Matter Detectives

Observe, sort, and count samples of matter

P.2.5.1 "Conduct a structured investigation to collect, represent, and analyze categorical data to classify matter as solid, liquid, or gas. Report findings and describe a variety of materials according to observable physical properties (e.g...."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Read the passage. Underline what each sample does, then circle the words that tell what a sample looks or feels like.

Our Tiny Matter Lab

1. Our class made a tiny matter lab. Our teacher set out a gray pebble, a brown wood cube, and a clear plastic lid. We also saw water and cooking oil in clear cups, plus air inside a tied balloon. We did not taste anything.

2. We looked closely at each sample. The pebble felt smooth, but the wood cube felt rough. The lid let us see through it. The water looked clear, and the oil looked pale yellow. When we tipped the cups, both liquids flowed and took the shape of the cups.

3. We sorted the six samples by what they did. The pebble, cube, and lid kept their own shapes. The water and oil flowed. Air spread out inside the balloon and took its shape. We counted each group and put our results in the table so we could compare the groups.

OUR MATTER COUNTS

State	Number of samples	What the samples did
Solid	3	Kept their own shapes
Liquid	2	Flowed
Gas	1	Spread out inside the balloon

2 ANSWER WITH EVIDENCE

Use the passage

1. How many more solid samples than liquid samples did the class sort?

2. What state is the air in the balloon? What did the air do that supports your answer?

3. Which two samples flowed? Name one thing you could see that helped tell them apart.

3 YOUR TURN

Your own words

With your teacher, observe three samples that are not named in the reading. Record each sample's name, state, and one thing you can see or feel, then write which state you found most.

SAMPLE	STATE	WHAT I NOTICED

ANSWER KEY

Matter Detectives

GRADE 2 · P.2.5.1

PART 1 · READ AND MARK

Read the passage. Underline what each sample does, then circle the words that tell what a sample looks or feels like. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How many more solid samples than liquid samples did the class sort?	**One more solid sample.**
2	What state is the air in the balloon? What did the air do that supports your answer?	**It is a gas. It spread out inside the balloon and took its shape.**
3	Which two samples flowed? Name one thing you could see that helped tell them apart.	**Water and cooking oil flowed. The water looked clear, while the oil looked pale yellow.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Rubber band | solid | stretchy
Eraser | solid | pink
Apple juice | liquid | yellow
I found solids most. I counted two solids and one liquid.

Accept any three safe, newly observed samples with accurate states and observable properties. The most common state must match the student's table; accept a tie if the counts are equal.