



Education in Motion
Workbook

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When Was a Time That You Had the Most Fun?

Writing Genre:

Personal Narrative

Materials You Will Need:

Pencil

Paper

Activities:

Reflect on your day at Elitch Gardens. What excited you the most? What was your favorite part of the day? How did the rides make you feel? Was there anything you learned throughout the day? Now, your job will be to put that day onto paper. Create a story for the people who weren't there with you. Answer these questions as best you can, and feel free add any part of the day that you wish.



Describe Your Favorite Ride

Writing Genre:

Descriptive Narrative

Materials You Will Need:

Pencil

Paper

Activities:

First, think about your favorite ride at Elitch Gardens. Then, write a short story or essay describing your personal favorite ride.

Why is this your favorite ride? What feeling does it give you? What were the other people's reactions on this ride? What color is the ride? Did this ride go fast or slow? Also describe how the ride made you feel while waiting in line. Were you excited or a little nervous?



How to Play

Writing Genre:

Expository- Informational

Materials You Will Need:

Pencil

Paper

Activities:

In this activity, you will be describing your favorite game at Elitch Gardens. Your job is to give a detailed description of your favorite game and how to play it. Explain what materials you will need while playing the game. Also, give some tips and tricks that you learned to make others more successful at the game.



No More Elitch Gardens

Writing Genre:

Persuasive

Materials You Will Need:

Pencil

Paper

Activities:

It's terrible, the principal of your school has decided to discontinue the Elitch Gardens field trip. Your job is to write a letter to your school principal and explain why this is not a good idea. Emphasize how important the Elitch Gardens field trip is to you. Why is there value for students to attend this trip? What have you personally learned or gained by going on this trip? Are there any reasons or facts that will convince your principal on why the Elitch Gardens field trip is an educational experience?



Acrostic Poem

Concepts:

Create an acrostic poem

Materials You Will Need

Pencil

Paper

Activities:

Think about words that describe your favorite ride at Elitch Gardens. Your job is then to create an acrostic poem with the words you came up with.



Venn Diagram

Concepts:

Compare and contrast using a Venn diagram as a graphic organizer

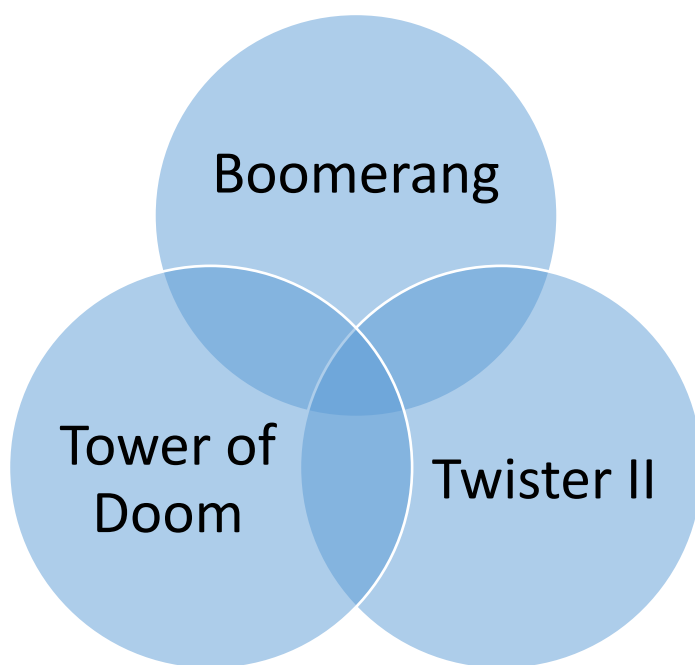
Materials You Will Need:

Pencil

Paper

Activities:

Think about the Boomerang, Tower of Doom, and Twister II. Using a Venn diagram, pick out the differences and similarities of the three rides.



Roller Coaster Angles

Concepts:

Acute Angle

Obtuse Angle

Right Angle

Materials You Will Need:

Pencil

Paper

Activities:

Each Elych Gardens ride has many different angles. Your job is to pick out parts of the different rides and identify if the specified part is an acute angle, obtuse angle, or right angle.



Who Rode What?

Concepts:

Data analysis

Maximum, minimum, range, and median

Materials You Will Need:

Pencil

Activities:

After attending Elych Gardens, try to get a general understanding of what rides your classmates went on.

Number of Rides Ridden	Number of Students

1. What was the maximum (greatest) number of rides ridden? _____
2. What was the minimum (least) number of rides ridden? _____
3. What is the range for the data? _____
4. What is the median for the data? _____

Give it a Try

Concepts:

Mathematical problem solving

Check reasonableness of answers

Materials You Will Need:

Pencil

Paper

Activities:

Using mathematical strategies that you have learned all year, solve the following questions.

1. Your class has recently gone to Elitch Gardens for your big field trip. Your class has 24 students, some wearing tennis shoes and some wearing sandals. There were 3 times as many students who wore tennis shoes than sandals. How many students wore tennis shoes?
2. There are 36 Children standing in line at Arkansas Twister waiting to ride the roller coaster. There are 10 cars on the roller coaster and each car can hold up to 4 children. If the ride operator wants to put some children in each car but no one can ride alone, how many children should the ride operator put in each car? (There are several possible answers)
3. Another class had 19 students attend the field trip. The bus had 7 seats and the students could sit 2 in a seat or 3 in a seat. There could not be any empty seats. How many seats had 2 students? How many seats had 3 students?

E.G. Mathematics

CONCEPTS

Develop, with and without appropriate *technology, computational fluency*, in *multi-digit* addition and subtraction using contextual problems; *strategies* for adding, subtracting, multiplying, and dividing numbers; *estimation* of reasonable answers • relationships between operations

MATERIALS YOU WILL NEED:

Pencil

Paper

ACTIVITIES

Solve the following story problems. (Note: numbers can be changed to increase or decrease the complexity of the problems)

1. Amy counted 200 red flowers in the garden at Magic Springs. Pam counted 120 yellow flowers in the same garden. How many flowers did they count all together?
2. Ian has some Skittles that he bought from the gift shop. Jamar gave him 125 more. Now Ian has 340 Skittles. How many Skittles did Ian have to start with?
3. Terrace Treats had 120 chocolate chip cookies to sell. They sold some of those cookies. Now they have only 80 left. How many cookies did Terrace Treats sell?
4. The wave pool has 160 boys and some girls. Altogether, the wave pool has 280 people. How many girls are in the wave pool?
5. The Goodie Gallery has 45 brownies. They put 3 brownies in each box to sell. How many boxes will Goodie Gallery have to sell?
6. Terrace Treats has 60 soft pretzels. They have to put them in 5 bags. Each bag has to have the same number of pretzels. How many pretzels are in each bag?

Mix It Up!

Concepts:

Develop and use various math strategies to solve non-routine problems & check the reasonableness of the answers

Materials You Will Need:

Paper

Pencil

Activities:

While at Elitch Gardens, you order an ice cream sundae. You can choose one flavor of ice cream and one topping from the menu below. How many different combinations can you make? List all the possible combinations.

Menu	
Ice Cream Flavors	Toppings
Chocolate	Sprinkles
Vanilla	M&M's
Strawberry	Gummy Bears

A Tough Decision

Concepts:

Apply money concepts in contextual situations to determine change back with the least amount of currency.

Materials You Will Need:

Paper

Pencil

Activities:

When you are at Elitch Gardens, you choose a restaurant and examine their menu. Select three items that you would like to purchase for lunch for less than \$20.00. Record those three items along with their price on the table below.

Menu	
Item	Price

1. How much was the cost of the lunch total? Show your work and thinking.
2. How much change will you receive after paying with \$20? Show your work and thinking
3. Use the least number of bills and or coins possible to determine the change that you should receive. Show your work and thinking.

What a Great Lineup!

Elitch Gardens is the only theme and water park in Colorado. Every member of your family will find something to enjoy. The beauty of Elitch Gardens is matched only by the thrill of its coasters. There are also a wide variety of family rides. Your little ones won't be left out of the action. There are kiddie rides the youngest will love!

