

## Chemical Reactions Unit Review

### CR 1.2

- Chemists observe substances in order to identify their properties.
- Scientists work in communities to help keep water clean and safe for consumption.
- Science investigations use a variety of methods and tools to make measurements and observations.

### CR 1.3

- Different substances have different properties.
- More detailed observations provide stronger evidence.
- Scientists can use properties to help them distinguish between different substances.

### CR 1.4

- Substances are made entirely of atoms.
- Atoms are extremely small; they are not visible to the eye.
- Science theories are based on a body of evidence developed over time.
- The term *theory* as used in science is very different from the common use outside of science.

### CR 1.5

- Things that are too small (or too large) to see can be studied with models.
- The atoms that make up matter are organized in repeating groups that form individual molecules or larger extended structures.

## Chemical Reactions Unit Review

### CR 1.6

- Substances have different properties because they are made of different groups of atoms. These groups vary in the type or number of atoms that make up the group.
- Groups of atoms repeat to make up a substance.

### CR 2.1

- A chemical reaction can happen when two different substances are mixed together.
- During a chemical reaction, one or more starting substances (reactants) change into one or more different substances (products).

### CR 2.2

- A chemical reaction can happen with only a single reactant.
- During a chemical reaction, atoms do not change from one type to another.
- During a chemical reaction, atoms rearrange to form different groups of atoms.

### CR 2.3

- Models are similar to and different from what they represent in important ways.
- The atoms found in the products of a chemical reaction must have been present in the reactants as well.
- Advances in technology influence the progress of science and science has influenced advances in technology.

## Chemical Reactions Unit Review

CR 2.5 (Students review and reinforce these key concepts)

- Different substances have different properties.
- Things that are too small (or too large) to see can be studied with models.
- Substances have different properties because they are made of different groups of atoms. These groups vary in the type or number of atoms that make up the group.
- Groups of atoms repeat to make up a substance.
- During a chemical reaction, one or more starting substances (reactants) change into one or more different substances (products).
- During a chemical reaction, atoms do not change from one type to another.
- During a chemical reaction, atoms rearrange to form different groups of atoms.

CR 3.1

- Burning is a type of chemical reaction.
- Fuels release energy when they burn.

CR 3.2

- During a chemical reaction, all of the atoms that make up the reactants rearrange to form the products.

CR 3.3

- During a chemical reaction, atoms cannot be created or destroyed.

CR 3.4

## Chemical Reactions Unit Review

- The possible products of a chemical reaction can be identified based on the atoms that formed the reactants.

### CR 4.1

- Chemists can play a role in analyzing crime scene evidence.
- Evaluating evidence quality is an important aspect of making a strong argument.
- Corrosive substances can cause damage when they come into contact with other substances.

### CR 4.2

- Scientists can use models to determine whether or not a claim is possible.
- Scientists need to revisit and revise their models when new evidence becomes available.

### CR 4.3

- Discussing evidence and ideas with others helps build new understanding.
- Scientists can change their minds when presented with convincing evidence.