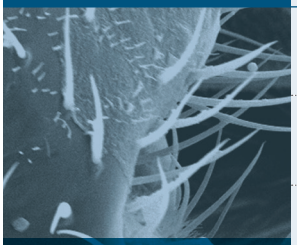
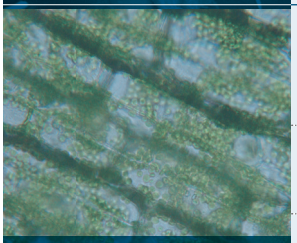
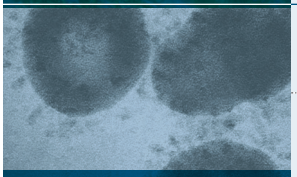
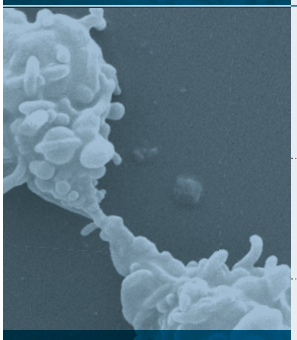
AP Insight: Biology

Empowers Teachers to Propel Every Student Forward

AP® educators leveraged years of teaching experience, data, and student work to identify key **challenge areas** — the concepts and skills most foundational to success in college and AP Biology. Teachers use AP Insight to create a road map in their own syllabus, target challenge areas, and help students connect building blocks to master the course.

Big Ideas	Challenge Areas	Building Blocks	
 **Evolution**	**Evaluate Hardy-Weinberg Data**	• Natural Selection • Hardy-Weinberg Equilibrium	• Evidence for Evolution via Natural Selection
	Impact of Environment on Evolution	• Genetic Changes in Populations • Variation and Fitness	• Role of the Environment in Evolution
	Predict Impact of Change in Genotype	• Genetic Variation at the Molecular Level • Genetic Variation at the Chromosomal Level	• Change in Phenotype • Variation and Natural Selection
 **Cellular Processes**	**Predict Free Energy**	• Free Energy and Its Transfer Within Cells • Free Energy of Organisms	• Free Energy of Populations • Free Energy of Ecosystems
	Explain Energy Use, Storage, and Capture	• Organism Energy Strategies • Energy Structures of Cells	• Photosynthesis • Cellular Respiration
	Represent and Model Matter Exchange	• Molecular Basis of Exchange • Impact Cell Size	• Movement of Carbon, Nitrogen, Phosphorus, and Water • Cell Transport
 **Genetics and Information Transfer**	**Represent Genetic Information**	• Structure of DNA and RNA • DNA is the Heritable Material	• Transcription • Translation
	Evaluate DNA Transmission Data	• DNA Replication • Mitosis	• Meiosis • Cell Cycle Regulation
	Apply Math to Genetics	• Probability and Punnett Squares • Genetic Disorders	• Meiosis and Mendelian Models
 **Interactions**	**Represent Mechanisms of Specialization**	• Factors Affecting Eukaryotic Gene Expression • Regulating Eukaryotic Gene Expression	• Specialization of Cells, Tissues, and Organs
	Predict Effects of Changes to Biological Systems	• Feedback Mechanisms • Basic Cell Communication in Organ Systems	• Organ Interactions • Organ System Interactions
	Apply Math to Community Interactions	• Quantitative Measures of Community Structure • Using Models to Analyze and Predict Population Interactions	• Models of Populations in a Community

Your Class, Powered by AP Insight Year-Round

Gain valuable insight as you prepare, teach, assess, and act on challenge areas.

Empower your students to own and improve their learning.

Prepare

- Discover challenge areas
- Anticipate common student struggles
- Integrate building blocks where needed
- Refresh key content and skills

Teach

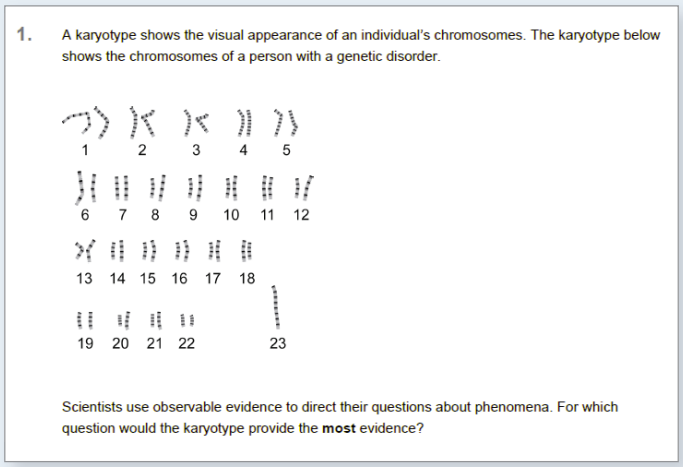
- Engage students with real-world problems
- Assign progress sheets and performance tasks
- Adapt learning in real time

Assess

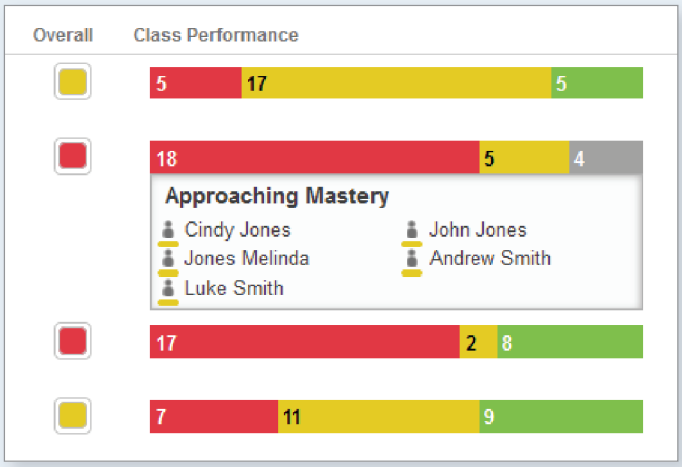
- Assign quizzes that mirror the AP Exam
- Select online or offline testing options to suit your classroom needs
- Use assessments to gauge students' mastery of critical concepts and skills

Act

- Facilitate student reflection and next steps to close gaps
- Arm students with feedback and resources to improve
- Gain class feedback on key areas of understanding and misunderstanding



AP assessments for learning



Ongoing progress reports

Getting Started Is Easy

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