Particules in Motion

**DRAW A LINE** to show how the particules of each state of matter move / are packed together

<table>
<thead>
<tr>
<th>1. SOLID</th>
<th>A.</th>
<th>Move at fast speed/particles very far apart</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. LIQUID</td>
<td>B.</td>
<td>Move at slow speed/particles packed tight together</td>
</tr>
<tr>
<td>3. GAS</td>
<td>C.</td>
<td>Move at medium speed/particles packed fairly close together</td>
</tr>
</tbody>
</table>

States of Matter

CIRCLE the THREE states of matter:

- Solid
- Mud
- Gel
- Liquid
- Gas
- Crystals

States of Matter: Physical vs. Chemical Changes

Information About Me

Gender (Circle One): Male    Female    Grade: _______

Are you part of a Military Family? (Circle One): Yes    No

Race & Ethnicity (Circle any that apply):

- White
- African-American or Black
- Asian
- American Indian
- Pacific Islander
- Hispanic ethnicity
Is it a physical or chemical change?

**CIRCLE** the correct type of change for each example below.

<table>
<thead>
<tr>
<th>Physical or Chemical</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICAL or CHEMICAL</td>
<td>Go from ice to water by adding heat.</td>
</tr>
<tr>
<td>PHYSICAL or CHEMICAL</td>
<td>Mixing flour, eggs, sugar, and baking a cake.</td>
</tr>
<tr>
<td>PHYSICAL or CHEMICAL</td>
<td>Rip a piece of paper in half.</td>
</tr>
<tr>
<td>PHYSICAL or CHEMICAL</td>
<td>Burn a piece of paper, creating ash around the edges.</td>
</tr>
<tr>
<td>PHYSICAL or CHEMICAL</td>
<td>Go back and forth from water to water vapor (gas) by boiling a pot of water.</td>
</tr>
</tbody>
</table>

**Physical vs. Chemical Changes**

**CIRCLE** the answer that fills in the blank for each question below.

1. In a __________ change, matter reacts with other matter and a new substance is made.  
   **Physical**  **Chemical**

2. In a __________ change, a substance stays the same, just in a different form.  
   **Physical**  **Chemical**

3. To change water from a solid (ice) back to a liquid you ___________________.  
   **Add Heat**  **Remove Heat**

4. To change water from a gas (water vapor) back to a liquid, you _______________.  
   **Add heat**  **Remove Heat**

My favorite thing about 4-H is: