Discover!

Curriculum Overview

Welcome to a new world of learning

Visit discoverk8learning.com today!

Discover! the only elementary curriculum that leverages the best of online, interactive, and student-driven learning. The next few pages will help you understand and appreciate the unique attributes of this innovative K-8 Discover! Program.

Expect beautiful textbooks and fully-developed instructor guides designed for 1-to-1 interactive and hands-on learning experiences.

Discover! was designed to support:

- Multi-modality learning
- Critical thinking
- Real world connections
- Social-emotional development

Table of Contents | Step inside a new world of learning with Discover!

Behind the Scenes: Instructional Design at it's Best

Meeting the needs of today's learners

Today's learners are curious, self-sufficient, and eager to discover answers to their questions. With nearly anything they want available at the click of a button, kids are constantly flooded with information, "facts", and emotional messaging that provide a new challenge in education.

Effective learning design must shift from delivery of knowledge to a focus on understanding, critical thinking, ability to distinguish fact from fiction, and mastery of essential 21st century skills.

The **Discover! Instructional Design framework** leverages the neuroscience of learning paired with research-based instructional strategies to meet the needs of today's unique learners.

This framework includes:

Scenario-based Learning

Scenarios grab interest by sparking curiosity and the power of problem-solving. Discover! scenarios connect learning to life by presenting a problem to solve, leveraging the power of the unexpected, and inspiring action.

Visuals

Research shows our brains process visuals 83% more effectively than text alone. With Discover!, concepts and skills are both taught and reinforced through visual lessons and hands-on activities.

Consolidation

When students connect new learning to prior knowledge, they are better able to process, understand, and apply what they are learning. By design, Discover! constantly reinforces prior learning and connects it to new concepts and skills through practice, repetition, and hands-on activities.

Critical Thinking

Students develop critical thinking and analysis through creative questions, guided analysis, and application of concepts and skills with extensive problem-solving practice and learning challenges.

Character-building

Discover! seeks to develop learners who are conscious of the world around them, who are confident in who they are, and who are adept at working with and supporting others. With built-in activities to develop social and emotional skills, along with rich instructor-led conversations and lesson enhancements, students become citizens who will make a difference in the world.

Formulaic: Problem Solving and Mastery Learning

Discover! helps students build conceptual understanding through a focus on problem solving and real world connections. However, Discover! also focuses on skill-building and mastery by developing a sequence of topics and skills connecting across grade levels and subjects. Students learn the “why” and “how” through direct instruction, interactive activities, hands-on opportunities, and problem solving.

SCENARIO

+

CONCRETE CONNECTION TO PRIOR LEARNING

↓

VISUALS

↓

PRACTICE

↓

CRITICAL THINKING ACTIVITIES

↓

STUDENT VOICE

=

UNDERSTANDING

Structure: Lesson Design

Knowledge and understanding is built carefully with multi-page lessons and multi-day lessons.

The structure provides time for students to develop mastery and understanding with practice, hands-on activities, critical-thinking challenges, as well as ample scaffolded, guided learning opportunities:

Experiential opening brings the student right into the content in a way that creates a personal connection or challenges them to solve a problem.

Content connects to life and answers the question, “Why is this important?”

Content is conversational and written in an upbeat, light, conversational tone that keeps kids interested in the topic.

Content is interactive and provides opportunities for students to interact with the lesson through practice, critical thinking, and response to content in smaller chunks rather than only at the end of the lesson.

Scaffolding or review of prior skills ensures mastery of essential skills and key content.

Low-stakes assessments are deliberately planned and designed to provide repetition and review for students as well as an opportunity to demonstrate student progress.

Special **callouts** throughout each lesson provide variety and allow students to interact with content in a variety of ways.

1 **Create**
Students leverage their creativity to build a model or complete art projects or crafts that relate to the lesson.

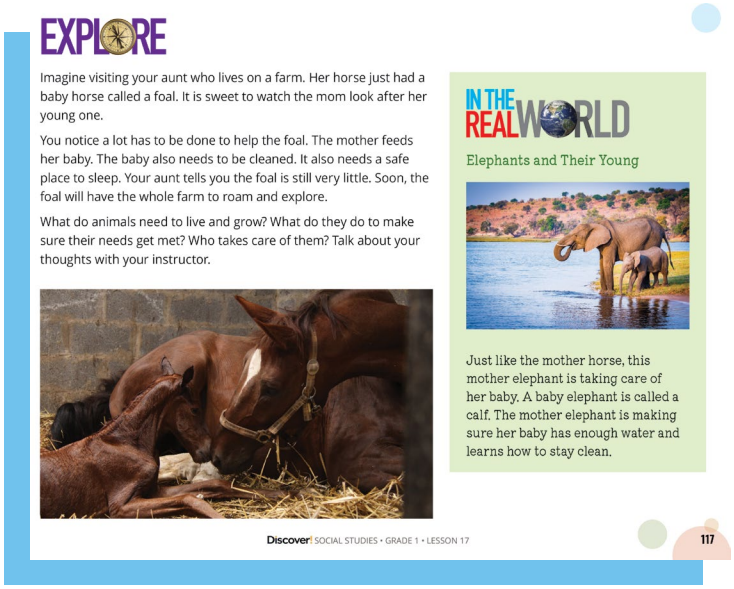
2 **Play**
Play is proven to build stronger connections between content and skills. Games and activities such as role play and dramatizations are designed for one-to-one or small-group interactions to help leverage the power of both games and social interaction.

3 **Online Connection**
Online activities help students develop 21st century skills by challenging them with research, exploration, and problem solving rather than pre-designed online games.

4 **In the Real World**
With *In the Real World* challenges, students must relate what they are learning to the world around them. These challenges can include a scavenger hunt, one-on-one interviews, field trips (virtual or in-person), observing/drawing pictures of something in the real-world, and other related activities.

5 **Take a Closer Look**
These activities give students the opportunity to dig deeper into a specific topic or skill.

Learning by Design: Benefits



EXPLORE

Imagine visiting your aunt who lives on a farm. Her horse just had a baby horse called a foal. It is sweet to watch the mom look after her young one.

You notice a lot has to be done to help the foal. The mother feeds her baby. The baby also needs to be cleaned. It also needs a safe place to sleep. Your aunt tells you the foal is still very little. Soon, the foal will have the whole farm to roam and explore.

What do animals need to live and grow? What do they do to make sure their needs get met? Who takes care of them? Talk about your thoughts with your instructor.

IN THE REAL WORLD

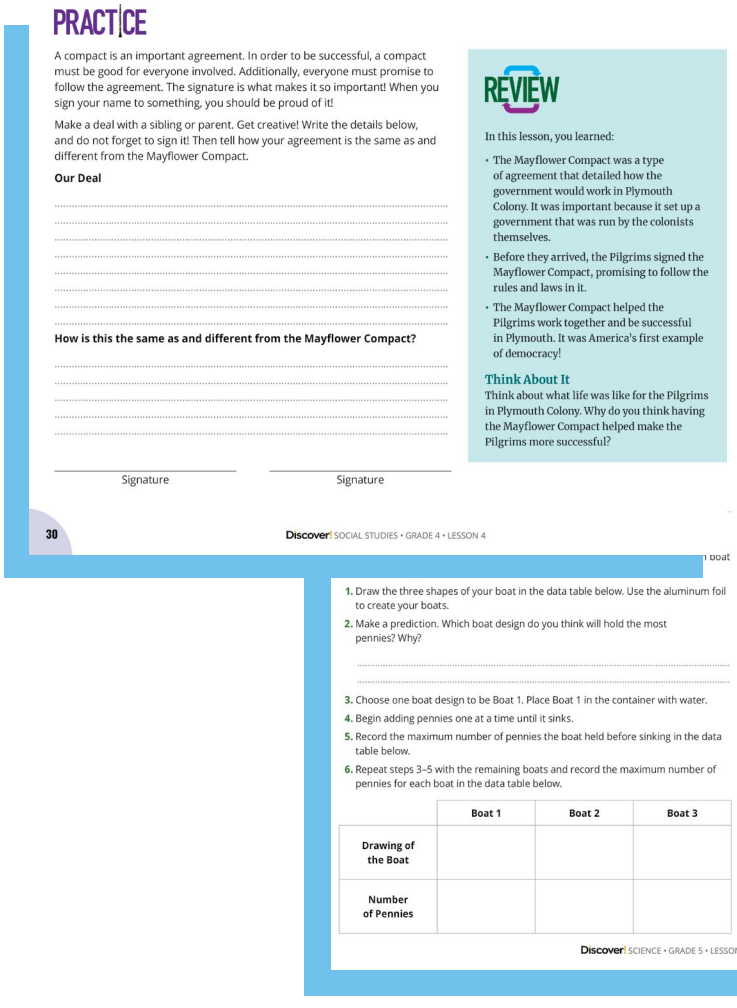
Elephants and Their Young

Just like the mother horse, this mother elephant is taking care of her baby. A baby elephant is called a calf. The mother elephant is making sure her baby has enough water and learns how to stay clean.

Discover! SOCIAL STUDIES • GRADE 1 • LESSON 17 117

Colorful Textbooks to Keep Kids Engaged!

Colorful pages, modern look and feel, and up-to-date images generate interest, spark a desire to know more, and make learning fun.



PRACTICE

A compact is an important agreement. In order to be successful, a compact must be good for everyone involved. Additionally, everyone must promise to follow the agreement. The signature is what makes it so important! When you sign your name to something, you should be proud of it!

