

Change Matters

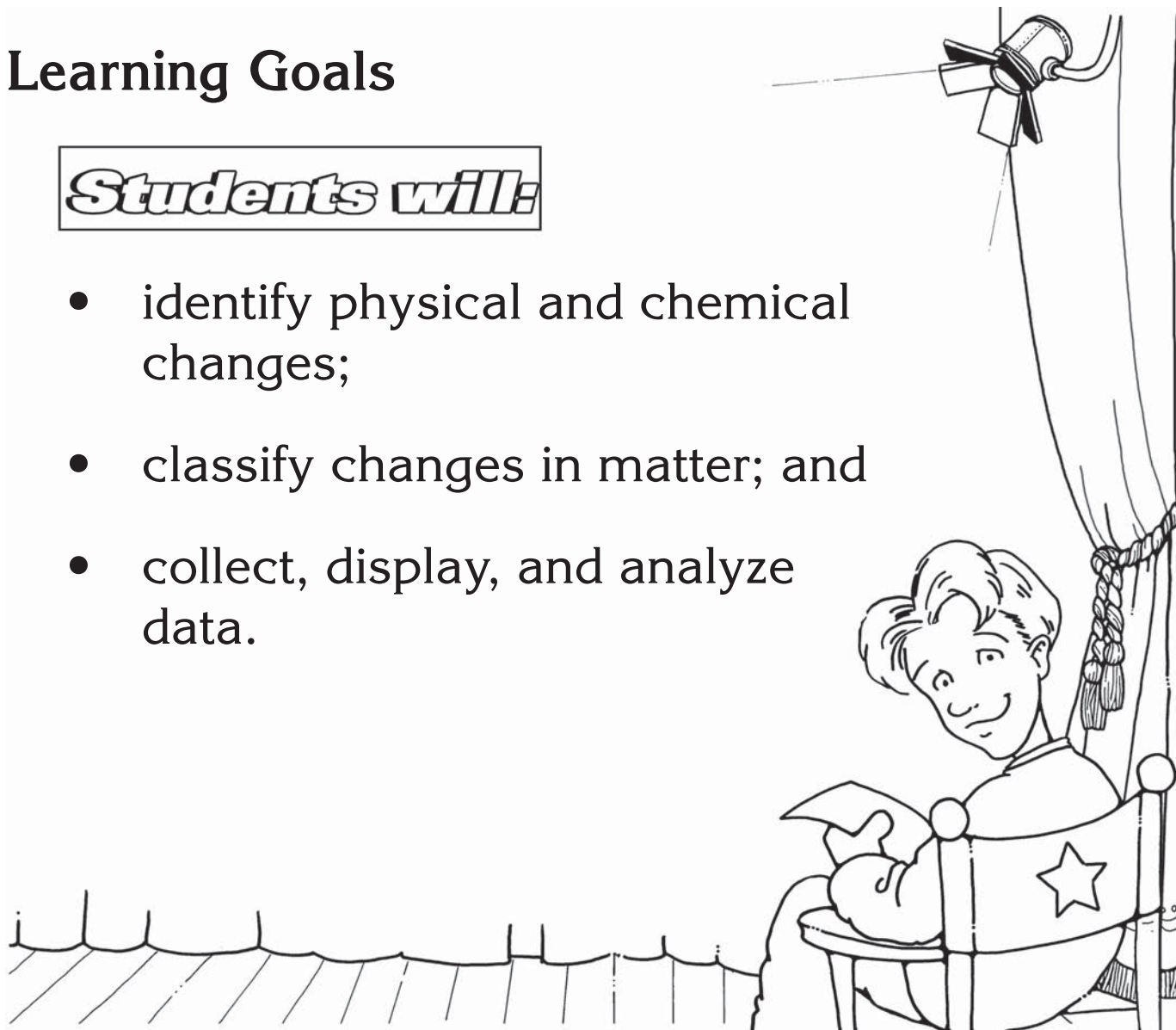
Key Question

How do you know whether the changes you observe are physical or chemical changes?

