PRESENTER SCRIPT · GRADE 5 · 5-PS1-1-5-PS1-4

Properties of Matter & Conservation of Mass: teacher script

Use with the Lesson presenter (room page -> Lesson presenter). Slides show only student cues; this script has what to say. Students need the printed lesson worksheet and a pencil.

Presenter keys: Right/left arrows change slides. N shows short notes. T pauses the timer. P picks a student. F is fullscreen.

Response routine: Students write each answer on their worksheet, then show it with fingers (1 = A, 2 = B, 3 = C, 4 = D). Scan the room before revealing.

SLIDE 1: TODAY'S TARGET — 1 min

Say	Today's learning target is: "I can measure and describe properties of matter and explain why mass stays the same when matter changes." Read it with me.
Say	Here is how you will know you have it: the success criteria. You will prove it on the exit ticket at the end of class.
Point to	The agenda and the key vocabulary. Tell students they need their notebook, guided notes page, and pencil.

SLIDE 2: WARM-UP — 0:00–0:08

Say	Turn to Part 2 of your lesson worksheet. Answer the three questions in complete sentences. You have 5 minutes of silent work. Go.
Do	Start the 8:00 timer. Circulate. At 5 minutes say: "Turn to your partner and compare answers for 2 minutes."
Look for	1) Any three: color, shape, size, texture, bounciness (elasticity), mass, volume, hardness. 2) 4 kg. Masses add: 3 kg + 1 kg = 4 kg. Nothing was taken away. 3) The same, 50 g. No matter entered or left the sealed bag; the water just changed state.
Say	Call on 2-3 students for questions 1 and 2, then reveal. Say: "We will come back to question 3 at the end of class."

SLIDE 3: HOOK — 1 min

Say	Read the question on the screen: "A 50-gram ice cube melts inside a sealed bag. What will the water weigh?" Circle your prediction in Part 3 of your worksheet and write why. Then vote.
Background	Ask: "If I melt a 50-gram ice cube in a sealed bag, what will the water weigh?" Take a quick thumbs up (more), sideways (same), down (less) vote. Leave it unanswered until the end.

Do	Tap +1 for each vote. Do not give the answer. Say: "By the end of the lesson, you will be able to check your prediction."

SLIDE 4: LEARN 1: MATTER HAS PROPERTIES — 3 min

Say	Matter is anything with mass that takes up space. We describe it by properties we observe (color, hardness) and test (magnetism, conductivity, solubility).
Worksheet	Say: "Part 5: fill in the blanks (A), do the task (B), write what your partner said (C), and answer the check (D)." Blank answers: Matter is anything that has MASS and takes up SPACE. We can test properties like magnetism, conductivity, and SOLUBILITY. (tap "Show the missing words" after students try.)
Explore	Point to the model: Liquid volume: read the bottom of the curve at eye level. Ask: "What do you notice?" Students do: List 3 properties of your pencil (color, hardness, shape, texture...).
Turn and talk	Say: "Is air matter? How could you prove it to someone who says no?" Start the 1:00 timer. Then pick a pair to share.
Check	Read the question aloud. Students write, then show fingers. Scan, then reveal. Answer: (C) Solubility. Solubility means how well a substance dissolves.
If < 80% correct	Go back to the Explore box and model a second example out loud, then re-ask the check with a partner discussion first. See "Misconceptions to watch for" at the end of this script.

SLIDE 5: LEARN 2: MEASURE MASS AND VOLUME — 3 min

Say	Mass is measured in grams on a balance. Liquid volume is measured in milliliters with a graduated cylinder. A box shape's volume is length × width × height.
Worksheet	Say: "Part 6: fill in the blanks (A), do the task (B), write what your partner said (C), and answer the check (D)." Blank answers: Mass is measured in GRAMS with a BALANCE. Liquid volume is measured in MILLILITERS with a graduated cylinder. (tap "Show the missing words" after students try.)
Explore	Point to the model: Volume of a box: 3 × 2 × 2. Ask: "What do you notice?" Students do: Read the cylinder in the picture and write its volume in mL. Then find the box's volume: 3 × 2 × 2.
Turn and talk	Say: "Why do scientists measure mass with a balance instead of just guessing by how big something looks?" Start the 1:00 timer. Then pick a pair to share.
Check	Read the question aloud. Students write, then show fingers. Scan, then reveal. Answer: 12. 3 × 2 × 2 = 12 cm^3.
If < 80% correct	Go back to the Explore box and model a second example out loud, then re-ask the check with a partner discussion first. See "Misconceptions to watch for" at the end of this script.