Make a deal with a sibling or parent. Get creative! Write the details below, and do not forget to sign it! Then tell how your agreement is the same as and different from the Mayflower Compact.

Our Deal

How is this the same as and different from the Mayflower Compact?

Signature Signature

REVIEW

In this lesson, you learned:

- The Mayflower Compact was a type of agreement that detailed how the government would work in Plymouth Colony. It was important because it set up a government that was run by the colonists themselves.
- Before they arrived, the Pilgrims signed the Mayflower Compact, promising to follow the rules and laws in it.
- The Mayflower Compact helped the Pilgrims work together and be successful in Plymouth. It was America's first example of democracy!

Think About It

Think about what life was like for the Pilgrims in Plymouth Colony. Why do you think having the Mayflower Compact helped make the Pilgrims more successful?

30 Discover! SOCIAL STUDIES • GRADE 4 • LESSON 4

1. Draw the three shapes of your boat in the data table below. Use the aluminum foil to create your boats.
2. Make a prediction. Which boat design do you think will hold the most pennies? Why?
3. Choose one boat design to be Boat 1. Place Boat 1 in the container with water.
4. Begin adding pennies one at a time until it sinks.
5. Record the maximum number of pennies the boat held before sinking in the data table below.
6. Repeat steps 3–5 with the remaining boats and record the maximum number of pennies for each boat in the data table below.

	Boat 1	Boat 2	Boat 3
Drawing of the Boat			
Number of Pennies			

REVIEW

In this lesson, you learned:

- The density of an object can determine if it sinks or floats.
- Buoyancy is an upward force on an object based on the weight of the object that is underwater and how much water is displaced.
- Archimedes' principle states that a buoyant force exerted on an object is equal to the weight of the object submerged in water.

Think About It

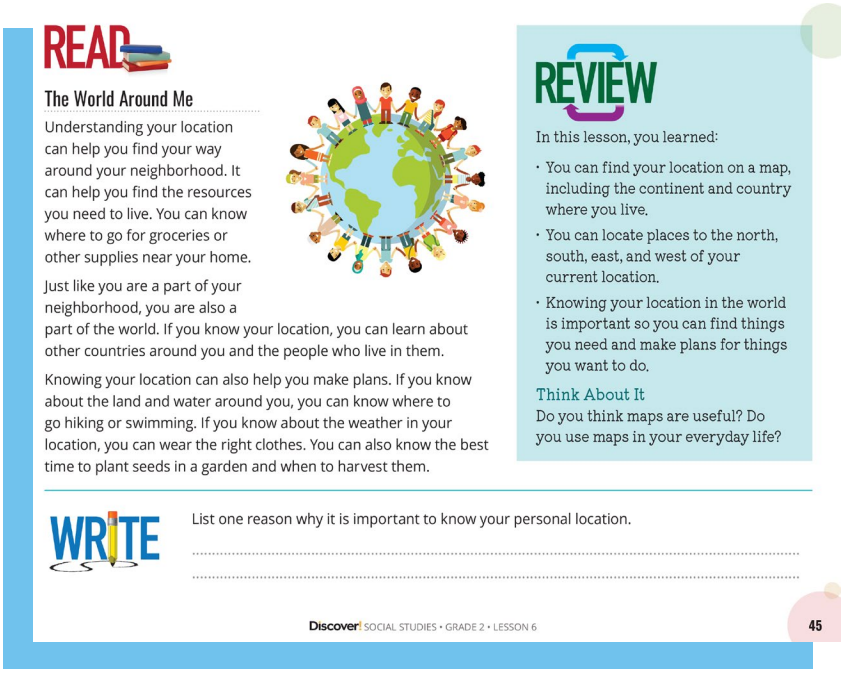
How does surface area affect the buoyancy of an object?

7. What force was keeping the boats afloat?
8. Which boat held the most pennies? Why?

Discover! SCIENCE • GRADE 5 • LESSON 10 71

Independent and Critical-Thinking Opportunities

Discover! is designed to encourage and develop independent and critical thinking while also ensuring mastery of foundational skills by integrating reflective questioning, connection to prior learning, and skill application throughout.



READ

The World Around Me

Understanding your location can help you find your way around your neighborhood. It can help you find the resources you need to live. You can know where to go for groceries or other supplies near your home.

Just like you are a part of your neighborhood, you are also a part of the world. If you know your location, you can learn about other countries around you and the people who live in them.

Knowing your location can also help you make plans. If you know about the land and water around you, you can know where to go hiking or swimming. If you know about the weather in your location, you can wear the right clothes. You can also know the best time to plant seeds in a garden and when to harvest them.

REVIEW

In this lesson, you learned:

- You can find your location on a map, including the continent and country where you live.
- You can locate places to the north, south, east, and west of your current location.
- Knowing your location in the world is important so you can find things you need and make plans for things you want to do.

Think About It

Do you think maps are useful? Do you use maps in your everyday life?

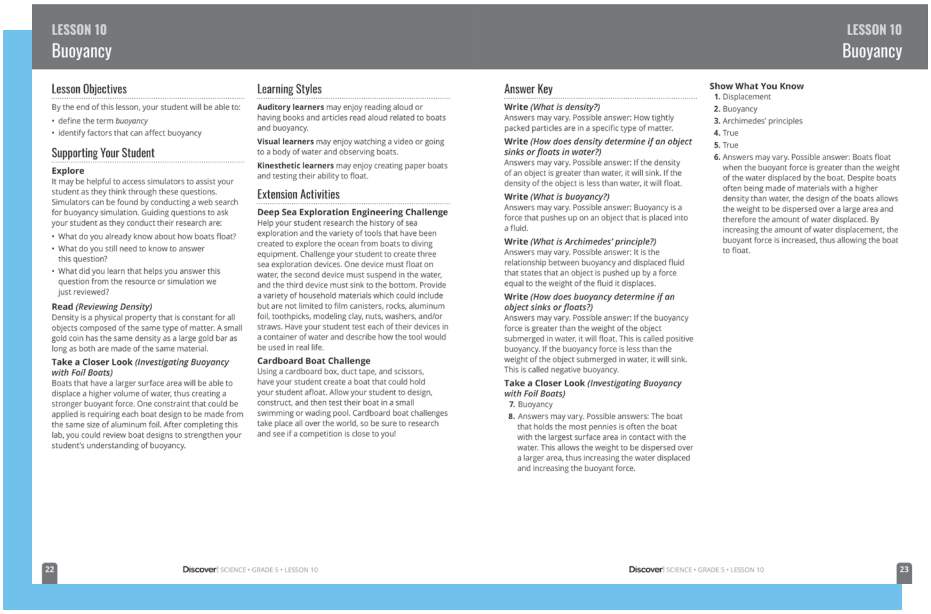
WRITE

List one reason why it is important to know your personal location.

Discover! SOCIAL STUDIES • GRADE 2 • LESSON 6 45

Focus, Exploration, and Discovery

Empowering kids to make discoveries and connect learning to life builds confidence and creates a lifelong love for learning. This is why every lesson is highly interactive and challenges, kids to explore options, express their voice, and follow their curiosity to learn more.



LESSON 10
Buoyancy

Lesson Objectives

By the end of this lesson, your student will be able to:

- define the term *buoyancy*
- identify factors that can affect buoyancy

Supporting Your Student

Explore

It may be helpful to access simulators to assist your student as they think through these questions. Simulators can be found by conducting a web search for buoyancy simulation. Guiding questions to ask your student as they conduct their research are:

- What do you already know about how boats float?
- What do you still need to know to answer this question?
- What did you learn that helps you answer this question from the resource or simulation we just reviewed?

Read *(Reviewing Density)*

Density is a physical property that is constant for all objects composed of the same type of matter. A small gold coin has the same density as a large gold bar as long as both are made of the same material.

Take a Closer Look *(Investigating Buoyancy with Foil Boats)*

Boats that have a larger surface area will be able to displace a higher volume of water, thus creating a stronger buoyant force. One constraint that could be applied is requiring each boat design to be made from the same size of aluminum foil. After completing this lab, you could review boat designs to strengthen your student's understanding of buoyancy.

Learning Styles

Auditory learners may enjoy reading aloud or having books and articles read aloud related to boats and buoyancy.

Visual learners may enjoy watching a video or going to a body of water and observing boats.

Kinesthetic learners may enjoy creating paper boats and testing their ability to float.

Extension Activities

Deep Sea Exploration Engineering Challenge

Help your student research the history of sea exploration and the variety of tools that have been created to explore the ocean from boats to diving equipment. Challenge your student to create three sea exploration devices. One device must float on water, the second device must suspend in the water, and the third device must sink to the bottom. Provide a variety of household materials which could include but are not limited to film canisters, rocks, aluminum foil, toothpicks, modeling clay, nuts, washers, and/or straws. Have your student test each of their devices in a container of water and describe how the tool would be used in real life.

Cardboard Boat Challenge

Using a cardboard box, duct tape, and scissors, have your student create a boat that could hold your student afloat. Allow your student to design, construct, and then test their boat in a small swimming or wading pool. Cardboard boat challenges take place all over the world, so be sure to research and see if a competition is close to you!

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LESSON 10
Buoyancy

Answer Key

Write *(What is density?)*

Answers may vary. Possible answer: How tightly packed particles are in a specific type of matter.

Write *(How does density determine if an object sinks or floats in water?)*

Answers may vary. Possible answer: If the density of an object is greater than water, it will sink. If the density of the object is less than water, it will float.