Learning Goals

Students will:


- identify physical and chemical changes;
- classify changes in matter; and
- collect, display, and analyze data.



Change Matters


station
1

Procedure
Observe an ice cube in a plastic cup for a few minutes.

A black and white line drawing of a young girl with braided hair. She is wearing a large, square ice cube balanced on her head. She is holding a large bucket with both hands, and a label on the front of the bucket reads "Station 1". She is standing on a wooden floor next to a curtain that has the number "1" written on it.

station
2

Procedure
Use tongs to dip a small piece of steel wool into a cup of vinegar. Place the steel wool on a paper towel and observe for a few minutes. Clean up the station.

A black and white line drawing of a young boy. He is wearing a hat made of a tangled mass of steel wool. He is holding a large bucket with both hands, and a label on the front of the bucket reads "Station 2". He is standing on a wooden floor next to a curtain that has the number "2" written on it.

Change Matters

station

3

Procedure

Place a spoonful of baking soda into the plastic cup. Fill the paper cup with vinegar and pour it into the cup with baking soda. Observe. Clean up the materials before leaving the station.



station

4

Procedure

Cut a small wedge from the apple and place it in the plastic cup. Observe it for a few minutes.



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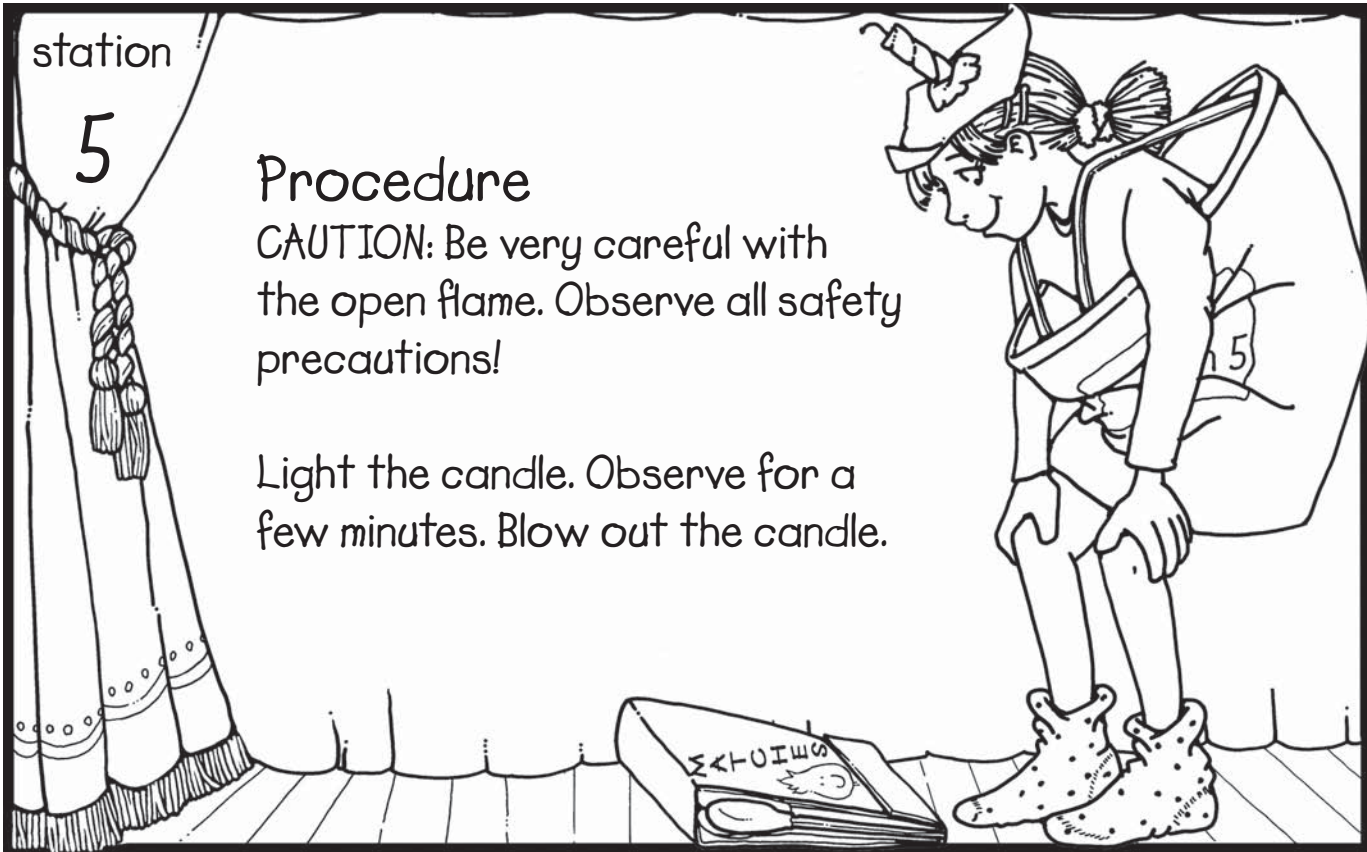
station

