

Unit 4: Earth's Surface

Content Area: **Science**
Course(s): **Science Gr 2**
Time Period: **MarApr**
Length: **approx. 8 weeks/ 2nd grade**
Status: **Published**

Title Section

Department of Curriculum and Instruction



Belleville Public Schools

Curriculum Guide

Science: Grade 2

Unit 4: Earth's Surface

Belleville Board of Education

102 Passaic Avenue

Belleville, NJ 07109

Prepared by: Reis, Jenny

Dr. Richard Tomko, Ph.D., M.J., Superintendent of Schools

Dr. Giovanni Cusmano, Director of Elementary Education K -8

Mr. George Droste, Director of Secondary Education

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Unit Overview

In this unit, students will

- gather information to identify where water is located on Earth.
- develop maps to represent locations of land and water on Earth.

Performance Expectations include:

- **2-ESS2-2:** Develop a model to represent the shapes and kinds of land and bodies of water in an area.
- **2-ESS2-3:** Obtain information to identify where water is found on Earth and that it can be solid or liquid.

Lesson 1 Overview:

- Gather information to identify that water is found in ponds, lakes, rivers, and oceans on Earth

Lesson 2 Overview:

- Develop a map to identify where land and water are located.

Enduring Understanding

Lesson 1

- **Enduring Understanding:** By gathering information, identify that water is found in ponds, rivers, lakes, and oceans on Earth.
- **Essential Question:** Where is water found on Earth?

Lesson 2

- **Enduring Understanding:** Creating and reading a map can identify where land and water are located on Earth.
- **Essential Question:** How can we map land and water?

Essential Questions

Unit 4 Essential Questions:

- Where is water found on Earth?
- What are the various types of bodies of water?
- How can we map land and water?
- Why are maps useful?

Exit Skills

By the end of Grade 2, Science Unit 4, the student should be able to:

- Read a map by identify land, water, and patterns.
- Use a map key to identify land and water features.
- Create a map, utilizing a key and compass rose.
- Make comparisons of ponds, lakes, rivers, and oceans.
- Gather information to compare water found on Earth.

New Jersey Student Learning Standards (NJSLS-S)

Attached are standards used in Unit 4:

SCI.2.2-ESS2-3

Obtain information to identify where water is found on Earth and that it can be solid or liquid.

SCI.2.2-ESS2-2

Develop a model to represent the shapes and kinds of land and bodies of water in an area.

Interdisciplinary Connections

Attached are Interdisciplinary Connections for Unit 4:

LA.W.2.8	Recall information from experiences or gather information from provided sources to answer a question.
MA.2.MD.B.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
MA.2.MD.D.10	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph.
MA.2.NBT.A.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
MA.2.NBT.A.4	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.

Learning Objectives

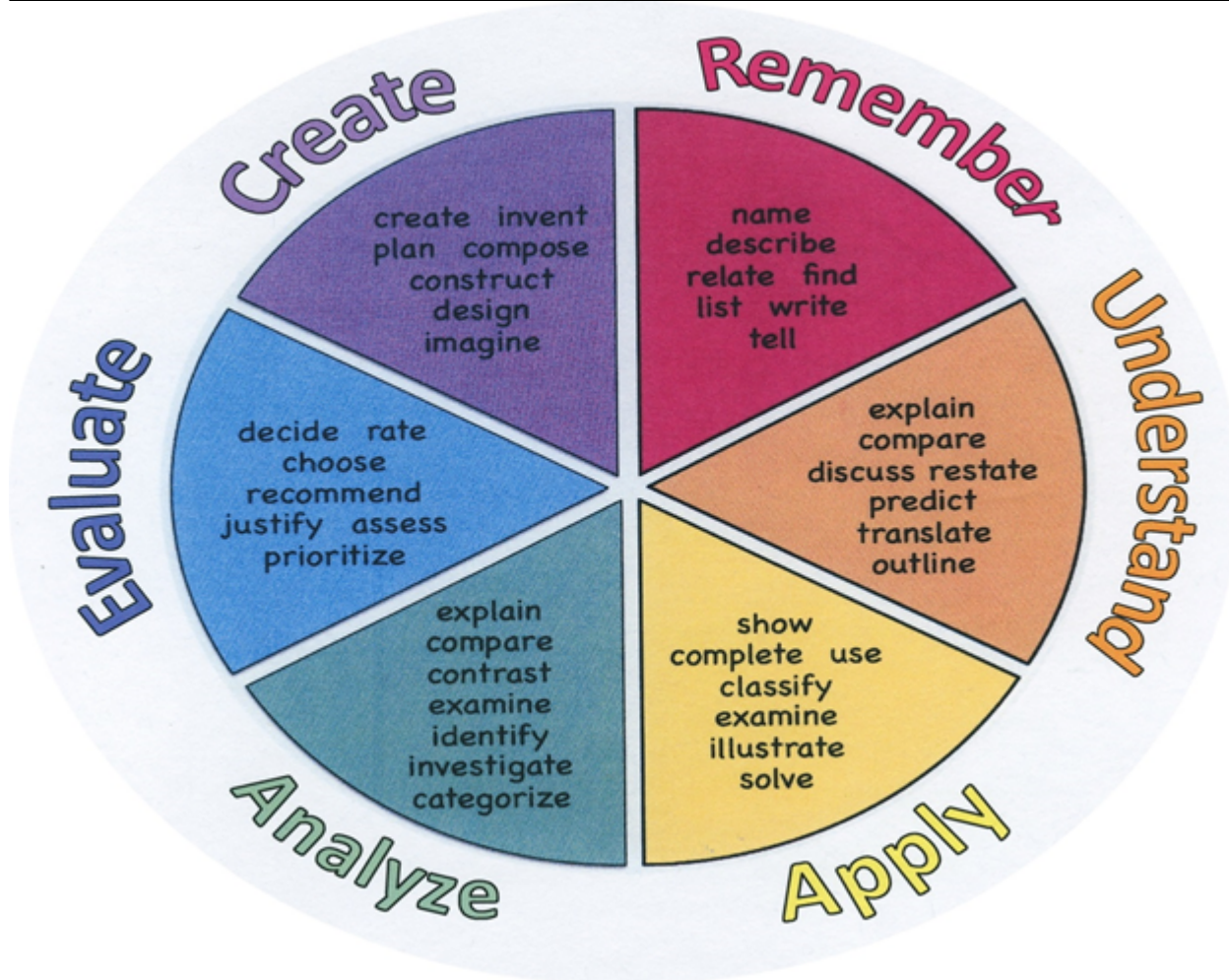
Unit 4 Learning Objectives:

- SDWAT: Gather information to identify that water is found in ponds, lakes, rivers, and oceans on Earth.
- SWDAT: Develop a map to identify where land and water are located.

Action Verbs: Below are examples of action verbs associated with each level of the Revised Bloom's Taxonomy.

Remember	Understand	Apply	Analyze	Evaluate	Create
Choose	Classify	Choose	Categorize	Appraise	Combine
Describe	Defend	Dramatize	Classify	Judge	Compose
Define	Demonstrate	Explain	Compare	Criticize	Construct
Label	Distinguish	Generalize	Differentiate	Defend	Design
List	Explain	Judge	Distinguish	Compare	Develop
Locate	Express	Organize	Identify	Assess	Formulate
Match	Extend	Paint	Infer	Conclude	Hypothesize
Memorize	Give Examples	Prepare	Point out	Contrast	Invent
Name	Illustrate	Produce	Select	Critique	Make
Omit	Indicate	Select	Subdivide	Determine	Originate
Recite	Interrelate	Show	Survey	Grade	Organize
Select	Interpret	Sketch	Arrange	Justify	Plan
State	Infer	Solve	Breakdown	Measure	Produce
Count	Match	Use	Combine	Rank	Role Play
Draw	Paraphrase	Add	Detect	Rate	Drive
Outline	Represent	Calculate	Diagram	Support	Devise
Point	Restate	Change	Discriminate	Test	Generate

Quote Recall Recognize Repeat Reproduce	Rewrite Select Show Summarize Tell Translate Associate Compute Convert Discuss Estimate Extrapolate Generalize Predict	Classify Complete Compute Discover Divide Examine Graph Interpolate Manipulate Modify Operate Subtract	Illustrate Outline Point out Separate		Integrate Prescribe Propose Reconstruct Revise Rewrite Transform
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Suggested Activities & Best Practices

- Vocabulary Game- Guess the Word
- Unit Project
- Student collaboration to build on prior knowledge
- Engineer it activity

Evidence of Student Learning - Checking for Understanding (CFU)

Use appropriate tool to check for student learning and understanding based on teacher's preference. Attached are various examples:

- Admit Tickets
- Anticipation Guide
- Common benchmarks
- Compare & Contrast
- Create a Multimedia Poster
- Define
- Describe
- Evaluate
- Evaluation rubrics
- Exit Tickets
- Explaining
- Fist- to-Five or Thumb-Ometer
- Illustration
- Journals
- KWL Chart

- Newspaper Headline
- Outline
- Question Stems
- Quickwrite
- Quizzes
- Red Light, Green Light
- Self- assessments
- Socratic Seminar
- Study Guide
- Teacher Observation Checklist
- Think, Pair, Share
- Think, Write, Pair, Share
- Top 10 List
- Unit tests

Primary Resources & Materials

Unit 1 Materials include:

Houghton Mifflin Harcourt

- Student Interactive WorkText
- Teacher Edition Text
- Online Student Edition

Ancillary Resources

Additional Resources:

- online resources to provide further information to students
- vocabulary cards
- word wall
- posters and anchor charts

Technology Infusion

Technology available:

- SMART Technology
- Online Websites (youtube, Teachertube, discoveryed)
- Computer Access
- Online activities and assessments

