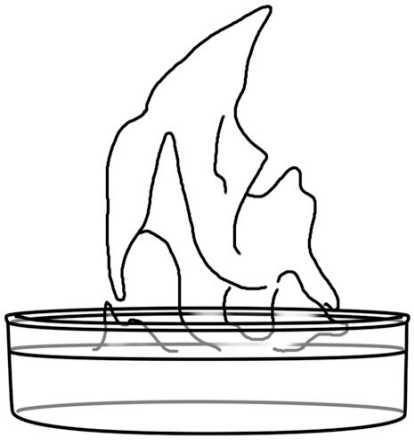
Name: _____ Class: _____ Date: _____

4.5 Explanations Tool: What Happens When Ethanol Burns?

The Matter Movement Question



Draw and label arrows that show molecules moving into, through, and out the flame when ethanol burns.

- Show and label molecules with carbon atoms
  - moving into the flame.
  - leaving the flame.
- Show and label other, relevant molecules.

The Matter Change Question

Name the chemical change that happens when ethanol burns:

Write the chemical equation for this change:

What molecules are carbon atoms in before the chemical change?

What other molecules are needed?

Chemical Change

What molecules are carbon atoms in after the chemical change?

What other molecules are produced?

The Energy Question

What forms of energy are needed for this chemical change?

Energy Transformation

What forms of energy are produced by this chemical change?

Explain in words: What happens when ethanol burns? (Answer on the back).

Use this Explanations Tool to help guide your written explanation, being sure to answer the Three Questions.

Remember: **Atoms last forever** (so you can arrange atoms into new molecules but can't add or subtract atoms).
Energy lasts forever (so you can change forms of energy, but energy units can't appear or go away).