Thrill Rides

Twister II is a wooden roller coaster. The Twister is ready to take you on a wild ride. It has over 4,640 feet of track. This coaster is over ten stories tall! It will get your heart racing all the way to the finish.

Are you up to a challenge? It takes nerves of steel to handle the *Mind Eraser*. This coaster goes up to 50 miles per hour. This is a very thrilling ride. Your feet will be dangling. Your adrenaline will be pumping. Your heart will be thumping.

Load a ship with your best friends and hit the river. That is, if you don't mind a tidal wave! The best way to cool down quickly in the Colorado heat is a 50-foot drop on *Shipwreck Falls*. The chills and spills will hang around long after you've taken the plunge. One your way out, be sure to stop on the bridge. You can get a fresh soaking from the next rafters headed down.

Family Rides

Are you looking for a roller coaster to start out on? Look no further than the Blazin' Buckaroo. This roller coaster is small but powerful. It is exciting for both kids and adults.

The *Sea Dragon* Viking ship will make you feel like you are on the mighty seas. You will go higher and higher as you rock back and forth! It will leave your stomach tingling and your heart twittering.

The *Dragonwing* is a family favorite! Get into your seat and take off. You will go twisting and turning in the sky.

Go for a spin on our *Carousel*. This ride is the classic merry-go-round experience. You will have fun from the very beginning by picking out which beautifully painted horse or chariot you want to ride. You'll want to ride over and over again.

Kids' Rides

Imaginations fly high on *Crazy Bus*. It features a kid sized buss that goes up, down, and around again and again. This will make a great time to snap a photo. Remember to smile as you wave at the camera.

On the *Balloon Race* you will soar through the air on our colorful hot air balloons! The hot air balloons rise up as the ride spins. If you want added excitement, you can make your balloon basket twirl even faster.

All aboard the *E.G. Express*! Your kids can be the engineer of their own train. They can take a fun, colorful trip around the tracks.

Elitch Gardens includes all of these rides and many more. If all of the rides aren't enough, Elitch Gardens also includes more fun. It has a water park, games, entertainment, and yummy food. Your fun day will create many fun memories to look back on. So what are you waiting for?

1. What is the author's purpose for writing this passage?
 - a. To entertain the reader with a story about a field trip to Elitch Gardens
 - b. To persuade the reader to go to Elitch Gardens
 - c. To inform the reader that Elitch Gardens also has a water park
 - d. To encourage the reader to ride the *Mind Eraser*

2. Why did the author use *italics* throughout the passage?
 - a. They are names of rides
 - b. They are subheadings in the passage
 - c. To give directions to the park
 - d. To help you say the words

3. Under which heading would you most likely find information about rides that a young child would want to ride?
 - a. Thrill Rides
 - b. Family Rides
 - c. Kids' Rides
 - d. Baby Rides

4. This passage about Elitch Gardens is a/an
 - a. Fantasy
 - b. Advertisement
 - c. Menu
 - d. Fiction

5. According to the passage, which ride would make a great time to take a picture?
 - a. Sea Dragon
 - b. Shipwreck Falls
 - c. Carousel
 - d. Crazy Bus

6. Someone would most likely read this passage to?
 - a. Learn more about Elitch Gardens
 - b. Find out more about Colorado
 - c. Determine how hot Colorado summers can get
 - d. Enjoy a good story

7. A person that is scared of heights would be most afraid of which ride?
 - a. Shipwreck Falls
 - b. Twister II
 - c. Balloon Race
 - d. Mind Eraser

8. What do you think the author meant when he used the term “nerves of steel”?
 - a. Someone might take your belongings
 - b. You are nervous about riding rides
 - c. You have a steel plate in your body
 - d. You are very brave

Open Response:

In this passage, you read about different types of rides that they have at Elitch Gardens. Which type of rides do you think you would enjoy most? Use specific examples and details from the passage to support your answer.

What a Great Lineup!