5

Procedure

CAUTION: Be very careful with the open flame. Observe all safety precautions!

Light the candle. Observe for a few minutes. Blow out the candle.



Materials needed for each station:

Station 1: Ice cube, plastic cup

Station 2: Steel wool, plastic cup with vinegar, tongs, paper towels

Station 3: Plastic spoon, plastic cup, small paper cup, baking soda, vinegar

Station 4: Apple, plastic knife, plastic cup

Station 5: Matches, votive candle, container of water



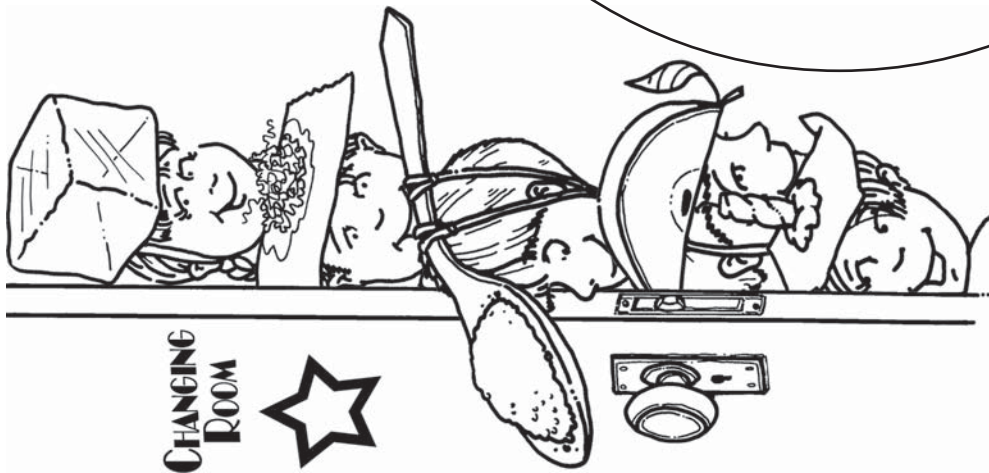


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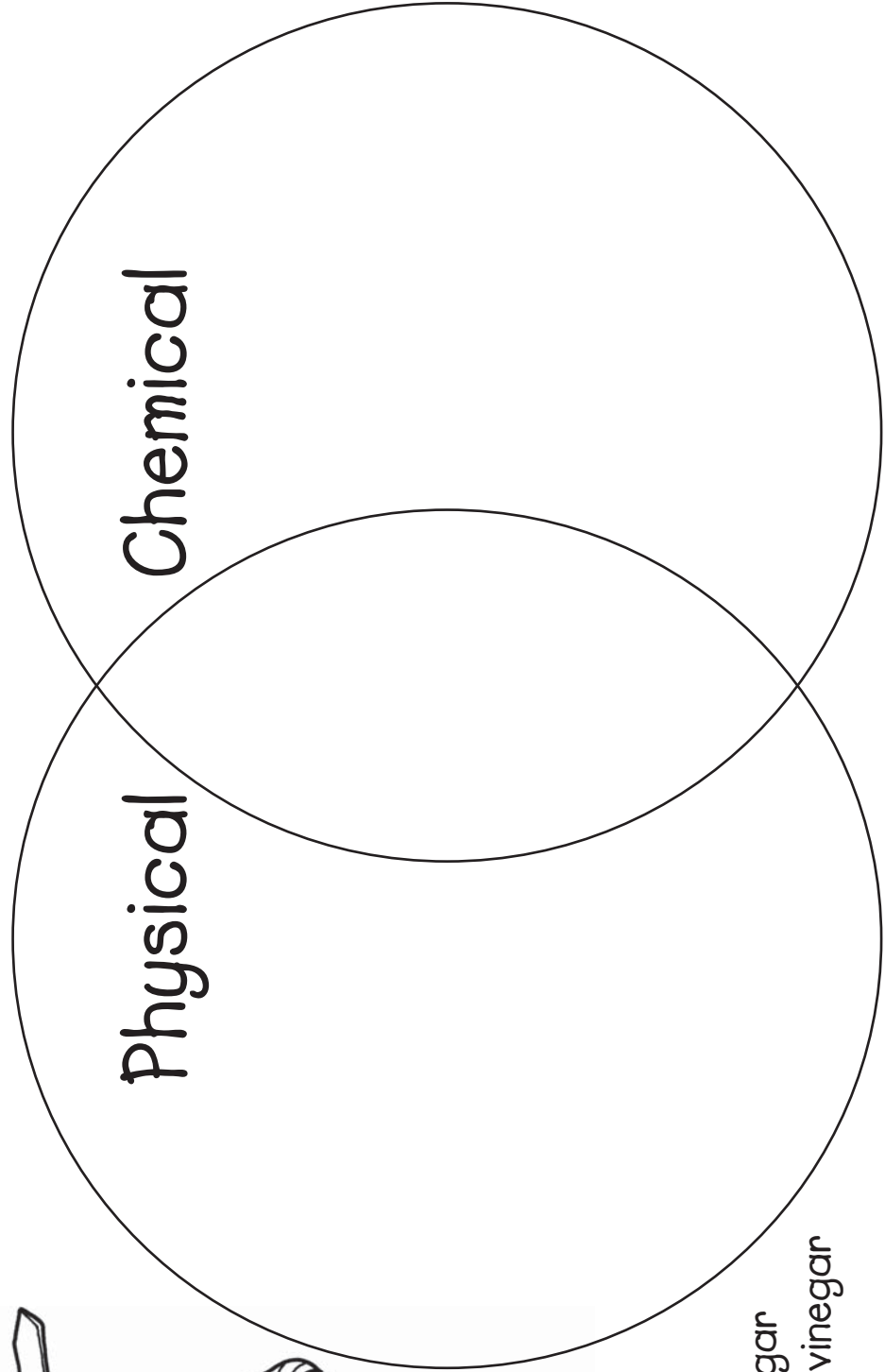
Record your observations.

Station	Physical	Chemical	Both	Why?
1. Ice cube				
2. Steel wool in vinegar				
3. Baking soda and vinegar				
4. Apple slice				
5. Burning candle				

Change Matters



In the Venn diagram, indicate the proper placement of each change.



1. Ice cube
2. Steel wool in vinegar
3. Baking soda and vinegar
4. Apple slice
5. Burning candle

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Connecting Learning

1. What are the characteristics of a physical change?
2. What are the characteristics of a chemical change?
3. If you were to crack an egg and stir it, would this be a physical or chemical change? Explain. Where would it go in the Venn diagram?
4. What if you were to cook that egg? Would that be a physical or chemical change? Explain. Where would it go in the Venn diagram?
5. Did everyone come up with the same results? If not, describe the problems you had in determining whether things at the stations were physical or chemical changes.
6. What are you wondering now?