Write *(What is buoyancy?)*

Answers may vary. Possible answer: Buoyancy is a force that pushes up on an object that is placed into a fluid.

Write *(What is Archimedes' principle?)*

Answers may vary. Possible answer: It is the relationship between buoyancy and displaced fluid that states that an object is pushed up by a force equal to the weight of the fluid it displaces.

Write *(How does buoyancy determine if an object sinks or floats?)*

Answers may vary. Possible answer: If the buoyancy force is greater than the weight of the object submerged in water, it will float. This is called positive buoyancy. If the buoyancy force is less than the weight of the object submerged in water, it will sink. This is called negative buoyancy.

Take a Closer Look *(Investigating Buoyancy with Foil Boats)*

7. Buoyancy
8. Answers may vary. Possible answers: The boat that holds the most pennies is often the boat with the largest surface area in contact with the water. This allows the weight to be dispersed over a larger area, thus increasing the water displaced and increasing the buoyant force.

Show What You Know

1. Displacement
2. Buoyancy
3. Archimedes' principles
4. True
5. True
6. Answers may vary. Possible answer: Boats float when the buoyant force is greater than the weight of the water displaced by the boat. Despite boats often being made of materials with a higher density than water, the design of the boats allows the weight to be dispersed over a large area and therefore the amount of water displaced. By increasing the amount of water displacement, the buoyant force is increased, thus allowing the boat to float.

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Easy-to-Follow Instructor Guides

Fully developed, one-to-one instructor guides provide additional activities and challenges that leverage a student's unique strengths. Instructors can quickly access:

- Lesson objectives
- Ideas for supporting your students
- Connection to learning styles
- Extension activities that take learning off the page

CHAPTER 2
Assessment

Chapter Assessment

Project: Design Your Own Invention!

Project Requirements or Steps:

Use the steps of the engineering design process to create your own invention.

1. What is the problem being solved with this solution?
   - Be sure to include an explanation about how you came up with this idea.
2. What are three possible solutions to this problem?
3. Complete a sketch of the design.
   - Include labels for the materials intended.
   - Explain why this is the best solution to solve the problem.
4. Make a model. Use household items to create a model to solve the problem.
5. Try it out! Try your model and see how it works.
   - What are some things that need to be changed?
   - How will you change them?
   - What already works well?
6. Revise and try again!

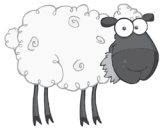
CHAPTER 2
Assessment

Alternative Assessment

It is recommended that the instructor provides the student with support during the assessment to include reading and explaining directions, reading any unknown words or phrases, allowing the student to provide verbal responses that are then recorded, and allowing the student to complete sections of the assessment over the course of the day(s).

Circle or write the correct answer.

1. Our _____ are the body's way of learning about the world.
2. Describe this image using two different senses.



3. Look at this pasta. Then choose the correct word to complete the sentence.

These noodles are sorted by _____.

A. color

B. shape

C. size

4. How could you classify the noodles in a different way?
5. Amal is going to do an experiment. He asks, "What is the fastest way to cool a can of soda?" He puts Can A in an empty container. He puts Can B in a container with cold water. He puts Can C in a container with ice. He puts Can D in a container of cold water and ice.

   Make a prediction about which can will be the coldest: _____
6. When a scientist makes a prediction, it is called a _____.

Student Choice for Every Assessment

All courses offer both a standard and an alternative assessment at the end of each chapter. Choose from a project-based, creative assessment or a test format to meet the specific needs of your students.

CHAPTER 2
Assessment

Chapter Assessment Rubric

Use the following rubric to grade your student's assessment.

	4	3	2	1	Points
Connection to the Chapter	The invention goes above and beyond to make clear connections to the chapter.	The invention is connected to the chapter.	The invention is somewhat connected to the chapter.	The invention is not connected to the chapter.	
Creativity	The photo or drawing is very creative and aesthetically appealing.	The photo or drawing is creative and aesthetically appealing.	The photo or drawing is somewhat creative and aesthetically appealing.	The photo or drawing is not creative or aesthetically appealing.	
Explanation	The written explanations are detailed, interesting, and represent the features of the invention.	The written explanations are detailed and represent the features of the invention.	The written explanations are not detailed.	There are no written explanations.	
Grammar and Mechanics	There are no grammar or punctuation mistakes.	There are one or two grammar or punctuation mistakes.	There are several grammar or punctuation mistakes.	There is a distracting number of grammar or punctuation mistakes.	

Total Points _____/16

Average _____

The Neuroscience in Action

Scenario

Scenario-Based Learning: Scenarios grab interest by sparking curiosity and the power of problem-solving. Discover! scenarios connect learning to life by presenting a problem to solve, leveraging the power of the unexpected, and inspiring action.

EXPLORE

Ava was super excited! She and her family were going on a summer road trip. They were going to be driving all over the country for three weeks!

They had a hard time deciding what to bring. They packed a lot of clothes. They also packed bathing suits, pajamas, and toys. They even packed video games! Since their dog was joining them on the trip, they packed dog food and a dog bed. Lastly, they packed food, snacks, and drinks.

Ava's parents started loading the bags in the trunk of the car. Little by little, the car started to fill up. Soon, the bags covered the entire back of the car. However, not all the bags fit. So they took out all the bags and tried to fit them in a different way.

IN THE REAL WORLD

Find a balloon and blow it up. Like Ava's car, the balloon gets full! If you keep blowing, the space inside the balloon runs out and the balloon pops. What is inside the balloon?

Each time they tried, they ran out of space for the extra bags! They decided to choose a few bags to leave behind. Looking back, they probably packed too much stuff!

Why didn't the bags fit in the car? Why did space run out in the trunk of the car? Talk to your instructor about your answers.

EXPLORE

Imagine going on a nature hike through the woods and tall grasses. It is a sunny day, and there is a lot of nature to see. You see some birds flying overhead and little chipmunks and squirrels bustling through the dirt and the trees. You notice a grasshopper in the grass. As it hops along, you follow it. Suddenly, you realize you are no longer following just one grasshopper! There seems to be another tiny grasshopper hopping alongside it.

You decide to get down on your hands and knees to take a closer look. You even pull out your magnifying glass to check it out. You notice that this tiny grasshopper looks a lot like the other grasshopper. But why is it so small? Is this a baby grasshopper? If it is a baby grasshopper, do all baby insects look just like their parents? How does a grasshopper grow?

Look at the two images. One is a baby grasshopper, while the other is an adult grasshopper. What do you notice about these grasshoppers? What is the same? What is different?

Baby Grasshopper

Adult Grasshopper

The Neuroscience in Action

Concrete Connection to Prior Learning

When students can connect new learning to prior knowledge, they are better able to process, understand, and apply what they are learning. By design, Discover! constantly reinforces prior learning and connects it to new concepts and skills through practice, repetition, hands-on activities, as well as connections to life, learning scenario, and prior knowledge

READ

Matter Takes Up Space

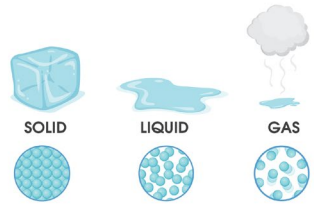
How do we know that matter takes up space?

When Ava and her family were trying to fit all their suitcases and bags in the car, they did not fit! This is because suitcases and bags are made of matter. They took up all the space in the trunk of the car.

You can also make other observations to help think about matter.

Think about taking a bath. Once the bathtub is filled with water, have you ever noticed what happened when you got into the tub? The water level went up. You are also made of matter! Your body is a solid and takes up space. When you got into the bathtub, your body took up space in the tub and pushed the water up.

If you have ever blown up a balloon, you observed matter taking up space. Air is a gas that takes up space. All the air you blow goes inside the balloon.



WRITE

What is one example of matter taking up space?

4

Discover! SCIENCE • GRADE 2 • LESSON 6

EXPLORE

Think about the world around you. How could you use your senses to describe a place that you love? It could be a grandparent's house, a favorite store, or an amusement park.

After you think about a favorite place and the senses you would use to describe it, fill in the sensory chart below. There is an example from a grandparent's house provided for you. You can include more than one sensory detail for each sense in the space provided.

news in the background	mint candy from the candy jar	freshly baked cookies and grandpa's cologne	big smiles across everyone's faces	tight hugs from grandma

TAKE A CLOSER LOOK

Describing a Picture

Look at the picture below. How would you describe the children? What about the artwork? How would you describe what you see in the picture? Share with your instructor.

2

Discover! ENGLISH LANGUAGE ARTS - GRADE 3 - LESSON 17

The Neuroscience in Action

Visuals

Research shows that our brains process visuals 83% more effectively than text alone. With Discover!, concepts and skills are both taught and reinforced through visual lessons and hands-on activities.

READ

Historical Monuments in the United States

There are monuments throughout the United States that represent its history. Some of the most famous monuments include the Statue of Liberty, Mount Rushmore National Park, the Washington Monument, and the Lincoln Memorial. Just as the monuments of the Native American cultures help explain their history, these sites are important aspects of our nation's history.

IMAGE	SITE	DESCRIPTION
	The Lincoln Memorial	This memorial honors the great US president Abraham Lincoln. The 19-foot-tall sculpture was built between 1914 and 1922 by American architect Henry Bacon.
	The Washington Monument	This monument was built to honor the first president of the United States, George Washington. At around 555 feet tall, it is the tallest stone structure in the world.
	The Statue of Liberty	This statue was France's gift to the United States for their Independence. It represents friendship, liberty, and openness.

