Rainwater Detectives

Plan careful observations, then design a solution.

3.1.B "use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems;"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each step the class takes to plan or conduct its investigation, number the steps in order, and circle the words that tell what the water solution must do.

Following a Puddle

1. After a hard rain, water puddled beside the school garden. Ms. Lee's class wanted to learn where the water moved. They planned a descriptive investigation, which means they would observe and describe without changing the rainwater. First, they chose three places to watch: the sidewalk, the garden soil, and the grassy edge. They decided to observe for ten minutes after the next rain.

2. Each team carried a clipboard and used the same observation sheet. They wrote words about puddle size, water direction, and soil feel. One student watched the clock, and another wrote the observations. The class kept people out of the garden during the ten minutes so footprints would not change the soil. Afterward, teams compared descriptions to find patterns.

3. The observations showed that the sidewalk sent water toward the garden bed, where a large puddle stayed. The class used engineering practices to design a solution. Their solution had to slow the water, fit beside the bed, and use safe materials. They sketched a low border of stones and mulch. Before building, they planned to test whether the border guided water away from the plants during a small water pour.

2 ANSWER WITH EVIDENCE

Use the passage

1. What did the class plan to find out about the rainwater?

2. Name two things the teams described on their observation sheets.

3. Why did the class keep people out of the garden during the observations?

4. What were the three requirements for the class's water solution?

3 YOUR TURN

Your own words

Choose a place at school where water gathers. Write exactly three sentences: tell what you will observe, explain how you will make the observation fair, and describe a solution with at least two requirements plus a way to test it.

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PART 1 · READ AND MARK

Underline each step the class takes to plan or conduct its investigation, number the steps in order, and circle the words that tell what the water solution must do. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What did the class plan to find out about the rainwater?	**They planned to find out where the rainwater moved.**
2	Name two things the teams described on their observation sheets.	**Any two: puddle size, water direction, and soil feel.**
3	Why did the class keep people out of the garden during the observations?	**They did not want footprints to change the soil.**
4	What were the three requirements for the class's water solution?	**It had to slow the water, fit beside the garden bed, and use safe materials.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Water gathers at the playground gate, so I will describe its size, direction, and how fast it disappears. I will observe for ten minutes after rain and keep people out of the area. I will design a short border of smooth stones that fits by the gate and slows the water, then test it with a small water pour.

Accept equivalent descriptions of the passage details for Part 2. For Your Turn, accept reasonable plans that include observations, a fair observation step, a solution with two requirements, and a test.