

Poetic Precipitation Questions

1. Grades 3–5/6–8 Science Selected Response Item

Which of the statements below best describes what happens when clouds form?

- A. Heat energy speeds up the motion of water molecules.
- B. Kinetic energy is maintained when water molecules bump into each other.
- C. Heat energy is lost and water vapor settles on condensation nuclei.
- D. Kinetic energy is lost when water molecules are further apart.

2. Grades 3–5/6–8 Science Constructed Response Item

In the space below, make a scientific drawing(s) that shows what happens to water molecules as they rise into the atmosphere and lose heat energy.

3. Grades 3–5/6–8 Language Arts Constructed Response Item

In the space below, write a short poem about precipitation. You may use any form of poetry; it does not have to rhyme.

Poetic Precipitation Responses

1. **Correct Response:** C. Heat energy is lost and water vapor settles on condensation nuclei.

Benchmarks: Grades 3–5 — SC.A.1.2.2, SC.A.2.2.1, SC.D.1.2.3
Grades 6–8 — SC.A.1.3.4, SC.C.2.3.7

Difficulty Level: Grades 3–5 — Hard
Grades 6–8 — Medium

2. Sample Top-Scoring Response

Grades 3–5/6–8

1. Three drawings that depict circles getting further apart in each drawing. Wavy lines with arrows are exiting each circle.

2. There is a key for all three drawings (labeled as such) that indicates that the circles are symbols for water molecules and that the wavy lines are heat energy being lost.
3. The drawing is titled “Water Molecules Losing Heat.”

OR

Top Scoring Response Grades 6–8

1. Each drawing shows thick arrows surrounding and pointing in towards the circles.
2. With each successive drawing, the arrows become narrower and are pushed further back towards the edge of the drawing, indicating that the air pressure on the molecules is less.
3. Each drawing has a title: “Water molecules at ground level,” “Water molecules as they rise,” “Water molecules at cloud level.”

4-Point Response

1. Student demonstrates an understanding that water molecules spread further apart as they reach higher elevations Grades 6–8 response should include: with less pressure.
2. Student demonstrates an understanding that molecules loose heat energy as they spread further apart and slow down.
3. Student correctly labels the components of the drawing or provides an accurate key.
4. Student appropriately titles the drawing(s).

3-Point Response

1. Student demonstrates an understanding that water molecules spread further apart as they reach higher elevations Grades 6–8 response should include: with less pressure.
2. Student correctly labels the components of the drawing or provides an accurate key.
3. Student appropriately titles the drawing(s).

OR

1. Student demonstrates an understanding that molecules loose heat energy as they spread further apart and slow down.
2. Student correctly labels the components of the drawing or provides an accurate key.
3. Student appropriately titles the drawing(s).

OR

1. Student demonstrates an understanding that water molecules spread further apart as they reach higher elevations with less pressure.
2. Student demonstrates an understanding that molecules lose heat energy as they spread further apart and slow down.

2-Point Response

1. Student demonstrates an understanding that water molecules spread further apart as they reach higher elevations. Grades 6–8 response should include: 6–8: with less pressure.
2. Student only partially or incorrectly labels the components of the drawing or provides an incomplete or inaccurate key.

OR

1. Student demonstrates an understanding that molecules lose heat energy as they spread further apart and slow down.
2. Student only partially or incorrectly labels the components of the drawing or provides an incomplete or inaccurate key.

1-Point Response

1. Student demonstrates an understanding that molecules lose heat energy as they spread further apart and slow down.

Benchmarks: **Grades 3–5 — SC.A.1.2.2, SC.A.2.2.1, SC.D.1.2.3**
 Grades 6–8 — SC.A.1.3.4, SC.C.2.3.3, SC.C.2.3.6

Difficulty Level: **Grades 3–5 — Hard**
 Grades 6–8 — Medium

3. Sample Top-Scoring Response

I like rain
even though it's kind of plain,
But it's snowflakes that are white
that give me real delight.

2-Point Response

1. Student demonstrates an understanding of the difference between prose and poetry.
2. Student demonstrates competence with simple poetic composition.

1-Point Response

1. Student demonstrates competence with simple poetic composition.

Benchmarks: **Grades 3–5 — LA.B.2.2.3, LA.D.1.2.1, LA.D.1.2.2,
LA.D.2.2.1, LA.D.2.2.2**
 **Grades 6–8 — LA.B.2.3.3, LA.D.1.3.1, LA.D.1.3.2,
LA.D.1.3.3, LA.D.2.3.1, LA.D.2.3.2**

Difficulty Level: **Grades 3–5 — Medium**
 Grades 6–8 — Easy