WRITE

Name three monuments that represent United States history.

READ

Nouns

In every sentence, you will read special words called nouns. **Nouns** are words that name people, places, animals, things, and ideas.

WRITE

Each picture below shows the picture of a noun. Look at the picture. Listen to your instructor tell you the name of the picture. Use your sounds to write the name of the noun shown.



REVIEW

In this lesson, you learned:

- The words *a* and *I* can be read and found in text.
- Nouns are words that name people, places, animals, things, and ideas.

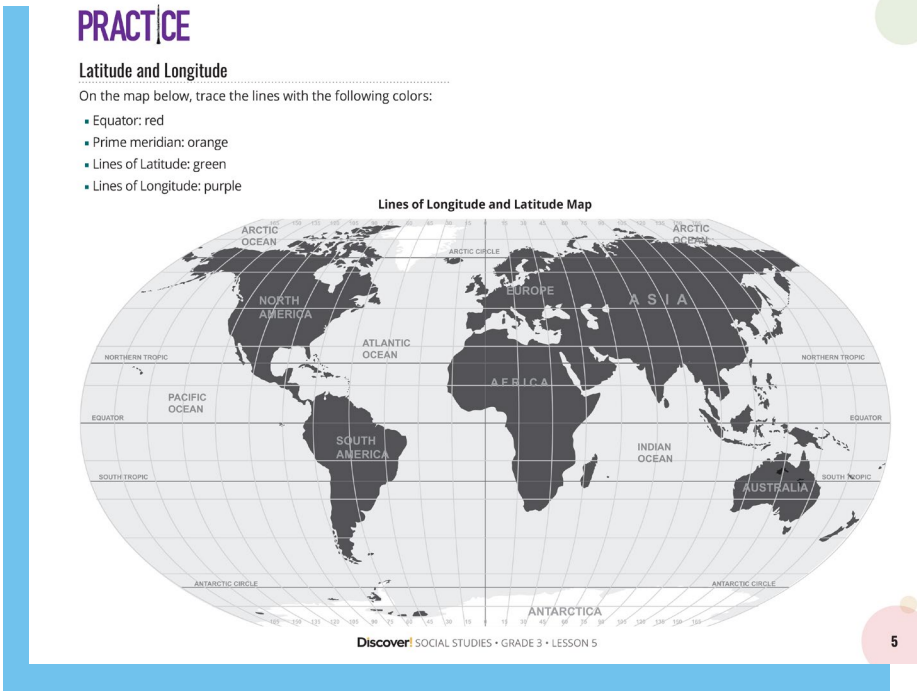
Think About It

How will knowing about nouns help you become a better reader and writer?

The Neuroscience in Action

Practice

By design, Discover! constantly reinforces prior learning and connects it to new concepts and skills through practice, repetition, hands-on activities, as well as connections to life, learning scenario, and prior knowledge.



PRACTICE

Latitude and Longitude

On the map below, trace the lines with the following colors:

- Equator: red
- Prime meridian: orange
- Lines of Latitude: green
- Lines of Longitude: purple

Lines of Longitude and Latitude Map

Discover! SOCIAL STUDIES • GRADE 3 • LESSON 5

5

PRACTICE

In the table below, write each of the five senses. Then, next to each sense, write at least two concrete nouns that you can identify by that sense.

1		
2		
3		
4		
5		

The Neuroscience in Action

Critical-Thinking Activities

Discover! takes critical-thinking skills seriously, ensuring that even our youngest students are developing essential analytical skills through creative questions, guided analysis, and application of concepts and skills with extensive problem-solving practice and learning challenges.

TAKE A CLOSER LOOK

Changing Paper

In this activity, you will observe different ways in which paper can change. With the help of your instructor, you will fold, crumple, cut, and burn pieces of paper. Are the changes reversible or irreversible? Make your predictions below!

PREDICTION	FOLDING PAPER	CRUMPLING PAPER	CUTTING PAPER	BURNING PAPER
Reversible or Irreversible				

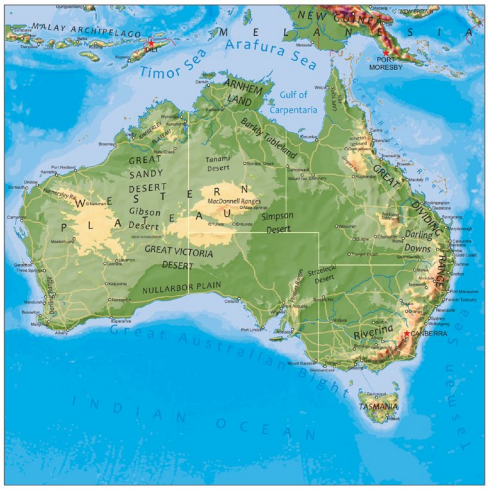
1. Observe each piece of paper. Write your observations on the data table.
2. Take the first piece of paper. Fold it in half. Keep folding it in half until you cannot anymore. Unfold the paper and set it aside.
3. Take the second piece of paper. Crumple it into a ball. Uncrumple it and set it aside.
4. Take the third piece of paper. Use scissors to cut it in four pieces. Take the pieces and set them aside.
5. With the help of your instructor, use a match or lighter to burn the fourth piece of paper. As it burns, have your instructor hold it over a plate so the ashes collect on it.
6. Observe the changes to each piece of paper. Write your observations in the data table on the next page.

Discover! SCIENCE • GRADE 2 • LESSON 17 5

EXPLORE

Camping in the forest can be fun! Imagine you are looking for a place to go camping. What area of land on the map of Australia do you think would be best for your trip?

Use the map to the right to circle the place you would choose for your trip. Then, explain why you chose your camping site.



The land across Australia doesn't look the same in every location. Do you think there are areas of Australia that might look similar to other places around the world?

2 Discover! SOCIAL STUDIES • GRADE 3 • LESSON 18

The Neuroscience in Action

Apply Student Voice

Discover! seeks to develop learners who are conscious of the world around them, confident in who they are, and adept at working with and supporting others. With built-in activities that encourage students to respond in a personal way, Discover! helps build confidence as they realize they have big ideas.

EXPLORE

Melissa had to complete a project for her science class. Her assignment was to grow a bean plant.

Melissa gathered her materials: a pot, soil, and a bean. She planted the bean and set it outside in a sunny place. She watered it once a week.

After a few days, the bean sprouted into a seedling. Over the next couple of weeks, the plant grew taller and taller. But after the third week, her plant began to wilt. When a plant wilts, it becomes yellow and limp. Melissa made sure the plant was getting sunlight and she kept watering it once a week.

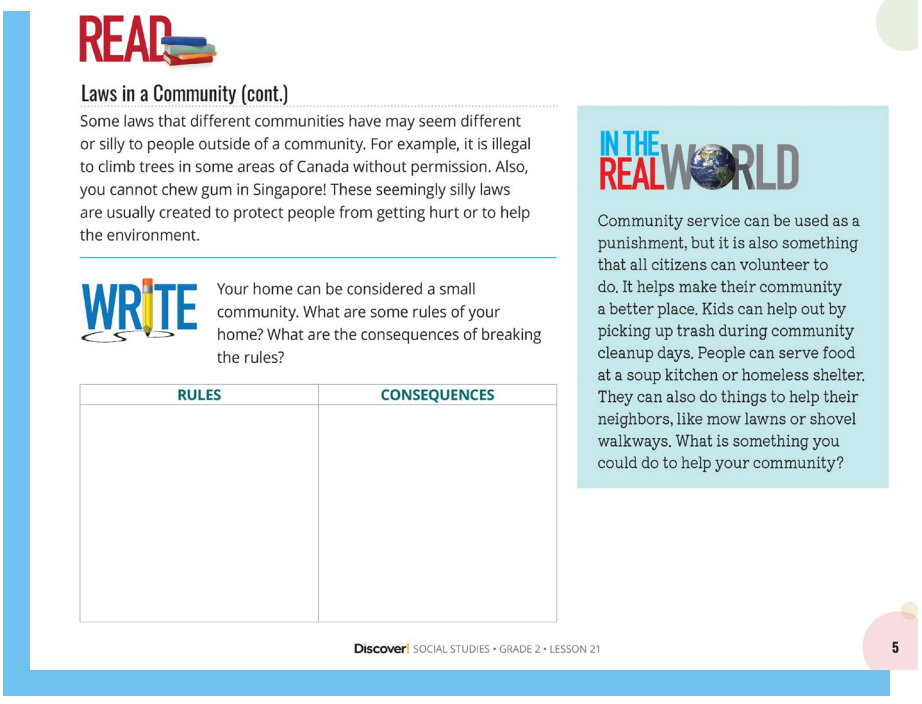
She did not understand why her plant began to wilt!

What do you think happened to Melissa's plant? What might she have done wrong? How can she fix her problem? Write your ideas on the lines below.

IN THE REAL WORLD

Go outside and find some plants growing around you. Observe them to see if they are healthy or wilting. Where are they located? Do you think they get a lot or a little bit of sunlight? How much water do you think they get? Talk to your instructor about your answers.

2 Discover! SCIENCE • GRADE 2 • LESSON 1



READ

Laws in a Community (cont.)

Some laws that different communities have may seem different or silly to people outside of a community. For example, it is illegal to climb trees in some areas of Canada without permission. Also, you cannot chew gum in Singapore! These seemingly silly laws are usually created to protect people from getting hurt or to help the environment.