SLIDE 6: LEARN 3: PHYSICAL VS. CHEMICAL CHANGE — 3 min

Say	A physical change changes size, shape, or state but makes no new substance. A chemical change makes a new substance. Clues: gas bubbles, new color, new smell, light, heat.
Worksheet	Say: "Part 7: fill in the blanks (A), do the task (B), write what your partner said (C), and answer the check (D)." Blank answers: A PHYSICAL change makes no new substance. A CHEMICAL change makes a new substance. Clues include gas BUBBLES and a new color. (tap "Show the missing words" after students try.)
Explore	Flip each card only after students guess: Ice melting = Physical; Bread toasting = Chemical; Paper cut in half = Physical; Iron rusting = Chemical. Students do: Make two columns, Physical and Chemical. Sort the four flip cards.
Turn and talk	Say: "Melting ice and burning wood both change. What is the key difference between them?" Start the 1:00 timer. Then pick a pair to share.
Check	Read the question aloud. Students write, then show fingers. Scan, then reveal. Answer: (D) Chemical, because a new gas forms. Bubbles you did not add mean a new gas formed.
If < 80% correct	Go back to the Explore box and model a second example out loud, then re-ask the check with a partner discussion first. See "Misconceptions to watch for" at the end of this script.

SLIDE 7: LEARN 4: CONSERVATION OF MASS — 3 min

Say	In every change, particles are rearranged, not created or destroyed. In a closed system, mass before equals mass after. If gas escapes an open cup, the scale drops, but the matter still exists.
Worksheet	Say: "Part 8: fill in the blanks (A), do the task (B), write what your partner said (C), and answer the check (D)." Blank answers: In a CLOSED system, the mass before a change EQUALS the mass after. If a gas escapes, the scale reading goes DOWN. (tap "Show the missing words" after students try.)
Explore	Run the simulation: Fizz it open, then sealed. Watch the scale.. Before each change, ask students to predict in their notes. Students do: Predict what the scale will show, open and sealed. Then watch and check.
Turn and talk	Say: "The open cup lost mass. Where did that matter go? Is it gone forever?" Start the 1:00 timer. Then pick a pair to share.
Check	Read the question aloud. Students write, then show fingers. Scan, then reveal. Answer: (D) 200 g. Nothing escaped the sealed flask, so the mass stays 200 g.
If < 80% correct	Go back to the Explore box and model a second example out loud, then re-ask the check with a partner discussion first. See "Misconceptions to watch for" at the end of this script.

SLIDE 8: WORKED EXAMPLE (I DO) — 2 min

Say	Watch how I solve this. Write the final answer in Part 9 of your worksheet.

Think aloud	Think aloud: "30 g of water + 5 g of salt. After stirring, the salt seems to disappear. The salt particles are still there, spread through the water, so the total must be 35 g." Write 30 + 5 = 35 on the board.
Reveal	Problem: 30 g of water + 5 g of salt are stirred together. The salt seems to disappear. What is the total mass? | Step 1: The salt particles did not vanish. They spread out through the water. | Step 2: Nothing left the cup, and nothing was added. | Step 3: 30 g + 5 g = 35 g. | Answer: 35 g. Mass is conserved.

SLIDE 9: WE DO — 2 min

Say	Now we solve one together in Part 10. Read the problem with me.
Do	Before revealing each step, ask: "What should we do next?" Take one answer, then tap "Show next step."
Steps	Find the starting mass: 40 g + 5 g = 45 g. | Is the system open or closed? The bag is sealed, so it is closed. | The fizzing made a new gas (a chemical change), but the gas is trapped in the bag. | Nothing entered or left, so the mass stays the same.
Answer	45 g

SLIDE 10: YOU DO — 2 min

Say	Now on your own: Part 11. Solve it with no talking. You have 2 minutes.
Answer	(C) It escaped into the air as a gas. 160 g - 157 g = 3 g of gas escaped the open cup. Matter is conserved.
Then	Students who got it: launch the room. Students who missed it: 3-minute reteach at your table, then start the room at the Explorer level.

SLIDE 11: WORK TIME: THE CASE OF THE MISSING MASS — 0:20–0:48

Say	Open The Case of the Missing Mass on your device. Type your name, choose the level I assigned, and begin. Whisper voice with your partner only.
Do	Start the 28:00 timer and leave this slide up. Circulate with the answer key.
Checkpoints	At 10 minutes: stage 2 done. At 20 minutes: stage 4 done; give a 5-minute warning for the final lock and turn-in.
Turn-in	Students tap "Copy my work" and paste it into the Canvas assignment (Text Entry).

SLIDE 12: DEBRIEF — 0:48–0:52

Ask	Go back to the hook question. What will the melted ice cube weigh, and how do you know? | Which puzzle made you rethink an idea you had about matter? | Why do scientists seal a container when they test conservation of mass?
Say	Back to warm-up question 3 and our hook vote: were our predictions right? What evidence changed your mind?
Answer	The same, 50 g. No matter entered or left the sealed bag; the water just changed state.

SLIDE 13: EXIT TICKET 0:52–1:00

Say	Clear your desk except a pencil. Work silently and on your own. For every answer, write "I know because..." and use evidence.
Do	Hand out the exit ticket. Start the 8:00 timer. Collect and sort with page 3 (Mastered / Approaching / Beginning).

MISCONCEPTIONS TO WATCH FOR

• "Dissolved things disappear and have no mass." The particles are still there and still have mass.

• "Gas has no mass." Gas is matter. When it escapes an open container, the scale drops because matter left.

• "Ice weighs more than water because it is solid." Freezing changes volume a little, but mass stays the same.