

## College Readiness Standards — Science

	Interpretation of Data	Scientific Investigation	Evaluation of Models, Inferences, and Experimental Results
13–15	Select a single piece of data (numerical or nonnumerical) from a simple data presentation (e.g., a table or graph with two or three variables; a food web diagram) Identify basic features of a table, graph, or diagram (e.g., headings, units of measurement, axis labels)		
16–19	Select two or more pieces of data from a simple data presentation Understand basic scientific terminology Find basic information in a brief body of text Determine how the value of one variable changes as the value of another variable changes in a simple data presentation	Understand the methods and tools used in a simple experiment	
20–23	Select data from a complex data presentation (e.g., a table or graph with more than three variables; a phase diagram) Compare or combine data from a simple data presentation (e.g., order or sum data from a table) Translate information into a table, graph, or diagram	Understand the methods and tools used in a moderately complex experiment Understand a simple experimental design Identify a control in an experiment Identify similarities and differences between experiments	Select a simple hypothesis, prediction, or conclusion that is supported by a data presentation or a model Identify key issues or assumptions in a model
24–27	Compare or combine data from two or more simple data presentations (e.g., categorize data from a table using a scale from another table) Compare or combine data from a complex data presentation Interpolate between data points in a table or graph Determine how the value of one variable changes as the value of another variable changes in a complex data presentation Identify and/or use a simple (e.g., linear) mathematical relationship between data Analyze given information when presented with new, simple information	Understand the methods and tools used in a complex experiment Understand a complex experimental design Predict the results of an additional trial or measurement in an experiment Determine the experimental conditions that would produce specified results	Select a simple hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a simple hypothesis or conclusion, and why Identify strengths and weaknesses in one or more models Identify similarities and differences between models Determine which model(s) is(are) supported or weakened by new information Select a data presentation or a model that supports or contradicts a hypothesis, prediction, or conclusion
28–32*	Compare or combine data from a simple data presentation with data from a complex data presentation Identify and/or use a complex (e.g., nonlinear) mathematical relationship between data Extrapolate from data points in a table or graph	Determine the hypothesis for an experiment Identify an alternate method for testing a hypothesis	Select a complex hypothesis, prediction, or conclusion that is supported by a data presentation or model Determine whether new information supports or weakens a model, and why Use new information to make a prediction based on a model
33–36†	Compare or combine data from two or more complex data presentations Analyze given information when presented with new, complex information	Understand precision and accuracy issues Predict how modifying the design or methods of an experiment will affect results Identify an additional trial or experiment that could be performed to enhance or evaluate experimental results	Select a complex hypothesis, prediction, or conclusion that is supported by two or more data presentations or models Determine whether given information supports or contradicts a complex hypothesis or conclusion, and why

Science College Readiness Standards are measured in the context of science topics students encounter in science courses. These topics may include:

Life Science/Biology	Physical Science/Chemistry, Physics	Earth & Space Science
<ul style="list-style-type: none"> <li>• Animal behavior</li> <li>• Animal development and growth</li> <li>• Body systems</li> <li>• Cell structure and processes</li> <li>• Ecology</li> <li>• Evolution</li> <li>• Genetics</li> <li>• Homeostasis</li> <li>• Life cycles</li> <li>• Molecular basis of heredity</li> <li>• Origin of life</li> <li>• Photosynthesis</li> <li>• Plant development, growth, structure</li> <li>• Populations</li> <li>• Taxonomy</li> </ul>	<ul style="list-style-type: none"> <li>• Atomic structure</li> <li>• Chemical bonding, equations, nomenclature, reactions</li> <li>• Electrical circuits</li> <li>• Elements, compounds, mixtures</li> <li>• Force and motions</li> <li>• Gravitation</li> <li>• Heat and work</li> <li>• Kinetic and potential energy</li> <li>• Magnetism</li> <li>• Momentum</li> <li>• The Periodic Table</li> <li>• Properties of solutions</li> <li>• Sound and light</li> <li>• States, classes, and properties of matter</li> <li>• Waves</li> </ul>	<ul style="list-style-type: none"> <li>• Earthquakes and volcanoes</li> <li>• Earth's atmosphere</li> <li>• Earth's resources</li> <li>• Fossils and geological time</li> <li>• Geochemical cycles</li> <li>• Groundwater</li> <li>• Lakes, rivers, oceans</li> <li>• Mass movements</li> <li>• Plate tectonics</li> <li>• Rocks, minerals</li> <li>• Solar system</li> <li>• Stars, galaxies, and the universe</li> <li>• Water cycle</li> <li>• Weather and climate</li> <li>• Weathering and erosion</li> </ul>

\* Statements apply to PLAN & ACT only

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