Notes
Read and select facilitation questions as appropriate to meet your students' needs.

Phase	Instructional Grouping	Materials
Engage	Student pairs	• **Engage: Anticipation Guide**
Explore	Small groups	• **Safety goggles** • **Science notebook** • **Explore: Investigating Cell Transport** **Station 1: Osmosis (hypotonic raisins)** • 100 mL beaker • Water • 5 raisins • 9 cm plastic Petri dish • Wax pencils to label beakers **Station 2: Diffusion** • 5 cotton balls • Anise oil • 9 cm plastic Petri dish • Stopwatch • Balloons **Station 3: Diffusion** • 2 100 mL beakers • Food color • Hot plate • Warm water • Cold water • Stopwatch **Station 4: Osmosis (isotonic, hypertonic)** • *Elodea* leaves (1 large bunch) • 5 microscope slides • 5 cover slips • 4 microscopes • Saltwater solution • Pipette • Beaker • 2 forceps • 100 mL beaker

Explore (Continued)	Small groups	**Station 5: Cell Membrane Demo** • 4 straws • Corn syrup • Dish-washing soap • Dissecting probe • Water • Dissecting pan or other rectangular pan • Thread **Station 6: Osmosis** • 2 250 mL beakers • Quart-size resealable plastic bags • Cornstarch • Graduated cylinder • Water • Iodine tincture
Explain	Student pairs	• **Explain: Card Set 1** • **Explain: Card Set 2** • Chart paper • Scissors • Glue stick • Ruler or straight edge • Markers
Elaborate	Student pairs	• **Elaborate: Cell Transport Scenarios**
	Teacher-led student group	• **Elaborate: Cell Transport Scenarios***
Evaluate	Individual	• **Evaluate: Cell Transport**

**For targeted students only*

Notes
Read and select facilitation questions as appropriate to meet your students' needs.

Phase	Instructional Grouping	Materials
Engage	Individual	- **Engage: Energy Conversions**
Explore	Small groups	- **Explore: Modeling the Photosynthesis and Cellular Respiration Equations** - Scissors
Explain 1	Small groups	- **Explain 1: Model of a Chloroplast** - **Explain 1: Overview of Photosynthesis** - Scissors
Explain 2	Small groups	- **Explain 2: Energy Conversions Analogy**
Elaborate	Small groups	- **Elaborate: Organism 1 Card** - **Elaborate: Organism 2 Card**
	Teacher-led student group	- **Elaborate: Organism 1 Card** - **Elaborate: Organism 2 Card**
Evaluate	Individual	- **Evaluate: Cellular Energy Conversions**

Notes
Read and select facilitation questions as appropriate to meet your students' needs.

Phase	Instructional Grouping	Materials
Engage	Small groups	• **Engage: *Hox* Gene Activity**
Explore	Small groups	• **Explore: *Hox* Gene DNA Comparison Chart**
Explain	Individual	• **Explain: DNA**
Elaborate	Small groups	• **Elaborate: DNA Cube** • **Elaborate: From DNA to Protein**
	Teacher-led student group	• **Elaborate: DNA Cube** • **Elaborate: From DNA to Protein**
Evaluate	Individual	• **Evaluate: DNA**

Notes
Read and select facilitation questions as appropriate to meet your students' needs.

Phase	Instructional Grouping	Materials
Engage	Individual	• **Engage: Who Remembers?**
Explore	Small groups	• **Explore: How to Solve a Monohybrid Cross** • Chart paper • Markers
Explain	Small groups	• **Explain: Punnett Squares and Genetics** • White paper • Scissors • Tape or glue
Elaborate	Small groups	• **Elaborate: You Are Hired**
	Teacher-led student group	• **Elaborate: You Are Hired***
Evaluate	Individual	• **Evaluate: Predicting Genetic Outcomes**

**For targeted students only*

Notes
Read and select facilitation questions as appropriate to meet your students' needs.

Phase	Instructional Grouping	Materials
Engage	Student pairs	• Paper or science notebook
Explore	Student pairs	• **Explore Part 1: *Gag* Gene Amino Acid Comparison Chart** • **Explore Part 2: Primate and Virus Distribution Map**
Explain	Individual	• **Explain: Evolution—Molecular Homology and Biogeography**
Explain	Small groups Teacher-led student group	• **Explain: Evolution—Molecular Homology and Biogeography**
Elaborate	Student pairs	• **Elaborate: Who Is Related?** • **Elaborate: SIV and HIV *Pol* Gene Amino Acid Sequence Chart**
Evaluate	Individual	• **Evaluate: Evolution—Molecular and Biogeographical Evidence**

Notes
Read and select facilitation questions as appropriate to meet your students' needs.

Phase	Instructional Grouping	Materials
Engage	Individual	• **Engage: Natural Selection Scenario**
Explore	Small groups	**Per Lab Station:** • 150 black beans • 150 black-eyed peas • 150 navy beans (white) • 1 paper cup • 1 stopwatch • 1 cardboard box lid • Light-colored gravel or pebbles • Resealable plastic bags • **Explore: Investigating Natural Selection**
Explain	Small groups	• **Explain: Diversity of Species**
Elaborate	Small groups	• **Elaborate: Diversity and Natural Selection**
	Teacher-led student group	• **Elaborate: Diversity and Natural Selection*** • **Explain: Diversity of Species**
Evaluate	Individual	• **Evaluate: Natural Selection**

**For targeted students only*

Notes
Read and select facilitation questions as appropriate to meet your students' needs.

Phase	Instructional Grouping	Materials
Engage	Small groups	• **Engage: Brainstorming Body Systems**
Explore	Student pairs	• **Explore: System Interactions and Running**
Explain	Student pairs	• **Explain: Body System Interactions**
Elaborate	Small groups	• **Elaborate: Describe the Interactions**
	Teacher-led student group	• **Elaborate: Describe the Interactions**
Evaluate	Individual	• **Evaluate: Interactions of Animal Systems**

Notes
Read and select facilitation questions as appropriate to meet your students' needs.

Phase	Instructional Grouping	Materials
Engage	Small groups	- **Engage: Organism cards** - Chart paper - Marker - Scissors
Explore	Small groups	- **Explore: Food Chains and Energy Pyramids** - **Explore: Feeding Relationships Table** **Explore: Energy Arrows**
Explain	Individual	- **Explain Part 2: Ecological Pyramids**
Elaborate	Small groups	- Food chains created during Explore using organism cards - **Elaborate: Carbon Cycle** - **Explore: Energy Arrows** - Scissors
Evaluate	Individual	- **Evaluate: The Flow of Matter and Energy**

Notes
Read and select facilitation questions as appropriate to meet your students' needs.

Phase	Instructional Grouping	Materials
Engage	Student pairs	• **Engage: Biological Relationship Tic-Tac-Toe**
Explore	Whole group	• **Explore: Predator-Prey Simulation** • 1 bag of microwave popcorn • Green, yellow, red, and brown yarn strips • Scissors • Resealable plastic bag
Explain	Part 1: Whole group Part 2: Individual Student pairs	• **Explain Part 1: Predator-Prey Relationships** • **Explain Part 2: Symbiotic Relationships Activity**
Elaborate	Student pairs	• **Elaborate: Biological Relationship Scenarios**
	Teacher-led student group	• **Elaborate: Biological Relationship Scenarios***
Evaluate	Individual	• **Evaluate: Biological Relationships**

**For targeted students only*

