

20.4 Guided Reading: Energy and Reaction Rate

Directions: As you read pages 503-509 of your textbook, answer the questions/follow the directions below for each section. Read a section (indicated by a green heading in your textbook,) and then fill out the related portion of this assignment. Then read the next section and fill in the related portion of this assignment. Continue completing this way until you finish reading the section and answering the related questions.

Section 1: Getting a Reaction Started:

Give at least 2 examples of conditions that if changed may cause a chemical reaction.

What is the key factor for any chemical reaction to take place?

What is the first thing that happens to the compounds/molecules during a chemical reaction?

Section 2: Activation Energy:

Define Activation Energy:

What is the difference between 'high' activation energy and 'low' activation energy? (Do not use the words high and low in your explanation. Make sure to be clear and specific in your explanation.)

How is the energy that is needed to start a chemical reaction measured?

How is the role of activation energy different in endothermic reactions than it is in exothermic reactions?

Section 3: Reaction Rates:

What causes a chemical reaction to occur?

(Still in Reaction Rates section...)

List 3 factors that can change the rate of a reaction and EXPLAIN HOW each can do this.

Section 4: Catalysts

Define catalyst:

How does a catalyst work? (What does it actually change about the chemical reaction?)

Is a catalyst a reactant or product?

Where is the catalyst written/shown in a chemical equation?

How do catalysts help some industries in our country?

Section 5: Enzymes:

Define Enzyme:

How is an enzyme usually produced?

List at least 3 functions that our bodies use enzymes for:

Section 6: Science and Technology

What does the catalytic converter in your car do?