WRITE

Your home can be considered a small community. What are some rules of your home? What are the consequences of breaking the rules?

RULES	CONSEQUENCES

IN THE REAL WORLD

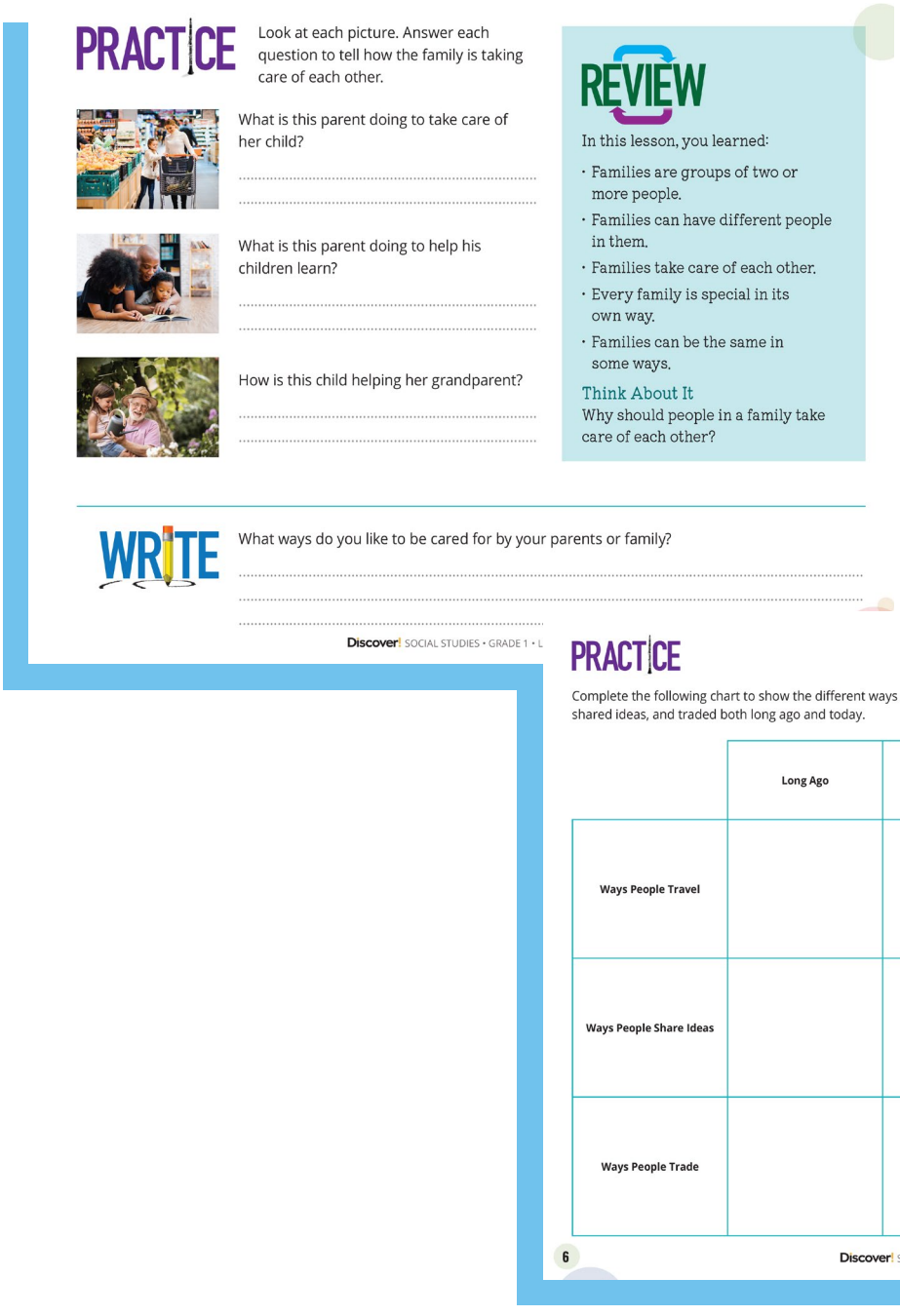
Community service can be used as a punishment, but it is also something that all citizens can volunteer to do. It helps make their community a better place. Kids can help out by picking up trash during community cleanup days. People can serve food at a soup kitchen or homeless shelter. They can also do things to help their neighbors, like mow lawns or shovel walkways. What is something you could do to help your community?

Discover! SOCIAL STUDIES • GRADE 2 • LESSON 21 5

The Neuroscience in Action

Understanding

Our careful lesson structure is deliberately designed to lead to wisdom, understanding, and strong character. When students are able to make connections between prior and new learning, respond to information in meaningful ways, and apply learning to life, they understand at a whole new level. Discover! builds on those skills as students grow and develop, ensuring that they are not only mastering skills and acquiring new knowledge but they are developing their ability for critical thinking and analysis and deepening their understanding.



PRACTICE

Look at each picture. Answer each question to tell how the family is taking care of each other.

What is this parent doing to take care of her child?

What is this parent doing to help his children learn?

How is this child helping her grandparent?

REVIEW

In this lesson, you learned:

- Families are groups of two or more people.
- Families can have different people in them.
- Families take care of each other.
- Every family is special in its own way.
- Families can be the same in some ways.

Think About It

Why should people in a family take care of each other?

WRITE

What ways do you like to be cared for by your parents or family?

Discover! SOCIAL STUDIES • GRADE 1 • L

PRACTICE

Complete the following chart to show the different ways people traveled, shared ideas, and traded both long ago and today.

	Long Ago	Today
Ways People Travel		
Ways People Share Ideas		
Ways People Trade		

WRITE

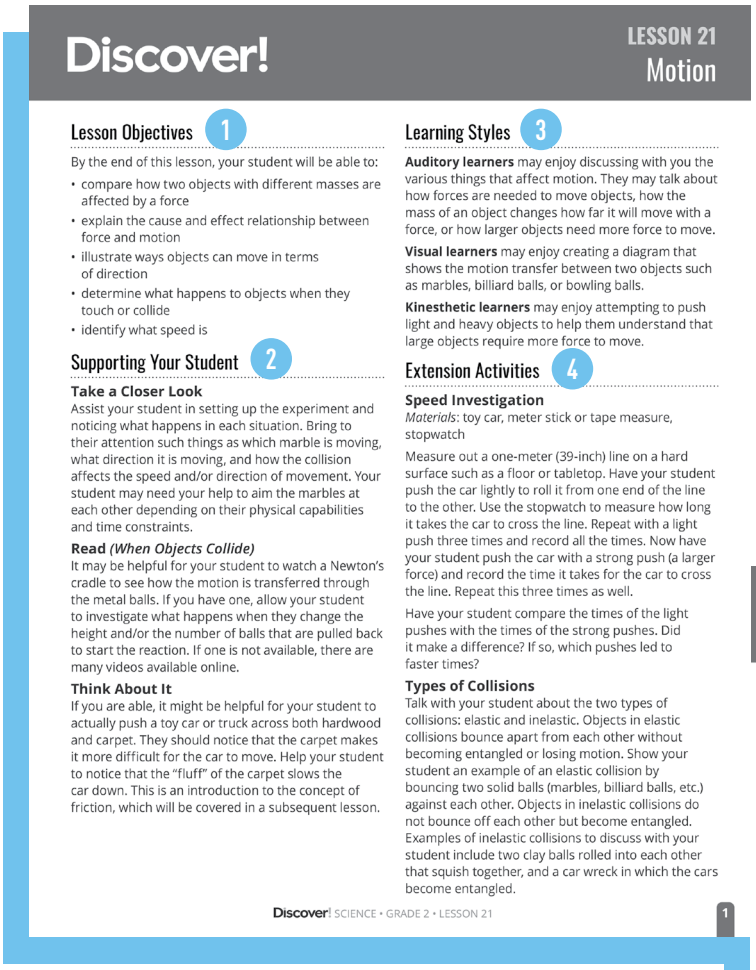
Can you think of any ways that people travel, share ideas, and trade today that were also used long ago?

6

Discover! SOCIAL STUDIES • GRADE 3 • LESSON 11

Extensive Parent and Teacher Support

Discover! Instructor Guides provide comprehensive plans with step-by-step instructional support, creative ideas for extending learning, Socratic-method questioning guides, hands-on and project-based learning and activities, and ideas for leveraging preferred learning styles.



Discover!

LESSON 21
Motion

Lesson Objectives 1

By the end of this lesson, your student will be able to:

- compare how two objects with different masses are affected by a force
- explain the cause and effect relationship between force and motion
- illustrate ways objects can move in terms of direction
- determine what happens to objects when they touch or collide
- identify what speed is

Supporting Your Student 2

Take a Closer Look

Assist your student in setting up the experiment and noticing what happens in each situation. Bring to their attention such things as which marble is moving, what direction it is moving, and how the collision affects the speed and/or direction of movement. Your student may need your help to aim the marbles at each other depending on their physical capabilities and time constraints.

Read *(When Objects Collide)*

It may be helpful for your student to watch a Newton's cradle to see how the motion is transferred through the metal balls. If you have one, allow your student to investigate what happens when they change the height and/or the number of balls that are pulled back to start the reaction. If one is not available, there are many videos available online.

