

Cape Material Detectives

Use test results to choose a useful material.

2-PS1-2 "Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. Clarification Statement: Examples of properties could include, strength, flexibility..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each test result. Circle the material the class chose for the rain cape so you can see how the data helped them decide.

Testing a Toy Cape

- ① Ms. Lee's class needed a material for a small rain cape for a toy dog. The cape had to keep rain off the dog. The class chose three same-size pieces: paper, cotton cloth, and a plastic sheet.
- ② First, students sprayed each piece with the same amount of water. Paper became wet and soft. Cotton cloth soaked up the water. Water stayed on top of the plastic sheet. Next, students gently pulled each piece. Paper tore, but cloth and plastic did not.
- ③ The students also bent the materials around the toy. All three pieces could bend. The class used the test data to choose plastic for the cape. It did not soak up water, did not tear, and could bend around the toy.

2 ANSWER WITH EVIDENCE Use the passage

1 What did the water test show about the paper, cotton cloth, and plastic sheet?

2 Which material was best for the toy's rain cape? Use two test results to explain.

3 Cloth and plastic did not tear. Why was plastic still a better choice for the rain cape?

3 YOUR TURN Your own words

Choose a purpose for a useful object, such as a napkin, bookmark, or bendy bracelet. In three sentences, name two materials, describe one test and its results, then choose the better material and tell why.

PART 1 • READ AND MARK

Underline each test result. Circle the material the class chose for the rain cape so you can see how the data helped them decide. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What did the water test show about the paper, cotton cloth, and plastic sheet?	Paper became wet and soft, cotton cloth soaked up water, and water stayed on top of the plastic sheet.
2	Which material was best for the toy's rain cape? Use two test results to explain.	The plastic sheet was best because it did not soak up water and it did not tear.
3	Cloth and plastic did not tear. Why was plastic still a better choice for the rain cape?	Cotton cloth soaked up water, but water stayed on top of the plastic sheet.

PART 3 • YOUR TURN (SAMPLE ANSWER)

I need a napkin to soak up spilled juice, so I tested a paper towel and a plastic sheet. I put the same small drop of water on each material, and the paper towel soaked it up while the plastic sheet did not. I would choose the paper towel because it is more absorbent.

Accept answers that use passage data to connect a material property to the rain-cape purpose. For Part 3, accept reasonable materials and test results if the student names a purpose, compares materials, and supports a choice with data.