

Puddle Pattern Plans

Use repeated observations to explain change and plan a solution.

5.5.A "identify and use patterns to explain scientific phenomena or to design solutions;"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the observations that show a repeated pattern. Circle the words or sentences that explain how the class used the pattern to explain a change or plan a solution.

Rainy Playground Clues

- ① After a morning rain, Ms. Chen's class noticed a pattern in puddles on the playground. Puddles in sunny places became smaller each hour. Puddles under the covered walkway stayed nearly the same size. The class numbered their observations from 9:00 to noon. They looked for changes that repeated instead of guessing from one puddle at a time.
- ② Water can change from a liquid into an invisible gas called water vapor. This change, evaporation, happens faster when sunlight warms the water. Because the sunny puddles received more direct sunlight, their repeated shrinking pattern gave the class evidence that warming sped up evaporation. The covered walkway blocked much of the sunlight, so those puddles changed slowly.
- ③ The class used the pattern to plan a water station for their garden. They placed a storage bucket beneath a roof downspout, where rainwater could collect. They chose a shaded spot for the bucket, rather than a sunny one. Based on the puddles, they predicted that less direct sunlight would slow evaporation and leave more water for plants.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What repeated pattern did the class observe in the sunny puddles?

2 Use the pattern to explain why the sunny puddles changed faster than the puddles under the covered walkway.

3 How did recording observations from 9:00 to noon make the class's conclusion stronger?

4 What garden design choice did the class make because of the puddle pattern, and what did they predict would happen?

3 YOUR TURN _____ Your own words

Choose a problem in which heat, light, water, or wind causes a change. Write three observations that could show a pattern, then propose one design solution and explain how the pattern supports your solution.

PART 1 • READ AND MARK

Underline the observations that show a repeated pattern. Circle the words or sentences that explain how the class used the pattern to explain a change or plan a solution. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What repeated pattern did the class observe in the sunny puddles?	The sunny puddles became smaller each hour.
2	Use the pattern to explain why the sunny puddles changed faster than the puddles under the covered walkway.	The sunny puddles received more direct sunlight. Sunlight warmed the water, which sped up evaporation.
3	How did recording observations from 9:00 to noon make the class's conclusion stronger?	It let the class see a repeated change over several hours instead of judging one puddle at one time.
4	What garden design choice did the class make because of the puddle pattern, and what did they predict would happen?	They put the rainwater storage bucket in a shaded spot. They predicted that less direct sunlight would slow evaporation and leave more water for plants.

PART 3 • YOUR TURN (SAMPLE ANSWER)

I would place three identical wet towels in the same room. One towel would be near a fan, one would be farther from the fan, and one would be away from the fan. The towel nearest the fan would dry the fastest. The towel away from the fan would dry the slowest. This pattern would show that moving air speeds drying. I would add a fan near the towel rack so towels dry faster.

Accept reasonable observations that compare conditions and identify a repeated pattern. The solution should match the stated pattern and include a logical explanation of how it addresses the problem.