Think About It

If you are able, it might be helpful for your student to actually push a toy car or truck across both hardwood and carpet. They should notice that the carpet makes it more difficult for the car to move. Help your student to notice that the "fluff" of the carpet slows the car down. This is an introduction to the concept of friction, which will be covered in a subsequent lesson.

Learning Styles 3

Auditory learners may enjoy discussing with you the various things that affect motion. They may talk about how forces are needed to move objects, how the mass of an object changes how far it will move with a force, or how larger objects need more force to move.

Visual learners may enjoy creating a diagram that shows the motion transfer between two objects such as marbles, billiard balls, or bowling balls.

Kinesthetic learners may enjoy attempting to push light and heavy objects to help them understand that large objects require more force to move.

Extension Activities 4

Speed Investigation

Materials: toy car, meter stick or tape measure, stopwatch

Measure out a one-meter (39-inch) line on a hard surface such as a floor or tabletop. Have your student push the car lightly to roll it from one end of the line to the other. Use the stopwatch to measure how long it takes the car to cross the line. Repeat with a light push three times and record all the times. Now have your student push the car with a strong push (a larger force) and record the time it takes for the car to cross the line. Repeat this three times as well.

Have your student compare the times of the light pushes with the times of the strong pushes. Did it make a difference? If so, which pushes led to faster times?

Types of Collisions

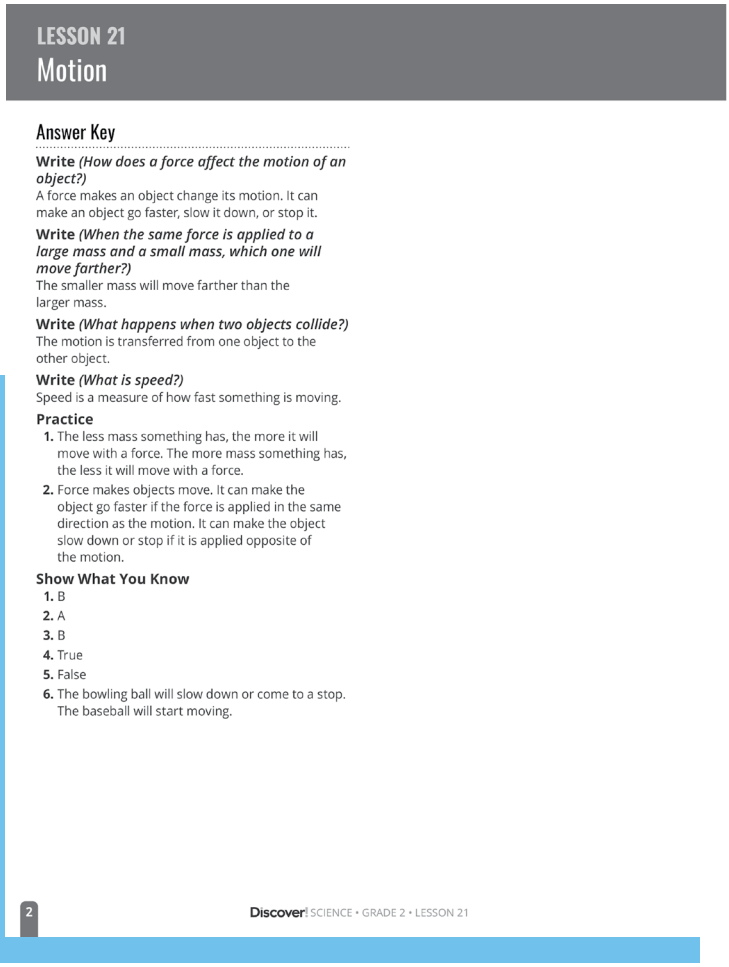
Talk with your student about the two types of collisions: elastic and inelastic. Objects in elastic collisions bounce apart from each other without becoming entangled or losing motion. Show your student an example of an elastic collision by bouncing two solid balls (marbles, billiard balls, etc.) against each other. Objects in inelastic collisions do not bounce off each other but become entangled. Examples of inelastic collisions to discuss with your student include two clay balls rolled into each other that squish together, and a car wreck in which the cars become entangled.

1 Provides instructors with a goal for student learning

2 Provides guidance for the instructor to support student learning throughout each lesson section

3 Provides creative avenues for experiencing the lesson aligned to different learning styles

4 Provides additional activities to remediate or extend learning on the lesson topic



LESSON 21
Motion

Answer Key

Write *(How does a force affect the motion of an object?)*

A force makes an object change its motion. It can make an object go faster, slow it down, or stop it.

Write *(When the same force is applied to a large mass and a small mass, which one will move farther?)*

The smaller mass will move farther than the larger mass.

Write *(What happens when two objects collide?)*

The motion is transferred from one object to the other object.

Write *(What is speed?)*

Speed is a measure of how fast something is moving.

Practice

1. The less mass something has, the more it will move with a force. The more mass something has, the less it will move with a force.
2. Force makes objects move. It can make the object go faster if the force is applied in the same direction as the motion. It can make the object slow down or stop if it is applied opposite of the motion.

Show What You Know

1. B
2. A
3. B
4. True
5. False
6. The bowling ball will slow down or come to a stop. The baseball will start moving.

Technology Resources

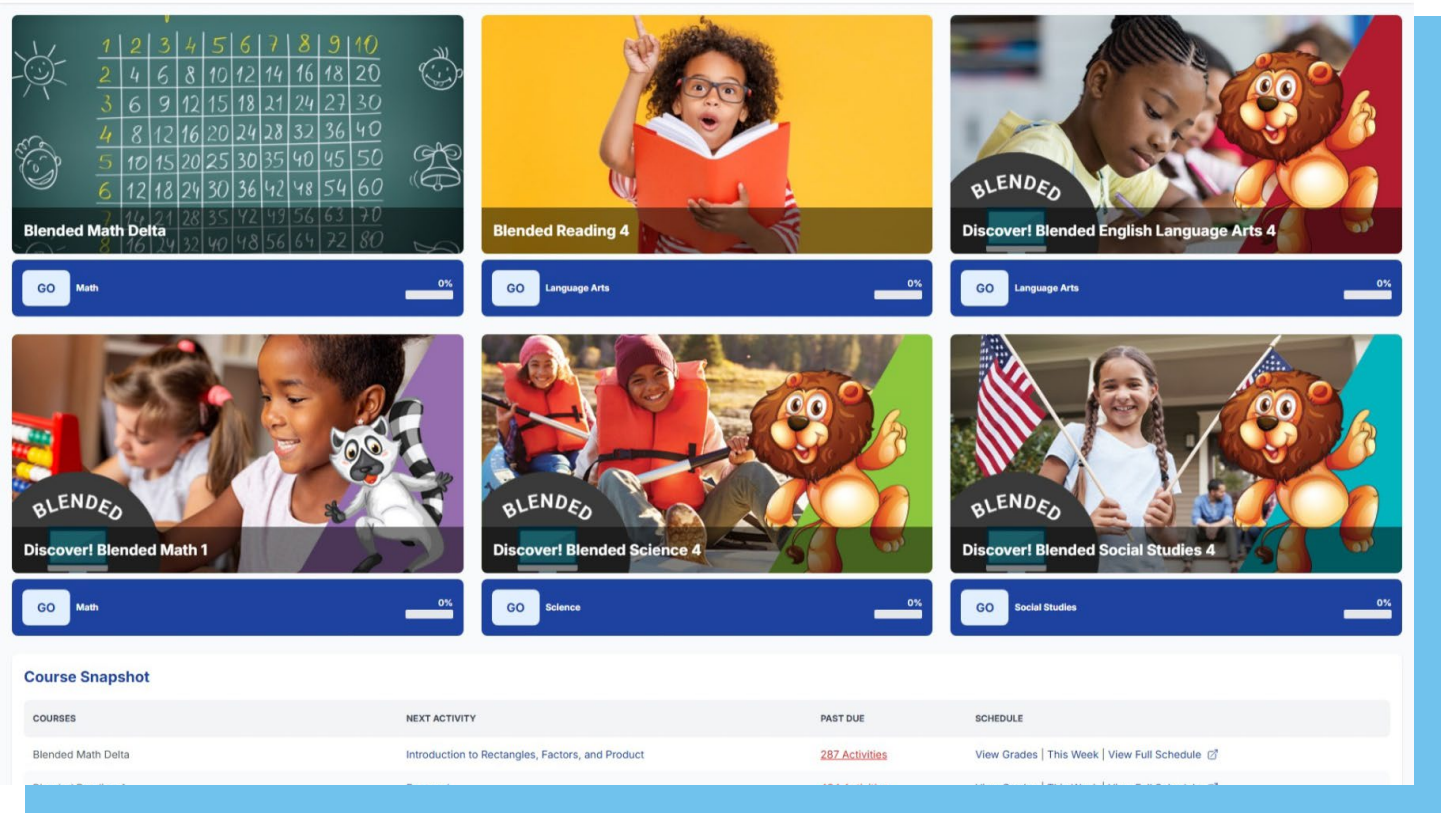
Blending Online and Offline for a Rich-Interactive Learning Experience

Students can choose our fully interactive online learning experience as part of their Discover! program. This engaging, student-friendly, blended learning experience is the first place students visit as they begin their day.

