

Phases of Matter

Task Information

Grade: 8th grade

Content: Phases of matter and changes in phases of matter - Block H IIB

Format: paper/pencil

Purpose: The students will apply content knowledge about the phases of matter to observations and problems from everyday life.

Skills:

Primary: Generalizing/infering

Secondary: Communication

Time: 20 minutes

Materials: none

Preparation: none

Safety: N/A

Extensions/Modifications: none

Phases of Matter

Task: To determine if students can apply content knowledge to observations and problems from everyday life.

Directions

Answer the following questions using your knowledge of the phases of matter. Be sure to use the correct vocabulary such as solid, liquid, gas, condense, evaporate, freeze, or melt. Explain each response in detail.

1. A kernel of popcorn contains a small amount of water and when heated the popcorn pops.

How can you explain this to someone?

2. Explain why a hot shower “fogs” up a bathroom mirror

3. You inhale and exhale a lot of air and moisture. Explain why you can “see your breath” when you are outside on a cold day.

4. Dryers are used to dry your hands or clothes. Explain how they use heat to dry.

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Phases of Matter

#2

Task: To determine if students can apply content knowledge to observations and problems from everyday life.

Directions:

Answer the following questions using your knowledge of the phases of matter. Be sure to use the correct vocabulary such as solid, liquid, gas, condense, evaporate, freeze, or melt. Explain each response in detail.

1. A kernel of popcorn contains a small amount of water and when heated the popcorn pops.

How can you explain this to someone?

a popcorn kernel has water in the center. when heat is added the water evaporates causing the kernel to pop

2. Explain why a hot shower "fogs" up a bathroom mirror.

A hot shower fogs up a mirror because as some water is released it evaporates and condenses

3. You inhale and exhale a lot of air and moisture. Explain why you can "see your breath" when you are outside on a cold day.

you can see because the temp. in your mouth is 98.7° and when this hits the cold air water vapors are formed

4. Dryers are used to dry your hands or clothes. Explain how they use heat to dry.

Heat makes water evaporate. when you dry your hands the water on them evaporate off by the heat

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5. During the winter, snow often sits on a roof of a house. Houses that are poorly insulated will often have icicles hanging from the ends of the roof. If the water starts out as a solid phase in snow on the roof, explain how icicles form that are hanging over the edge.

Heat from the house or outside causes the snow to melt. When the water starts to run-off the temp might change refreezing the water

#3

Student ID HMPOM 8
Male / Female (circle one)

Scoring Form - Phases of Matter

Circle the student's score for each question. Add the points for each question and write the total score at the bottom of the scoring form.

- | | | | |
|---------------------------------------|---|----------|----------|
| 1. Explain how popcorn pops | 0 | 1 | <u>2</u> |
| 2. Why a hot shower fogs up a mirror? | 0 | <u>1</u> | |
| 3. Why you can "see your breath" | 0 | <u>1</u> | 2 |
| 4. Explain how dryers use heat to dry | 0 | <u>1</u> | |
| 5. How icicles form on a roof | 0 | 1 | <u>2</u> |

Total Score 7
Total Possible score - 8 points

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Directions:

Answer the following questions using your knowledge of the phases of matter. Be sure to use the correct vocabulary such as solid, liquid, gas, condense, evaporate, freeze, or melt. Explain each response in detail.

1. A kernel of popcorn contains a small amount of water and when heated the popcorn pops.

How can you explain this to someone?

When water is heated it evaporates. When the water evaporates in the kernel there is no where for the water to go so it pops.

2. Explain why a hot shower "fogs" up a bathroom mirror.

When the water is heated it evaporates. When the evaporation hits the cold surface of the mirror it turns into condensation.

3. You inhale and exhale a lot of air and moisture. Explain why you can "see your breath" when you are outside on a cold day.

When you exhale the warm air is released and then when it hits the cold air it turns into condensation but then it has no where to land so it turns into moisture in the air.

4. Dryers are used to dry your hands or clothes. Explain how they use heat to dry.

When the warm air of the dryer hits your hands it has the water evaporate off your hands. So they dry.

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5. During the winter, snow often sits on a roof of a house. Houses that are poorly insulated will often have icicles hanging from the ends of the roof. If the water starts out as a solid phase in snow on the roof, explain how icicles form that are hanging over the edge.

#3

The warm air from the house is let out to the air, that warm air melts the snow & when the water falls over the side it freezes again