

Kognity and the NGSS Framework

This guide outlines the structure of Kognity's NGSS books with explicit connection to the NGSS framework. We will explore where the alignments can be found in the content and how you can use the connections to structure and inform your teaching.



UNIT

Each unit in Kognity is the **Anchoring Phenomenon** that anchors all the learning of a unit. In NGSS, Anchoring Phenomena are observable events that occur in the universe that we can use our science knowledge to explain or predict.

MODULE

The modules are the **Investigative Phenomena**, which students will explore and observe as part of the storyline that links back to the Anchoring Phenomenon

Anchoring Phenomenon

- 2 Heat and energy in the Earth system: The scientific energy of crystals
 - 2.0 Introduction to the phenomenon
 - 2.1 Solutions
 - 2.2 Crystal formation
 - 2.3 Heating and cooling (Available Spring 2022)
 - 2.4 Why does the soil temperature increase? (Available Spring 2022)

Investigative phenomena

LESSONS


Performance Expectations

Performance Expectations are the assessable statements of what students should be able to accomplish in order to demonstrate understanding.

All learning should link back to a Performance Expectation. For more information on performance expectations, refer to your Teacher Guide provided by Kognity.


The three dimensions

1. **Disciplinary Core Idea (DCI)** identifies why a phenomenon occurs, otherwise known as the main scientific idea.
2. **Cross-cutting concepts (CCC)** connect concepts across sciences and other disciplines. Examples of this are systems or patterns shown in colored boxes in the content of the book.

 **Crosscutting Concept**

Structure and function
When crystals or minerals dissolve in water, their structure changes, thereby changing their physical and chemical properties. Crystals are no longer in their rigid, organized, lattice shape, but instead, have broken up into their electrically charged ions due to the slight positive and negative ends of water surrounding the crystal.

3. **Scientific and engineering practices (SEP)** are tools to apply concepts and skills to be able to investigate further.

 **Science and Engineering Practice**

Engaging in argument from evidence
Conclusions need to be supported by evidence from investigations for them to be considered valid.

The 5E Framework

Kognity's NGSS content is designed around the 5E model of instruction which takes students through different phases of learning. The 5E stage of each section in Kognity's book is highlighted in the table of contents.

