

4th Grade

# How the World Works

*An inquiry into the natural world and its laws; the interaction between the natural world (physical and biological) and human societies; how humans use their understanding of scientific principles; the impact of scientific and technological advances on society and on the environment.*

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## TEACHERS

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### CENTRAL IDEA

Humans predict stability and change based on evidence.

Lines of Inquiry	Teacher Questions	Key Concepts	Related Concepts
<ul style="list-style-type: none"><li>Collecting and interpreting evidence</li><li>evidence-based predictions</li><li>Stability and change</li></ul>	<ul style="list-style-type: none"><li>How is evidence collected and interpreted?</li><li>How is the interpretation of evidence used to make predictions?</li><li>What causes stability and change?</li></ul>	Function Causation Change	Stability Change

## UNIT VOCABULARY

predict, stability, evidence, change, geography, feature, weathering, erosion, hazards, interpret, collect, data, society, impact, plates

SKILLS AND PROCESSES			
Reading	Writing	Science/SS	Math
<ul style="list-style-type: none"><li>• RU of S Unit 2: Reading the Weather, Reading the World</li></ul>	<ul style="list-style-type: none"><li>• Research (quotes/own words)</li></ul>	<ul style="list-style-type: none"><li>• Geography</li><li>• Hazards</li><li>• Economics</li></ul>	<ul style="list-style-type: none"><li>• Multiplication</li><li>• Division</li></ul>

## PRIOR LEARNING/CONNECTIONS

*(What do you know about the Central Idea? What connections can you make?-planners in earlier grade levels)*

- KWL
- Student Surveys
- Discussions
- Student Checklists
- Writing

LEARNER PROFILE ATTRIBUTES <i>(attributes which are focused on in this unit are in this color)</i>					
Inquirer	Communicator	Risk-taker	Thinker	Reflective	Quality Producer
Caring	Knowledgeable	Open-minded	Balanced	Principled	Community Contributor

## STUDENT QUESTIONS

- How would Earth change without water?
- How does the earth move?
- Why does erosion take so long?
- How do sinkholes form?
- If the core of the crust is so hot, why doesn't it melt the plates?
- Why don't we have volcanoes in Springdale?

## LEARNING ENGAGEMENTS

- Frontloading:
- [Candy Bar Geology Lab](#) (LOI 1 and 3)
- [Cookie Weathering Lab](#) (LOI 1 and 2)
- [Stream Table and Erosion Tag](#) (LOI 1 and 3)
- [Perspectives of Geographic Locations](#) (LOI 1 and 2)
- [Hazards Research Project Student Notes Page](#)
  - [Hazard Book Template](#)
  - School Event [Sign Up Sheet](#)

## APPROACHES TO LEARNING *(skills which are focused on in this unit are in this color)*

### Social Skills

- **Developing positive interpersonal relationships and collaboration skills**
  - Accept Responsibility
  - Respect others
  - Cooperate
  - Resolve conflict
  - Group decision-making
  - Adopt a variety of group roles
- **Developing social-emotional intelligence**

<b>Communication Skills</b>	<ul style="list-style-type: none"> <li>• <b>Exchanging information skills</b> <ul style="list-style-type: none"> <li>◦ Listening</li> <li>◦ Speaking</li> <li>◦ Non-verbal communication</li> </ul> </li> <li>• <b>Literacy skills</b> <ul style="list-style-type: none"> <li>◦ Viewing</li> <li>◦ Presenting</li> </ul> </li> <li>• <b>ITC skills</b> (using technology to gather,investigate and communicate info)</li> </ul>
<b>Research Skills</b>	<ul style="list-style-type: none"> <li>• <b>Information-literacy skills</b> <ul style="list-style-type: none"> <li>◦ formulating/planning</li> <li>◦ Observing</li> <li>◦ Data gathering/recording/organizing</li> <li>◦ synthesizing/interpreting</li> <li>◦ evaluating/communicating/presenting research findings</li> </ul> </li> <li>• <b>Media Literacy</b></li> <li>• <b>Ethical use of media/information</b></li> </ul>
<b>Self-Management Skills</b>	<ul style="list-style-type: none"> <li>• <b>Organization skills</b> (manage time and tasks effectively)</li> <li>• <b>States of mind</b> <ul style="list-style-type: none"> <li>◦ Mindfulness</li> <li>◦ Perseverance</li> <li>◦ Emotional management</li> <li>◦ Self motivation</li> <li>◦ Resilience</li> </ul> </li> <li>• <b>Gross motor skills</b></li> <li>• <b>Fine motor skills</b></li> <li>• <b>Spatial awareness</b></li> <li>• <b>Organization</b></li> <li>• <b>Safety</b></li> <li>• <b>Healthy</b></li> <li>• <b>Codes of behavior</b></li> <li>• <b>Informed choices</b></li> </ul>
<b>Thinking Skills</b>	<ul style="list-style-type: none"> <li>• <b>Critical thinking skills</b> <ul style="list-style-type: none"> <li>◦ Synthesis (combining parts to make wholes, creating, designing)</li> <li>◦ Analysis (taking ideas apart, separating into component parts, seeing relationships)</li> <li>◦ Evaluation</li> </ul> </li> <li>• <b>Creative thinking skills</b></li> <li>• <b>Transfer skills</b> <ul style="list-style-type: none"> <li>◦ Application (using previous knowledge)</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Reflection/metacognitive skills</b></li> <li>• <b>Acquisition of knowledge</b> (gaining specific facts, ideas, vocab, remembering in a similar form)</li> </ul>
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## ACTION

- Two students found sand on the playground and brought it to me telling me the process that must have taken place to break it down.
- Students watch the news and came in and shared about the current wildfires burning.
- Students were very excited about learning and showing how to keep their community safe from a natural disaster. They brought tons of materials from home to make their community.

## LEARNING GOALS AND SUCCESS CRITERIA

- [Rubric, Self-assessments,](#) and [Reflections](#) (this is a link to the [template](#) teacher will use to make a copy of for their own class to fill out and link below)
  - James [Rubric](#) & [Student Self-Reflections](#) ([sample student rubric](#) & sample [student self reflection](#))
  - Frauenthal Rubric (sample student rubric)
  - [Davis Rubric](#) and [Student Self-Reflections](#) (sample student rubric)