



# POE DANCING GRAPES

## OBJECTIVE:

This simple, hands-on demonstration can be used to highlight the difference between the scientific skills of making predictions, collecting data and making observations using the 5 senses, and communicating results through written and visual explanations.

## STUDENTS WILL:

- Make predictions based on prior knowledge.
- Plan and carry out an investigation as a class, in small groups, or independently.
- Collect data with appropriate tools or technologies and use appropriate units to label numerical data.
- Incorporate variables that can be changed, measured or controlled.
- Keep accurate records during investigations.
- Evaluate possible causes for differing results (i.e., valid data).
- Compare the results of an experiment with the prediction.
- Communicate findings through oral and written reports

## MATERIALS (PER GROUP):

- 5-10 red grapes
- 2 clear containers
- Tap water (part one only)
- Carbonated seltzer water (part two only)
- Stop Watch (optional)

## PROCEDURE: PART ONE

1. Students will be introduced to materials and told that the grapes will be added to the water. Students will then predict what the grapes will do once added to the tap water and draw a simple sketch.
2. Teacher will then add the grapes to the tap water. Students will observe the grapes are slightly heavier than the water and sink to the bottom. They should record their observations and draw a simple sketch.
3. Have the students explain why the grapes sunk to the bottom. Their final sketch should include labels and represent more of a diagram.

## PART TWO

4. Repeat Step 1. The teacher may choose to explain the difference between tap water and seltzer water or to omit that information from students.
5. Teacher will then add the grapes to the seltzer water. Students will observe the grapes sink to the bottom, but this time, the carbon dioxide bubbles in the seltzer water attach to the grapes causing them to rise to the top. Once the grapes reach the top, the bubbles pop and the grapes sink back to the bottom where more bubbles attach to them and the process repeats. Students will record their observations.
6. Students should then explain why the phenomenon happens. The teacher should stress the importance of labeling the diagram.





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PART ONE

**DIRECTIONS:** After your teacher presents the materials and how they will be used, predict what you think will happen. Draw a sketch of your prediction. Your teacher will then complete the demonstration. Record only what you observe. Draw a sketch of your observations. Finally, explain why the materials responded the way they did. Sketch a diagram of your explanation. Be sure to include labels to explain your final diagram.

**PREDICT:**

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**OBSERVE:**

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**EXPLAIN:**

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PART TWO

**DIRECTIONS:** After your teacher presents the materials and how they will be used, predict what you think will happen. Draw a sketch of your prediction. Your teacher will then complete the demonstration. Record only what you observe. Draw a sketch of your observations. Finally, explain why the materials responded the way they did. Sketch a diagram of your explanation. Be sure to include labels to explain your final diagram.

**PREDICT:**

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**OBSERVE:**

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**EXPLAIN:**

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