Answer Key:

1. B Author's purpose
2. A Text features
3. C Text features
4. B Genre
5. D Article details
6. A Author's purpose
7. C Inference
8. B Vocabulary



Twister II

Twister II is the longest coaster in the park! There is 4,640 feet of track and experience up to 3.1 G's—that's more than three times your normal body weight! The current Twister II is a longer and taller version of the original Mr. Twister roller coaster that opened at the park's previous location in 1964.

Concepts:

Mathematical Skills

Materials You Will Need:

Paper

Pencil

Calculator

Stopwatch

Activities:

1. The highest point of the coaster's tallest hill is 10 stories high or roughly 100 feet. While you are on the ground, time the duration of the ride.
2. Calculate the average speed of the ride.
3. Identify at least three sources of friction in the ride.
4. Does an empty coaster take the same amount of time for a single trip as a full coaster? Defend your answer.
5. At what point on the roller coaster track should there be maximum potential energy and minimum and maximum kinetic energy?
6. Investigate the Law of Conservation of Energy and explain the difference of potential energy, kinetic energy, and mechanical energy.

Design the Ideal Ride

What do you think would be the ideal ride? Would it be made of wood or steel? Would it have loops, quick turns, or long, smooth stretches?

Materials You Will Need

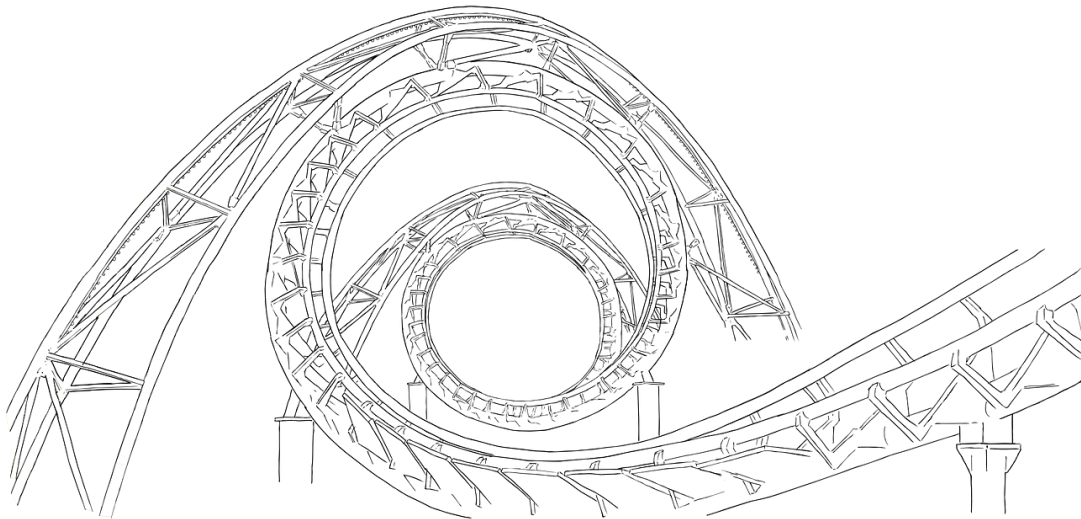
Pencil

Drawing Paper

Art Supplies

Activities

1. Think about all the rides you have seen at Elitch Gardens
2. Write down the best features of each ride you liked.
3. Make a drawing and write a description of your ride.
4. Be sure to include colors, special features, and any restrictions that would be in effect for the riders.



Pirate Ship Pendulum

Concepts

Observation

Mathematical reasoning

Materials You Will Need

Pencil

Paper

Stopwatch

Activities:

1. While watching or riding the Sea Dragon a total of four times, count the number of times the ship swings back and forth. Is this number always the same? If not, explain why.
2. Time the duration of each ride and compare this number to the number of times the ship goes back and forth. Is this always the same or different?
3. Is the Sea Dragon ride a true example of a pendulum?

Circles

To make things more exciting for their passengers, many rides operate in circles. Centripetal force and inertia work together to keep riders in their seats. Inertia is a physical property that keeps moving things moving or motionless things still unless an outside force acts on them. Centripetal force causes an object to turn in a circular path.

