Patterns of Motion

Grade 3

Name _____ Date _____

Remember: Motion that **repeats** forms a **pattern**: **back and forth** (swing) or **round and round** (wheel). Patterns help us **predict** what comes next.

Watch and count: time how many swings a swing makes in 10 seconds. Try again. Is it the same?

Motion That Repeats



Some objects move in **patterns**. A pattern is something that repeats in a way you can predict.

A swing moves **back and forth**. So does a pendulum on a clock, and a child on a seesaw goes up and down again and again.

Other objects move **round and round**. A merry-go-round, the hands of a clock and a ceiling fan all spin in circles. Earth spins too, giving us day and night.

When motion follows a pattern, scientists can **predict** what will happen next. If a swing reaches the top, you know it will swing back. If a ball bounces, each bounce is a little lower than the last until it stops.

1. Check your understanding

Circle the best answer.

1. What is a pattern?

(a) Something that repeats in a predictable way (b) Something that never moves
(c) A kind of force

2. How does a swing move?

(a) Round and round (b) Back and forth (c) In a straight line only

3. Which moves round and round?

(a) A seesaw (b) A pendulum (c) A ceiling fan

4. What happens to each bounce of a ball?

(a) It gets a little lower. (b) It gets higher. (c) It stays the same forever.

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2. What pattern?

Circle the pattern of motion.

1	a swing	back and forth	round and round
2	a merry-go-round	back and forth	round and round
3	a clock pendulum	back and forth	round and round
4	a bicycle wheel	back and forth	round and round
5	a rocking chair	back and forth	round and round
6	a spinning top	back and forth	round and round

3. Think like a scientist

Answer in a complete sentence.

1. **A pendulum swings left, then right, then left. Predict what it will do next.**

Answer Key

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1. Check your understanding

1. What is a pattern?

(a) **Something that repeats in a predictable way** (b) Something that never moves (c) A kind of force

2. How does a swing move?

(a) Round and round (b) **Back and forth** (c) In a straight line only

3. Which moves round and round?

(a) A seesaw (b) A pendulum (c) **A ceiling fan**

4. What happens to each bounce of a ball?

(a) **It gets a little lower.** (b) It gets higher. (c) It stays the same forever.

2. What pattern?

		back and forth	round and round
1	a swing	●	○
2	a merry-go-round	○	●
3	a clock pendulum	●	○
4	a bicycle wheel	○	●
5	a rocking chair	●	○
6	a spinning top	○	●

3. Think like a scientist

Sample answer.

1. **A pendulum swings left, then right, then left. Predict what it will do next.**
   It will swing to the right, because its motion repeats back and forth.