates to the game of pinball.

EXTEND

STEAM: Under the heading, "Designing Timeless Fun" (p. 16) it states, "Each game is programmed with a rule set that controls what happens and when. For example: If the ball hits *this* target three times in a row, while *that* light is flashing, then *this* happens." Have students work with a partner to establish a theme for their own pinball machine and then create a rule set as explained above. Students may need to consult the article or use the internet for inspirational ideas. The events in the game should be in keeping with the theme. Have students make a colorful drawing of the backbox of the machine.

Flippers and Physics

Constructing Explanations On the lines in the gray boxes, state Isaac Newton's three Laws of Motion. Then use information from the article to explain how they are related to the game of pinball.

Law #1:_____

_____

Law #2:_____

_____

Law #3:_____

_____