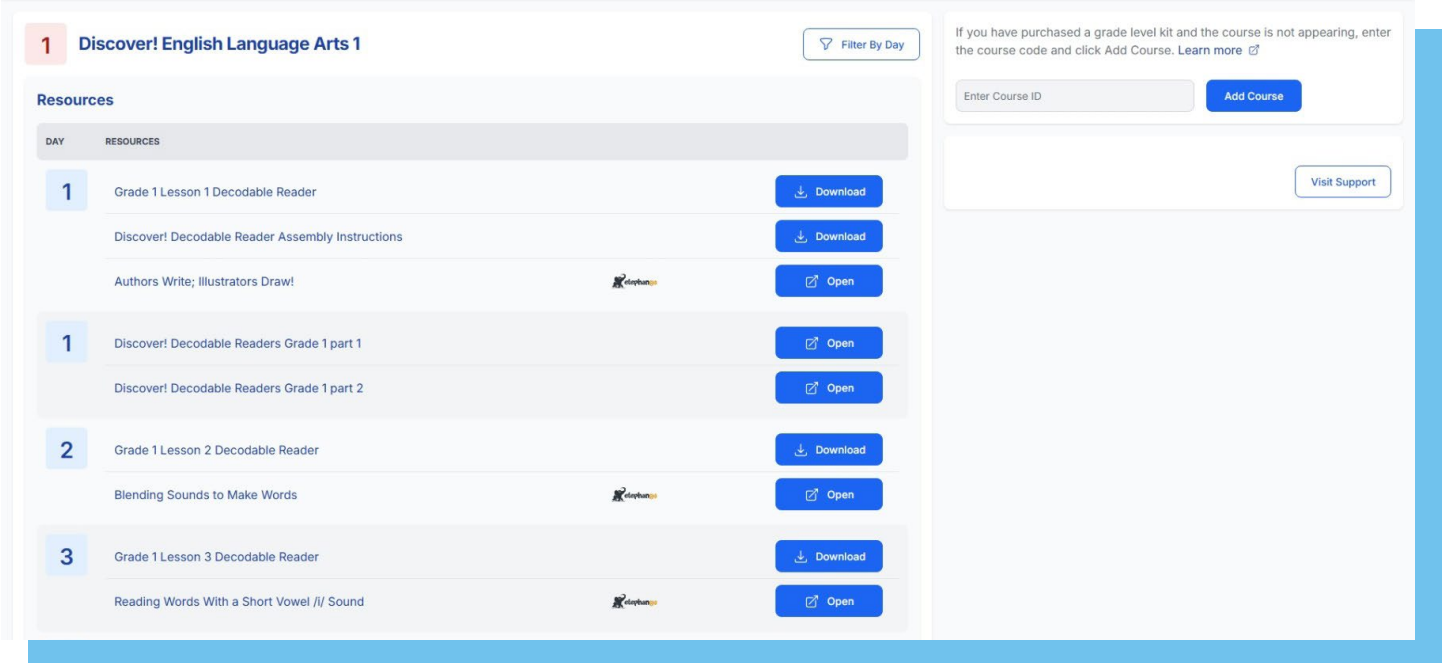
Colorful characters bring learning to life as they guide students through the material, challenge them with practice, application and reinforcement activities, and ensure that they stay on track with progress monitoring.

The Bridgeway Learning Center provides:

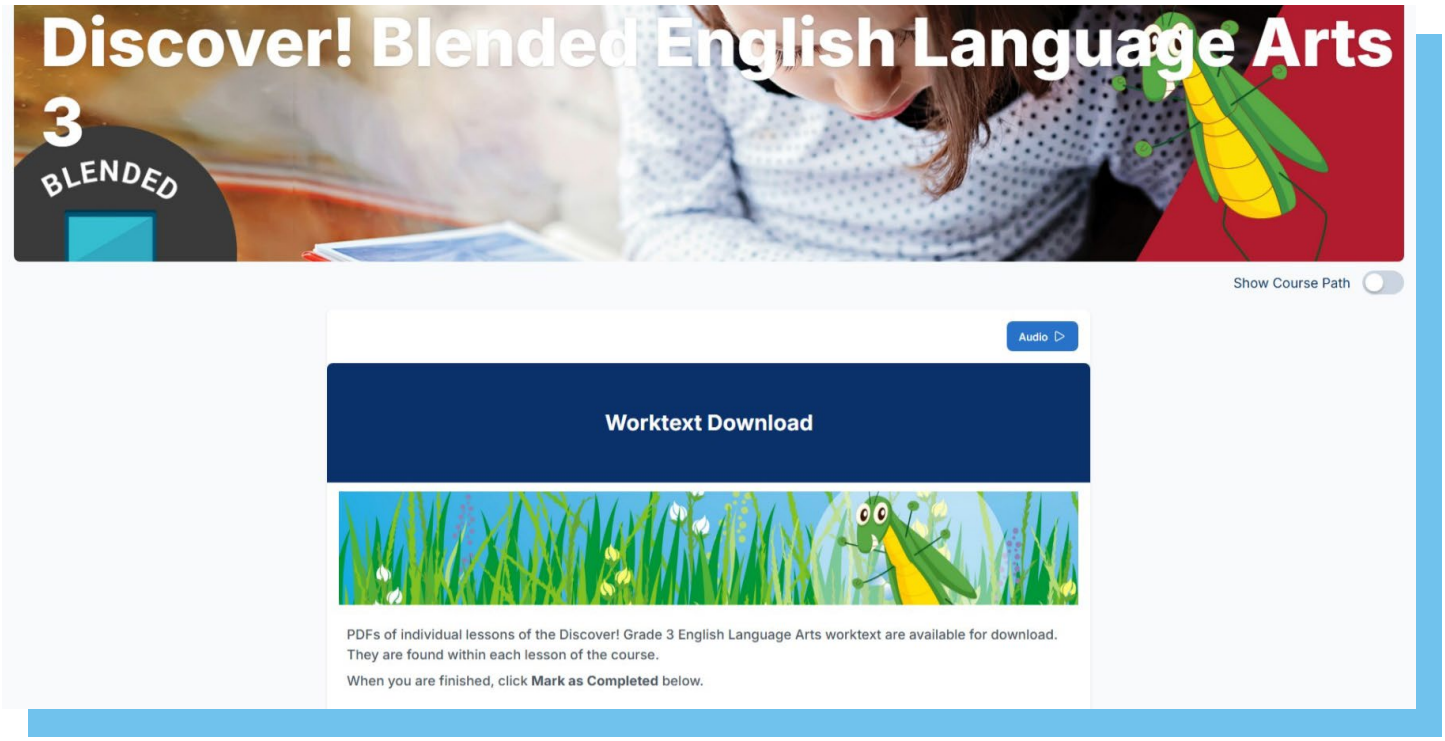
Easy Access to Courses

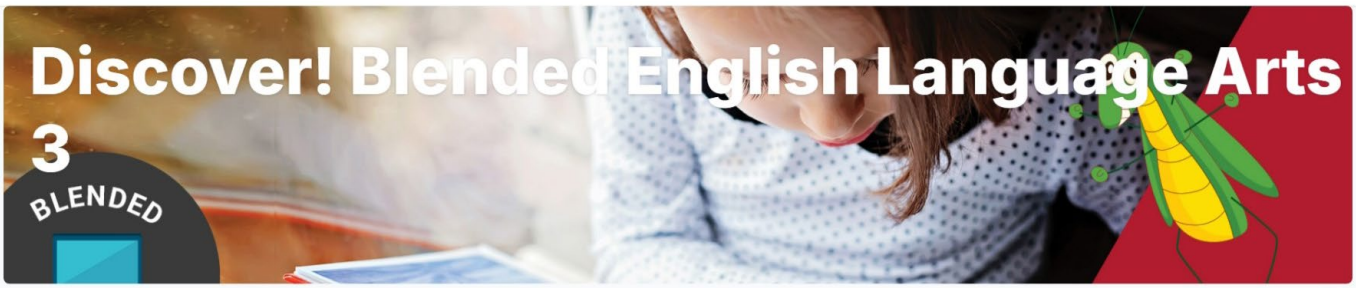


PDF versions of all textbooks



Teacher Resources





Show Course Path

Interactive Practice

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Discover

View Glossary

Interactive Practice

PRACTICE

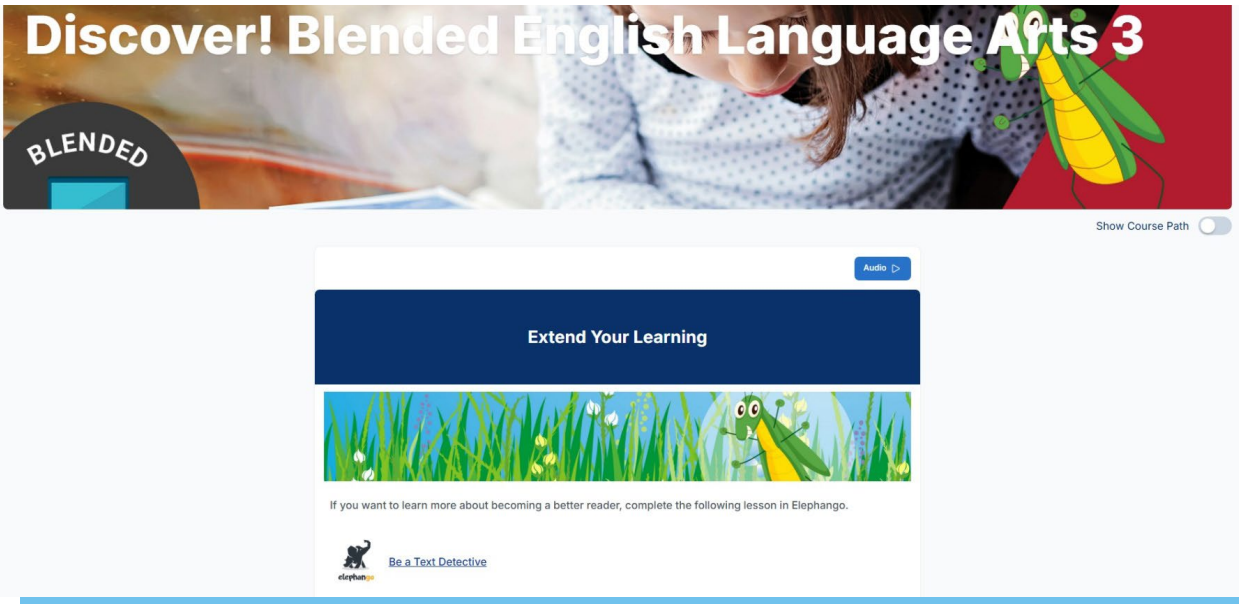
Welcome back, friend! Do you remember what the five main genres of literature are? Let's see, there's fiction, nonfiction, drama, poetry, and… OHHHH, I can't remember the last one! Will you help me?

