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NOTE-TAKING GUIDE: Unit 10, SEGMENT A

Name:

Date:

Main Ideas, Key Points, Questions:

After watching the video segment, write down key points, main ideas and big questions.

Objective(s):

- *To compare and contrast static and dynamic equilibrium.*
- *To identify characteristics of chemical equilibrium in reversible reactions.*
- *To plan and carry out an investigation using a model of chemical equilibrium.*
- *To develop models of chemical equilibrium, explaining activation energy.*

Notes:

During the video segment, use words, phrases or drawings to take notes.

Summary:

After watching the video segment, write at least three sentences explaining what you learned.
You can ask yourself: "If I was going to explain this to someone else, what would I say?"

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QUESTIONS TO CONSIDER: Unit 10, SEGMENT A

Name:

Date:

After watching the video and performing any associated labs and/or experiments, you should be able to answer the following:

Equilibrium is a condition in which all influences are canceled by other influences, resulting in a stable, balanced or unchanging system. Refer to the images shown in the Unit 10A video and use the words stable, balanced or unchanging in your answer to the three questions below:

1. **Are the stacked rocks in equilibrium? How do you know?**

2. **Does the juggler demonstrate equilibrium? How do you know?**

3. **Is the faucet pouring water into a container with an open drain in equilibrium? How do you know?**

4. **How is static equilibrium different from dynamic equilibrium?**

A reversible reaction occurs when reactants can form products (the forward reaction) and then the products can come apart to form the reactants (the reverse reaction).

5. **If a student said "I think the reaction will be at equilibrium when we have half reactants and half products," do you agree or disagree? Why?**

You are now expected to conduct an equilibrium activity with objects like Legos representing the reactants and products in a reversible chemical reaction. When this Lego activity has been completed, use your data table to answer the following questions: (If you performed the activity 4 times, write your data for each of the four trials.)

6. **How do you know when the reaction is at equilibrium?**

7. **Make a sketch of the graph of a reaction reaching equilibrium over time.**

8. **Does this graph represent static or dynamic equilibrium? How do you know?**

9. **Sketch a graph showing the amount of energy in a reaction, and label the part of the graph representing "activation energy."**

10. **According to this graph, which will go faster, the forward reaction or the reverse reaction?**