Concepts:

Observing

Classifying

Materials You Will Need:

Paper

Pencil

Activities:

1. Select several rides in the park that travel in a circle.
2. Use the chart below to record the information about the rides you are comparing.
3. Write down the number of circles each ride makes.
4. Indicate where the centripetal force is used.

Name of Ride	No. Of Circles	Use of Centripetal Force

Is it Luck or Skill?

Materials You Will Need

Paper

Pencil Calculator

Activities

1. Describe the game you select to play.
2. What do you need to do to win?
3. How much does it cost to play the game?
4. What do you think the value of the prize would be if you purchased the same item at the gift shop?
5. Watch other people play. Determine the average score.
6. Why do you think any particular game is popular?
7. Did you notice any particular actions one person took that caused him or her to win?



One Picture is Worth 300 Words

Materials You Will Need:

Pencil/Pen

Paper

Activities:

Pick one person you do not know and watch this individual ride a ride. Write a 300-word paper describing how the person you were watching acted during the ride.

1. Did he or she look happy, sad, or frightened?
2. Describe how the person acted after exiting the ride.
3. Include a description on the ride and the sounds you heard.



History That You Can Ride

Each figure on the carousel has been carefully hand carved and painted. Hundreds of hours were devoted to the design and creation of this ride

Concepts:

Observing

Visualizing

Mathematical Skills

Materials You Will Need

Paper

Colored Pencils

Calculator

Stopwatch/watch

Activities:

1. List all figures on the carousel that you can identify.
2. Choose your favorite figure on the carousel and draw it. Use colored pencils to color your picture.
3. Research the history of the carousel and write a short story about the creation of a carousel figure or a story about a runaway carousel figure.
4. Watch one of the figures on the outside row and measure the amount of time required for one revolution. Then, measure the amount of time it takes for one of the figures on the inside row to make a complete revolution. Record your findings. Calculate the velocity of each row.

Your Elitch Gardens Journal

Create a journal to show how you spent your time traveling to and from Elitch Gardens and while you were at Elitch Gardens.

Concepts:

Quantifying

Observing

Writing

Materials You Will Need

Pencil

Paper

Activities:

1. Make a journal of your day at Elitch Gardens by writing down the time you woke up this morning, the time you arrived at school or your starting point, the time you arrived at the park, the beginning and ending time of each ride you rode, the time you left the park, and the time you arrived back home.
2. How many miles did you travel from your home to your starting point?
How many miles did you travel from your starting point to the park?
Calculate the average speed of the vehicle you were riding in from one point to another.

How Does It Work?

A simple machine changes the force or the direction of a force. Complex machines are a combination of two or more simple machines.

Concepts:

Observing

Identifying

Materials You Will Need:

Pencil

Paper

Goal:

Identify and research the use of four simple machines

Activities:

Select four rides you have either ridden or seen, and determine which simple machine or combination of simple machines was used to make the ride move. Write down your observations and conclusions.



What Makes Elitch Gardens Special?

Materials You Will Need:

Pencil

Paper

Activities:

1. As you walk through the park, look at the buildings, walkways, colors, and overall layout of the park.
2. What makes Elitch Gardens different from other amusement parks you have visited? Describe what natural materials are used to create a special atmosphere in the park and how manmade materials are used to make the park look natural.
3. What is your favorite building and why? Describe the shape and color of the building. Why do you think the building was designed as it is?
4. What Changes would you make in the overall layout of the park?



Heart Rhythms

To calculate your pulse rate, place your fingertips on the carotid artery of your neck and count the number of pulses in 60 seconds. Each throb that you feel your artery is caused by the contraction of your heart.

Goals:

Number Concepts

Quantifying

Observing

Materials You Will Need

Worksheet

Pencil

Stopwatch

Activities:

Choose two rides and complete the worksheet for each ride. Take your pulse before you board the ride and then again when you exit the ride. As you ride, have a classmate time the length of the ride in minutes and seconds. Rate the ride on a scale of 1 (no fun) to 10 (great fun).

Pulse Rate Worksheet

NAME OF THE RIDE	LENGTH OF RIDE	PULSE RATE BEFORE RIDING	PULSE RATE AFTER RIDING	FUN SCALE: 1-10

Notes