Match each image to its correct literary genre.

Choices:

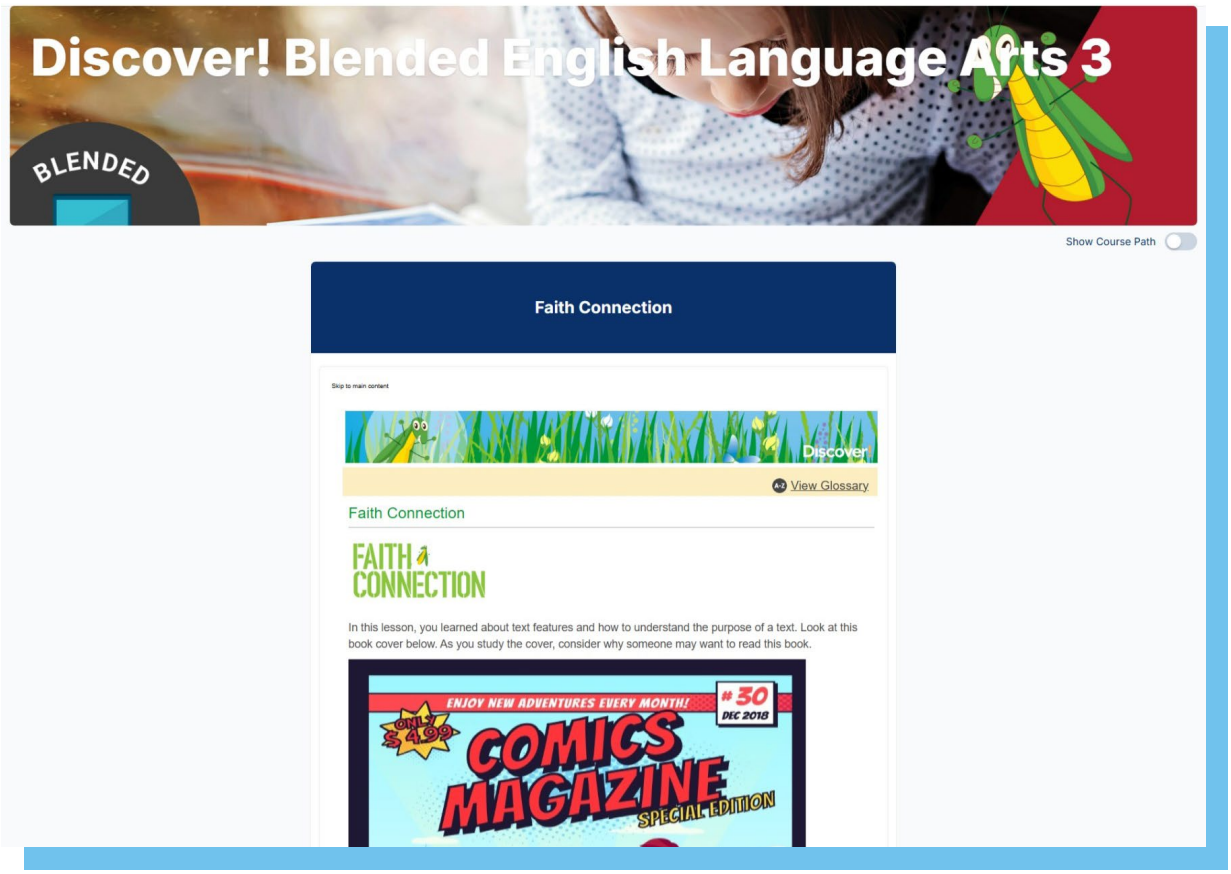
Description	Your Answer
Harry Potter (Fiction)	
Written Works of Emily Dickinson (Poetry)	
George Washington (Biography)	
Hamlet (Drama)	
Goldilocks and the Three Bears (Folktale)	

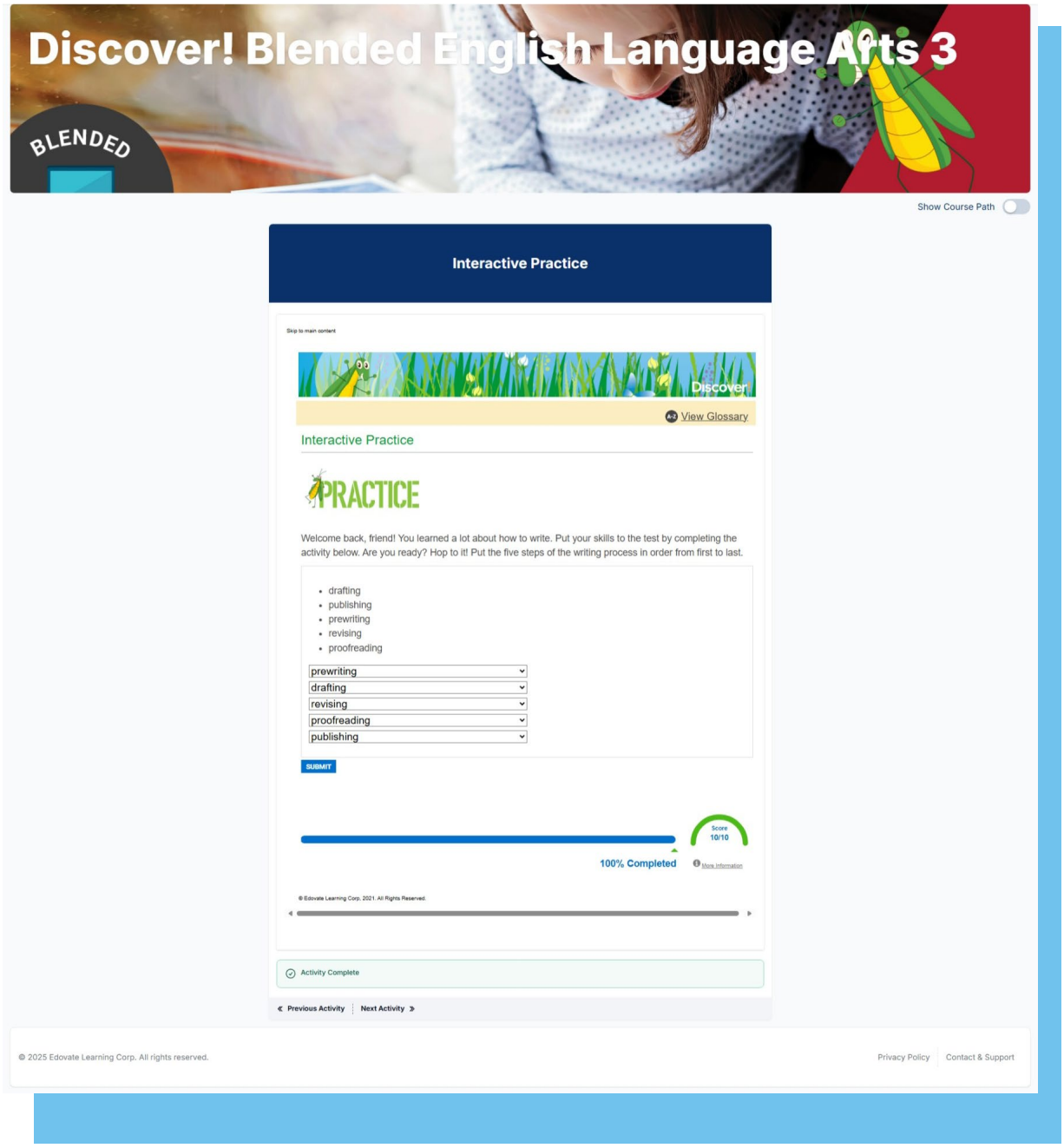
Reteaching and Enrichment



Faith Connection (Blended Optional Add-On)

Turn on this optional feature to add faith-based learning.




Discover! Blended English Language Arts 3
BLENDED
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Interactive Practice
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Interactive Practice
PRACTICE
Welcome back, friend! You learned a lot about how to write. Put your skills to the test by completing the activity below. Are you ready? Hop to it! Put the five steps of the writing process in order from first to last.
drafting
publishing
prewriting
revising
proofreading
prewriting
drafting
revising
proofreading
publishing
SUBMIT
Score 10/10
100% Completed
More Information
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Activity Complete
Previous Activity
Next Activity
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