

# Topic: Matter and energy transformations



## Project 2061 Instructional Analysis of Biology Textbooks

### Instructional Categories

	<b>Biology Miller · Levine</b> Prentice Hall	<b>Biology: A Community Context</b> South-Western Educational Publishing	<b>Biology: Principles &amp; Explorations</b> Holt, Rinehart and Winston	<b>Biology: The Dynamics of Life</b> Glencoe, McGraw-Hill	<b>Biology: Visualizing Life</b> Holt, Rinehart and Winston	<b>BSCS Biology: A Human Approach</b> Kendall Hunt	<b>BSCS Biology: An Ecological Approach</b> Kendall Hunt	<b>Heath Biology</b> D.C. Heath and Company	<b>Insights in Biology</b> Kendall Hunt	<b>Modern Biology</b> Holt, Rinehart and Winston
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#### I. PROVIDING A SENSE OF PURPOSE

Conveying unit purpose	■	■	■	■	■	■	■	■	■	■
Conveying lesson purpose	■	■	■	■	■	■	■	■	■	■
Justifying lesson sequence	■	■	■	■	■	■	■	■	■	■

#### II. TAKING ACCOUNT OF STUDENT IDEAS

Attending to prerequisite knowledge and skills	■	■	■	■	■	■	■	■	■	■
Alerting teacher to commonly held student ideas	■	■	■	■	■	■	■	■	■	■
Assisting teacher in identifying own students' ideas	■	■	■	■	■	■	■	■	■	■
Addressing commonly held ideas	■	■	■	■	■	■	■	■	■	■

#### III. ENGAGING STUDENTS WITH RELEVANT PHENOMENA

Providing variety of phenomena	■	■	■	■	■	■	■	■	■	■
Providing vivid experiences	■	■	■	■	■	■	■	■	■	■

#### IV. DEVELOPING AND USING SCIENTIFIC IDEAS

Introducing terms meaningfully	■	■	■	■	■	■	■	■	■	■
Representing ideas effectively	■	■	■	■	■	■	■	■	■	■
Demonstrating use of knowledge	■	■	■	■	■	■	■	■	■	■
Providing practice	■	■	■	■	■	■	■	■	■	■

#### V. PROMOTING STUDENT THINKING ABOUT PHENOMENA, EXPERIENCES, AND KNOWLEDGE

Encouraging students to explain their ideas	■	■	■	■	■	■	■	■	■	■
Guiding student interpretation and reasoning	■	■	■	■	■	■	■	■	■	■
Encouraging students to reflect on their own learning	■	■	■	■	■	■	■	■	■	■

#### VI. ASSESSING PROGRESS

Aligning assessment to goals	■	■	■	■	■	■	■	N/A	■	■
Testing for understanding	■	■	■	■	■	■	■	N/A	■	■
Using assessment to inform instruction	■	■	■	■	■	■	■	N/A	■	■

■ = Excellent (3); ■ = Good (2.5-2.9); ■ = Satisfactory (2-2.4); ■ = Fair (1.5-1.9); ■ = Poor (0-1.4)