

## 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
 <b>Evolution</b>	<b>Evaluate Hardy-Weinberg Data</b>	<ul style="list-style-type: none"> <li>Natural Selection</li> <li>Hardy-Weinberg Equilibrium</li> <li>Evidence for Evolution via Natural Selection</li> </ul>
	<b>Impact of Environment on Evolution</b>	<ul style="list-style-type: none"> <li>Genetic Changes in Populations</li> <li>Variation and Fitness</li> <li>Role of the Environment in Evolution</li> </ul>
	<b>Predict Impact of Change in Genotype</b>	<ul style="list-style-type: none"> <li>Genetic Variation at the Molecular Level</li> <li>Genetic Variation at the Chromosomal Level</li> <li>Change in Phenotype</li> <li>Variation and Natural Selection</li> </ul>
 <b>Cellular Processes</b>	<b>Predict Free Energy</b>	<ul style="list-style-type: none"> <li>Free Energy and Its Transfer Within Cells</li> <li>Free Energy of Organisms</li> <li>Free Energy of Populations</li> <li>Free Energy of Ecosystems</li> </ul>
	<b>Explain Energy Use, Storage, and Capture</b>	<ul style="list-style-type: none"> <li>Organism Energy Strategies</li> <li>Energy Structures of Cells</li> <li>Photosynthesis</li> <li>Cellular Respiration</li> </ul>
	<b>Represent and Model Matter Exchange</b>	<ul style="list-style-type: none"> <li>Molecular Basis of Exchange</li> <li>Impact Cell Size</li> <li>Movement of Carbon, Nitrogen, Phosphorus, and Water</li> <li>Cell Transport</li> </ul>
 <b>Genetics and Information Transfer</b>	<b>Represent Genetic Information</b>	<ul style="list-style-type: none"> <li>Structure of DNA and RNA</li> <li>DNA is the Heritable Material</li> <li>Transcription</li> <li>Translation</li> </ul>
	<b>Evaluate DNA Transmission Data</b>	<ul style="list-style-type: none"> <li>DNA Replication</li> <li>Mitosis</li> <li>Meiosis</li> <li>Cell Cycle Regulation</li> </ul>
	<b>Apply Math to Genetics</b>	<ul style="list-style-type: none"> <li>Probability and Punnett Squares</li> <li>Genetic Disorders</li> <li>Meiosis and Mendelian Models</li> </ul>
 <b>Interactions</b>	<b>Represent Mechanisms of Specialization</b>	<ul style="list-style-type: none"> <li>Factors Affecting Eukaryotic Gene Expression</li> <li>Regulating Eukaryotic Gene Expression</li> <li>Specialization of Cells, Tissues, and Organs</li> </ul>
	<b>Predict Effects of Changes to Biological Systems</b>	<ul style="list-style-type: none"> <li>Feedback Mechanisms</li> <li>Basic Cell Communication in Organ Systems</li> <li>Organ Interactions</li> <li>Organ System Interactions</li> </ul>
	<b>Apply Math to Community Interactions</b>	<ul style="list-style-type: none"> <li>Quantitative Measures of Community Structure</li> <li>Using Models to Analyze and Predict Population Interactions</li> <li>Models of Populations in a Community</li> </ul>

# 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

### 📊 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

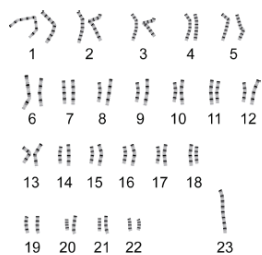
### ⚙️ Teach

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

### 👥 Act

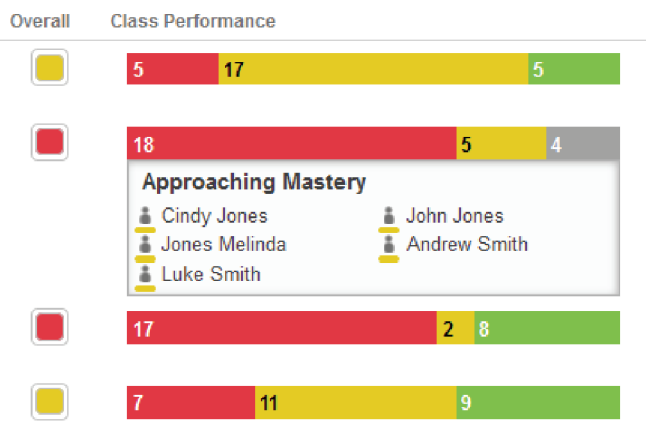
- Facilitate student reflection and next steps to close gaps
- Arm students with feedback and resources to improve
- Gain class feedback on key areas of understanding and misunderstanding

1. A karyotype shows the visual appearance of an individual's chromosomes. The karyotype below shows the chromosomes of a person with a genetic disorder.



Scientists use observable evidence to direct their questions about phenomena. For which question would the karyotype provide the **most** evidence?

AP assessments for learning



Ongoing progress reports

## Getting Started Is Easy

Access to AP Insight is available for a subscription fee based on the size of your AP program or classroom. Teachers, districts, and state departments of education all currently subscribe to AP Insight.

Once you've subscribed, all you need is:

- A computer with Internet access
- Printing capabilities
- A College Board account

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