

# Essential Elements: High School

## Physical

- I** Make a claim supported by evidence to explain patterns of chemical properties that occur in a substance during a common chemical reaction (e.g., baking soda and vinegar). [EE.HS-PS1-2](#)

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- II** Evaluate the effectiveness of safety devices and design a solution that could minimize the force of a collision. [EE.HS-PS2-3](#)

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- III** Investigate and predict the temperatures of two liquids before and after combining to show uniform energy distribution. [EE.HS-PS3-4](#)

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- IV** Make a claim supported by evidence that shows how some devices use light and sound waves to transmit and capture information. [EE.HS-PS4-5](#)

## Life

- I** Use a model to illustrate the organization and interaction of major organs into systems (e.g., circulatory, respiratory, digestive, sensory) in the body to provide specific functions. [EE.HS-LS1-2](#)

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- II** Use a model to illustrate how growth occurs when cells multiply. [EE.HS-LS1-4](#)

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- III** Use a graphical representation to explain the dependence of an animal population on other organisms for food and their environment for shelter. [EE.HS-LS2-2](#)

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- IV** Defend why reproduction may or may not result in offspring with different traits. [EE.HS-LS3-2](#)

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- V** Explain how the traits of particular species that allow them to survive in their specific environments. [EE.HS-LS4-2](#)

## Earth and Space

- I** Use a model of Earth and the Sun to show how Earth's tilt and orbit around the Sun cause changes in seasons. [EE.HS-ESS1-4](#)

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- II** Use a model to show how constructive forces (e.g., volcanoes) and destructive mechanisms (e.g., weathering, coastal erosions) change Earth's surface [EE.HS-ESS2-1](#)

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- III** Using a model, recognize how the effects of changes in climate can impact human lives. [EE.HS-ESS2-4](#)

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**IV Construct an explanation based on evidence for how natural hazards have influenced human activity.** EE.HS-ESS3-1

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**V Construct an argument for a strategy to conserve, recycle, or reuse resources.** EE.HS-ESS3-2

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**VI Analyze data to determine the effects of a conservation strategy on the level of a natural resource.** EE.HS-ESS3-3

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## Biology

**I Explain how different organs of the body carry out essential functions of life** EE.HS-LS1-1

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**II Collect data from an investigation to show how different organisms react to changes (e.g., heart rate increases with exercise, pupils react to light).** EE.HS-LS1-3

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**III Use a graphical representation to explain changes over time in the population size of an animal species (e.g., currently on the endangered list).** EE.HS-LS2-1

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**IV Interpret data sets to identify an advantageous heritable trait.** EE.HS-LS4-3.

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**V Evaluate a strategy to protect a species.** EE.HS-LS4-6