

# Muse®

## Show Me How

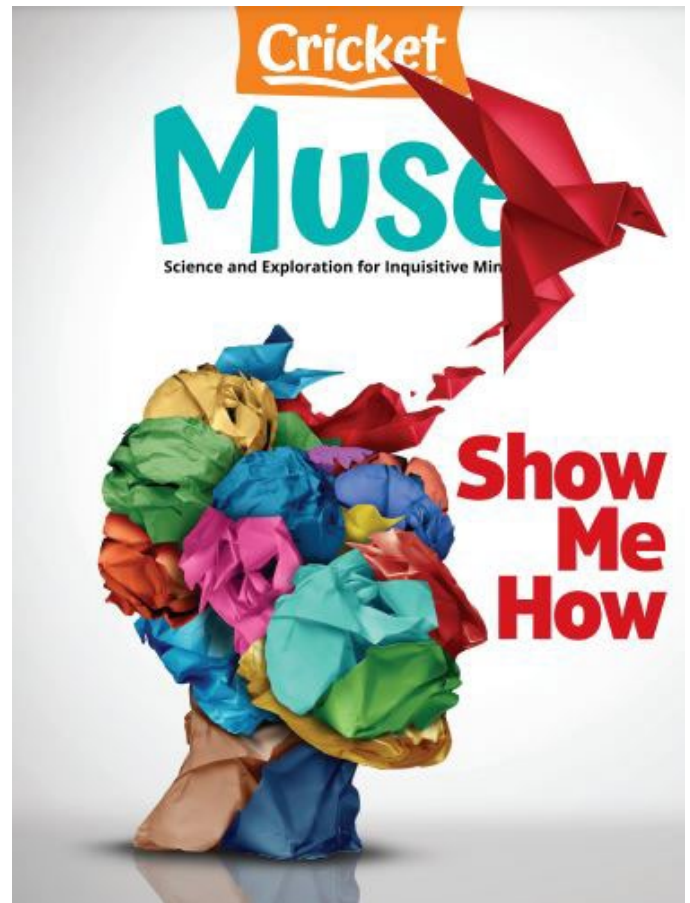
Although human capacity for learning exceeds other animals, there are great similarities in the way humans and animals acquire knowledge and learn new skills. This month's issue of MUSE magazine explores different facets of learning in the human and animal worlds.

## CONVERSATION QUESTION

How do we learn new things?

## TEACHING OBJECTIVES

- Students will learn how a medieval castle was reconstructed without instructions or modern tools.
- Students will learn how birds learn to sing.
- Students will learn how guide dogs are trained.
- Students will construct explanations.
- Students will compare and contrast how birds and humans learn "language."
- Students will collect evidence to support a claim.
- Students will use sensory details to convey a specific setting.
- Students will contribute a page to a collaborative bird guide book.
- Students will create a map and directional commands.



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

## SELECTIONS

- **Constructing a Medieval Castle Today**  
Expository Nonfiction, ~900L
- **Bird-Brained or Brilliant?**  
Expository Nonfiction, ~1080L
- **Training Guide Dogs**  
Expository Nonfiction, ~790L

# Muse® Teacher Guide: November/December 2022

## Constructing a Medieval Castle Today

pp. 10–13, Expository Nonfiction

Towers of sandstone graze the sky as a medieval castle is painstakingly reconstructed. This article recounts how a dedicated group of people erected a magnificent castle without instructions, using only 13th-century materials and methods.



### RESOURCES

- Construct Explanations: Rebuilding the Past

### OBJECTIVES

- Students will learn how a medieval castle was reconstructed without instructions or modern tools.
- Students will construct explanations.
- Students will use sensory details to convey a specific setting.

### KEY VOCABULARY

- graze** (p. 11) to touch or scrape lightly
- thrum** (p. 11) to make a low, steady sound
- scoured** (p. 12) searched carefully and thoroughly

### ENGAGE

**Conversation Question:** How do we learn new things?

Present the title of the article and acknowledge that although the title is unambiguous, there's a catch: The workers don't have any instructions and use 13th-century tools and techniques. Construct a K-W-L chart (Know-Want to Know-Learned) to record students' prior knowledge about medieval castles and what they would like to know about these magnificent structures. Return to the chart after reading and completing the activities in this guide, and have students add details about what they have learned.

