

# 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 *Cloud Quest* 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)

### Analyzing and Interpreting Data

*Activities 1 - 12*

- » Construct, analyze, and/or interpret graphical displays of data and/or large data sets to identify linear and nonlinear relationships.
- » Use graphical displays (e.g., maps, charts, graphs, and/or tables) of large data sets to identify temporal and spatial relationships.
- » Analyze and interpret data to determine similarities and differences in findings.

### Developing and Using Models

*Activities 2, 3, 6, 7, 10, 11*

- » Develop a diagram or simple physical prototype to convey a proposed object, tool, or process.

### Designing Solutions

*Activities 2, 6, 10, 11*

- » Apply scientific ideas or principles to design, construct, and/or test a design of an object, tool, process, or system.

## Disciplinary Core Ideas (DCIs)

### ESS2.C: The Roles of Water in Earth's Surface Processes

- » Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation and crystallization, and precipitation, as well as downhill flows on land.

### ESS2.D: Weather and Climate

- » Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next.

### ETS1.B: Developing Possible Solutions

- » A solution needs to be tested, and then modified on the basis of test results, in order to improve it.

## Crosscutting Concepts (CCCs)

### Patterns

*Activities 4, 12*

- » Macroscopic patterns are related to the nature of microscopic and atomic-level structure.
- » Patterns can be used to identify cause and effect relationships.
- » Graphs, charts, and images can be used to identify patterns in data.

### Structure and Function

*Activities 2, 10, 11*

- » Structures can be designed to serve particular functions by taking into account properties of different materials, and how materials can be shaped and used.

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

