

# NGSS CONNECTIONS

The Next Generation Science Standards (NGSS) offer a new vision for K-12 science education. Released for states' adoption in 2013, and designed with decades of research on best practices for teaching and learning science, the NGSS offer an opportunity to move science education into the 21st century.

The activities in *Bird Scouts* support youth engagement in some aspects of the three dimensions of the NGSS. Specifically the Science and Engineering Practices (SEPs) are used as strategies for making sense of content that connects to the Crosscutting Concepts (CCCs) and the Disciplinary Core Ideas (DCIs).

## Science and Engineering Practices (SEPs)

### Planning and Carrying Out Investigations

*Activity 5*

- » Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.

### Analyzing and Interpreting Data

*Activities 2, 3, 4, 7, 8, 9, 12*

- » Represent data in tables and/or various graphical displays (bar graphs, pictographs, and/or pie charts) to reveal patterns that indicate relationships.
- » Analyze and interpret data to provide evidence for phenomena.

### Constructing Explanations and Designing Solutions

*Activities 1, 2, 5, 6, 9, 11*

- » Apply scientific ideas, principles, and/or evidence to construct, revise and/or use an explanation for real-world phenomena, examples, or events.
- » Apply scientific ideas to design, construct, and/or test a design of an object, tool, process or system.

### Obtaining, Evaluating, and Communicating Information

*Activities 3, 4, 12*

- » Communicate scientific and/or technical information orally and/or in written formats, including various forms of media as well as tables, diagrams, and charts.
- » Obtain and combine information from books and/or other reliable media to explain phenomena or solutions to a design problem.

## Disciplinary Core Ideas (DCIs)

### LS1.A: Structure and Function

- » Organisms have both internal and external macroscopic structures that allow for growth, survival, behavior, and reproduction.

### LS2.A: Interdependent Relationships in Ecosystems

- » Organisms and populations are dependent on their environmental interactions both with other living things and with nonliving factors, any of which can limit their growth. Competitive, predatory, and mutually beneficial interactions vary across ecosystems but the patterns are shared.

### LS4.D: Biodiversity and Humans

- » Populations of organisms live in a variety of habitats. Change in those habitats affects the organisms living there.

### ESS3.C: Human Impacts on Earth Systems

- » Human activities have altered the biosphere, sometimes damaging it, although changes to environments can have different impacts for different living things. Activities and technologies can be engineered to reduce people's impacts on Earth.

## Crosscutting Concepts (CCCs)

### Structure and Function

*Activities 1, 5, 6, 7, 8*

- » Different materials have different substructures, which can sometimes be observed.
- » Substructures have shapes and parts that serve functions.

### Cause and Effect

*Activities 7, 8*

- » Cause and effect relationships may be used to predict phenomena in natural or designed systems.

Connections are from 3-5 and MS grade bands. See [nextgenscience.org](http://nextgenscience.org) for more information.