### INTRODUCE VOCABULARY

Post and discuss the three vocabulary words and definitions. Have students Think-Pair-Share with a partner. Give them the following directives, one at a time:

- Discuss two different meanings for the word **graze**. Recite a sentence for each. Notice which meaning is used in the article.
- Where would you hear the **thrum** of jet planes?
- Why would someone **scour** the playground?

### READ & DISCUSS

Pose the following questions to prompt meaningful discussion. Students should use complete sentences and details to answer each question.

- How did Michel Guyot get the idea to reconstruct an old castle?
- What is unique about the way in which medieval enthusiasts reconstructed the castle?
- List some of the 13th-century materials/methods that were used.
- What influenced where the castle had to be built?
- Why were medieval castles whitewashed?
- Why were there traditionally two towers at the gate?

### SKILL FOCUS: Construct Explanations

**INSTRUCT:** Students will construct explanations that demonstrate their understanding of how the builders addressed different facets of the building process. Instruct pairs of students to reread the article and to discuss relevant content. Distribute the *Construct Explanations: Rebuilding the Past* graphic organizer and have students complete the worksheet independently.

**ASSESS:** Collect the worksheet to assess individual understanding of the topic.

### EXTEND

**Language Arts** Reread the first paragraph on page 11 aloud, emphasizing the words that convey the setting. Guide the class to notice that the author uses sensory clues to set the stage. Dissect the introductory paragraph and help students to identify the setting details. Then have students use the same paragraph format to write their own introductory paragraph luring readers into a different setting. (Ex: space, desert, beach, future, etc.) Encourage students to share.

## Rebuilding the Past

**Constructing Explanations** Review the article and locate the passages that discuss each of the elements listed below. Use details from the article to explain how builders addressed each element.

Lack of  
Instructions

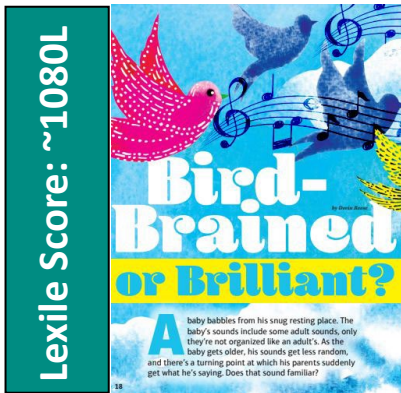
Primitive Tools  
& Techniques

Mindset  
& Infrastructure

## Bird-Brained or Brilliant?

pp. 18–21, Expository Nonfiction

Only birds and some mammals are known to learn by hearing. Readers will discover that although birds and humans are only distantly related, they show strong similarities in the way that they learn to communicate vocally.



## RESOURCES

- Compare and Contrast: Brilliant Babbling

## OBJECTIVES

- Students will learn how birds learn to sing.
- Students will compare and contrast how birds and humans learn “language.”
- Students will contribute a page to a collaborative bird guide book.

## KEY VOCABULARY

- **spectrograms** (p. 19) visual representations of sound
- **dialect** (p. 19) a form of a language that is spoken in a particular area and that uses some of its own words, grammar, and pronunciations
- **slang** (p. 21) words that are not considered part of the standard vocabulary of a language and that are used very informally in speech, especially by a particular group of people

## ENGAGE

**Conversation Question:** How do we learn new things?

Take students outside for a listening exercise, or play audio clips of different species of birds. Use this motivating activity to have students notice pitches and patterns. Pose questions, such as these: Why do birds sing? How do birds learn to sing? Do all birds sing? Encourage discussion. Then tell students they will learn the answers to these questions, and more, during the reading of “Bird-Brained or Brilliant?”

## INTRODUCE VOCABULARY

Discuss the key vocabulary words and definitions with the class. Ask them to identify how all of these words relate to each other. (Ex: sound, language, speech, etc.) Invite students to share prior knowledge relating to these terms. Have students circle other similar words in the reading that would belong in this group. (Skill=Categorizing Information)

## READ & DISCUSS

Reinforce comprehension of the concepts presented in the article by using the following questions to direct discussion.

1. Which animals learn by hearing?
2. Why did experimental studies of birdsongs in the 1960s give scientists a new perspective?
3. What is different about the anatomy of songbirds?
4. Why weren’t female birds studied before the 1990s?
5. Explain the different learning styles of birds.
6. What would happen if birds and humans were born with their language already programmed?

## SKILL FOCUS: Compare and Contrast

**INSTRUCT:** Students will compare and contrast the language-learning methods of birds and humans. Instruct pairs of students to revisit the text and to underline information that will be helpful for this purpose. Introduce the *Compare and Contrast: Brilliant Babbling* Venn diagram. Have the partners use information from the article to complete the organizer. (If necessary, model how to use the Venn diagram.)

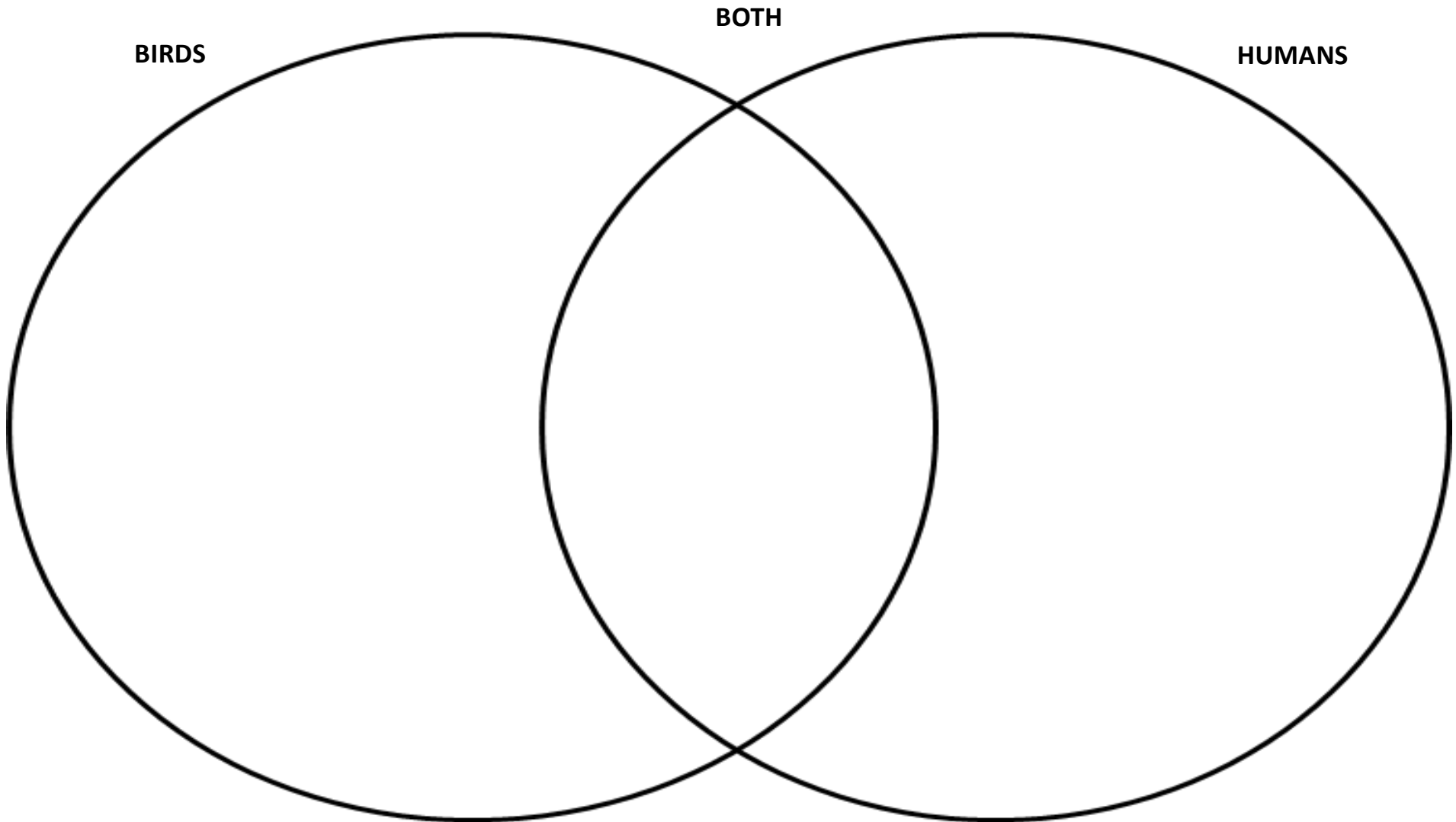
**ASSESS:** Reconvene and review the worksheet with the class. Have students use the Venn diagram to summarize the information in paragraph form. Collect and assess.