Win 8.1 Apps/Tools Pedagogy Wheel

Podcasts
Photostory 3
Kid Story Builder
Music Maker Jam
Paint A Story
Office 365
MS PowerPoint
Stack 'Em Up
NqSquared Numbers
Physamajig
Xylophone 8

Wikipedia
Skydrive
Lync
SkyMap
Skype
Office 365
Puzzle Touch
Easy QR
Memorylage
Life Moments
Word Cloud Maker

Where's Waldo?
MS Excel
Flipboard
Office 365
Nova Mindmapping

Ted Talks
Record Voice Pen



Alignment to 21st Century Skills & Technology

Mastery and infusion of **21st Century Skills & Technology** and their Alignment to the core content areas is essential to student learning. The core content areas include:

- English Language Arts;
- Mathematics;
- Science and Scientific Inquiry (Next Generation);
- Social Studies, including American History, World History, Geography, Government and Civics, and Economics;
- World languages;
- Technology;
- Visual and Performing Arts.

21st Century Skills/Interdisciplinary Themes

- Communication and Collaboration
- Creativity and Innovation
- Critical thinking and Problem Solving
- ICT (Information, Communications and Technology) Literacy
- Information Literacy
- Life and Career Skills
- Media Literacy

21st Century Skills

- Civic Literacy
- Environmental Literacy
- Financial, Economic, Business and Entrepreneurial Literacy
- Global Awareness
- Health Literacy

Differentiation

Differentiations:

- Small group instruction
- Small group assignments
- Extra time to complete assignments
- Pairing oral instruction with visuals
- Repeat directions
- Use manipulatives
- Center-based instruction
- Token economy
- Study guides
- Teacher reads assessments allowed
- Scheduled breaks
- Rephrase written directions
- Multisensory approaches
- Additional time
- Preview vocabulary
- Preview content & concepts
- Story guides
- Behavior management plan
- Highlight text
- Student(s) work with assigned partner
- Visual presentation
- Assistive technology
- Auditory presentations
- Large print edition
- Dictation to scribe
- Small group setting

Hi-Prep Differentiations:

- Alternative formative and summative assessments
- Choice boards
- Games and tournaments
- Group investigations
- Guided Reading
- Independent research and projects
- Interest groups
- Learning contracts
- Leveled rubrics
- Literature circles
- Multiple intelligence options
- Multiple texts
- Personal agendas
- Project-based learning
- Problem-based learning
- Stations/centers
- Think-Tac-Toes
- Tiered activities/assignments
- Tiered products

- Varying organizers for instructions

Lo-Prep Differentiations

- Choice of books or activities
- Cubing activities
- Exploration by interest
- Flexible grouping
- Goal setting with students
- Jigsaw
- Mini workshops to re-teach or extend skills
- Open-ended activities
- Think-Pair-Share
- Reading buddies
- Varied journal prompts
- Varied supplemental materials

Intervention Strategies

- allowing students to correct errors (looking for understanding)
- teaching key aspects of a topic. Eliminate nonessential information
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning
- allowing students to select from given choices
- allowing the use of note cards or open-book during testing
- collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test.
- decreasing the amount of work presented or required
- having peers take notes or providing a copy of the teacher's notes
- marking students' correct and acceptable work, not the mistakes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using authentic assessments with real-life problem-solving
- using true/false, matching, or fill in the blank tests in lieu of essay tests
- using videos, illustrations, pictures, and drawings to explain or clarify

Special Education Learning

- printed copy of board work/notes provided
- additional time for skill mastery
- assistive technology
- behavior management plan
- Center-Based Instruction
- check work frequently for understanding
- computer or electronic device utilizes
- extended time on tests/ quizzes
- have student repeat directions to check for understanding
- highlighted text visual presentation
- modified assignment format
- modified test content
- modified test format
- modified test length
- multiple test sessions
- multi-sensory presentation
- preferential seating
- preview of content, concepts, and vocabulary
- reduced/shortened reading assignments
- Reduced/shortened written assignments
- secure attention before giving instruction/directions
- shortened assignments
- student working with an assigned partner
- teacher initiated weekly assignment sheet
- Use open book, study guides, test prototypes

English Language Learning (ELL)

- teaching key aspects of a topic. Eliminate nonessential information
- using videos, illustrations, pictures, and drawings to explain or clarify
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards,

charts, graphs, slide shows, videos, etc.) to demonstrate student's learning;

- allowing students to correct errors (looking for understanding)
- allowing the use of note cards or open-book during testing
- decreasing the amount of work presented or required
- having peers take notes or providing a copy of the teacher's notes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using computer word processing spell check and grammar check features
- using true/false, matching, or fill in the blank tests in lieu of essay tests

Sample Lesson

Using the template below, please develop a **Sample Lesson** for the first unit only.

Unit Name:

NJSLS:

Interdisciplinary Connection:

Statement of Objective:

Anticipatory Set/Do Now:

Learning Activity:

Student Assessment/CFU's:

Materials:

21st Century Themes and Skills:

Differentiation/Modifications:

Integration of Technology:

