Swing Time Clues

Use measured motion to predict what happens next.

3.2 "Observe and measure an object's motion to provide evidence that a pattern of motion can be used to predict future motion."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Circle each time the washer reaches the right side in the table, then underline the sentence that tells what Mina compares to find a pattern.

Mina's Swinging Washer

1. Mina ties a metal washer to a long string and hangs it from a hook. She pulls the washer to the right and lets go. It swings past the middle to the left, then comes back. Mina wants to know if watching and timing several swings can help her tell where it will be next.

2. Mina starts a stopwatch as she lets go. At each whole second, she notes which side the washer reaches. Her notes are in the table. The washer passes through the middle between the times she records. She watches for a pattern in both the washer's place and the time shown on the stopwatch.

MINA'S MOTION NOTES

Time (seconds)	Side reached
0	Right
1	Left
2	Right
3	Left
4	Right

3. Mina looks for the same side appearing again and again. She compares the times when the washer reaches that side. If the time gaps repeat, she can use them to predict another time and place. A real swing may slow down, so Mina plans to watch again and test her prediction.

2 ANSWER WITH EVIDENCE

Use the passage

1. How many seconds pass between each time the washer reaches the right side? Use two times from the table as evidence.

2. Which side will the washer reach at 5 seconds? Which two times in the table support your prediction?

3. At what time after 4 seconds should the washer next reach the right side? Explain using the table.

4. At 7 seconds, which side should Mina predict? Explain how the measured times support your answer.

3 YOUR TURN

Your own words

Imagine a dot on a slowly spinning wheel. Write three time-and-place notes that show a repeating pattern, then predict where the dot will be at a later time and explain how the time gaps support your prediction.

ANSWER KEY

Swing Time Clues

GRADE 3 · 3.2

PART 1 · READ AND MARK

Circle each time the washer reaches the right side in the table, then underline the sentence that tells what Mina compares to find a pattern. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How many seconds pass between each time the washer reaches the right side? Use two times from the table as evidence.	**Two seconds pass. The washer reaches the right side at 0 seconds and 2 seconds.**
2	Which side will the washer reach at 5 seconds? Which two times in the table support your prediction?	**The left side. It reached the left side at 1 second and 3 seconds, two seconds apart.**
3	At what time after 4 seconds should the washer next reach the right side? Explain using the table.	**At 6 seconds. The washer reaches the right side every two seconds, at 0, 2, and 4 seconds.**
4	At 7 seconds, which side should Mina predict? Explain how the measured times support your answer.	**The left side. It reaches the left side at 1 and 3 seconds, so that side should come again every two seconds, including at 7 seconds.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

At 0 seconds, the dot is at the top. It is at the top again at 3 seconds and 6 seconds. The gaps are 3 seconds each, so I predict the dot will be at the top at 9 seconds.

Accept predictions based on the measured two-second pattern. For Your Turn, accept any consistent set of three time-and-place notes with a later prediction supported by the time gaps.