## EXTEND

**Science** Have students circle all bird names in the article. Tell students they will become junior ornithologists and create a collaborative *Birds of the World* guide book. Each page must focus on a different type of bird and include an illustration/photo and information on distinguishing features, habitat and home, diet, predators, and birdsong. Pages should be complete and free of errors before they are bound into a class book to be kept in your Science Center.

## Brilliant Babbling

**Compare and Contrast** Use information from the article to compare and contrast how birds and humans learn “language.”





# Muse® Teacher Guide: November/December 2022

## Training Guide Dogs

pp. 34–35, Expository Nonfiction

Guide dogs are a type of service dog that help blind or partially blind people navigate the world and perform tasks. Readers will learn how trainers and dogs work together to assist the differently abled community.

The graphic organizer features a vertical green bar on the left with the text "Lexile Score: ~790L". To the right, there is a collage of images and text related to the article. At the top left is a photo of a brown dog. Below it is a circular graphic with the text "HOW DID THIS LEARN TO DO THAT?". To the right of the dog photo is a photo of a person walking a dog. Below these images is a large blue letter 'C' followed by the text: "ick is a chocolate lab, guide dog trainer, and a young couple's dog. Her trainer says, 'Right.' 'Cici makes a 90-degree turn. She sees an interesting squirrel.' Her trainer suggests gently on Cici's harness and says, 'Focus.' 'Cici ignores the squirrel and turns back to work. Her trainer gives her a piece of kibble dog food.' Below this text is a small photo of a dog and a person. The background of the graphic organizer has a faint, repeating pattern of the word 'Training'.

## RESOURCES

- Collect Evidence: Doggie Details

## OBJECTIVES

- Students will learn how guide dogs are trained.
- Students will collect evidence to support a claim.
- Students will create a map and directional commands.

## KEY VOCABULARY

- **navigate (p. 34)** to travel on, over, or through an area or place
- **traits (p. 35)** distinguishing qualities or characteristics
- **consistency (p. 35)** the quality or fact of always happening or behaving in the same way

## ENGAGE

**Conversation Question:** How do we learn new things?

As a prereading activity, give students the opportunity for movement and making connections. Have the class stand up, and lead the class in a game of Simon Says. Choose other leaders, then discuss the game. Impress upon the students that following commands and performing corresponding actions EXACTLY is the key to winning this game. After students read “Training Guide Dogs,” discuss how the game relates to the article.

## 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 to determine the meaning of each word. Reveal definitions.

1. I could not easily navigate the stairs when I was on crutches.
2. Honesty and kindness are important traits in a friend.
3. Coach says we should run two miles every day because consistency is important for a runner.

## READ & DISCUSS

Read the article aloud with the class. Have students reread the article in small groups to answer the questions below. Share responses.

1. What are the responsibilities of a guide dog?
2. How long does it take for a puppy to become a guide dog?
3. What kind of quality assessments do trainers perform to make sure that a dog is suited for service work?
4. What happens to dogs that fail the training tests?
5. Explain how the training skills practiced indoors differ from those practiced outdoors.

## SKILL FOCUS: Collect Evidence

**INSTRUCT:** Elicit from students that the main idea of the article is to tell readers how trainers teach young dogs how to become service animals. Present the *Collect Evidence: Doggie Details* graphic organizer. Tell students they will collect text evidence that demonstrates why patience, consistency, timing, and the ability to motivate are the four necessary qualities of a successful dog trainer.

**ASSESS:** Allow students to work with a partner to peer review. Circulate.

## EXTEND

**Social Studies** Have students draw a simple map. (Ex: From your classroom to the office, from their room to the kitchen, etc.) Tell students to include at least three turns and three obstacles. Students will use information from the article to make a sequential list of commands that a trainer would use to get a dog from the starting point to the final location. Have students switch papers with a partner and write commands for that map as well. Compare directions.

## Doggie Details

**Collect Evidence** Collect evidence from the article that demonstrates why the four qualities listed below are the necessary traits for a dog trainer. Use details to support your answer and include examples.

Patience	Consistency
Timing	Ability to Motivate

**Guide Dogs**

