

2nd Grade Earth's Systems Resource List

Next Generation Science Standards: 2-ESS2 Earth's Systems

ESS2.A: Earth Materials and Systems

Wind and water can change the shape of the land

ESS2.B: Plate Tectonics and Large-Scale System Interactions

Maps show where things are located. One can map the shapes and kinds of land and water in any area.

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

Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form.

Books:

Wind by Erin Edison (2012)

Includes index. Simple text and full-color photographs describe wind and how it affects weather.



Guided Reading: J

24 Pages

Wind by Cassie Mayer (2007)

What does wind do? Readers will find the answers and learn more about the wind, including how the wind can change, and why the wind is an important part of our weather.

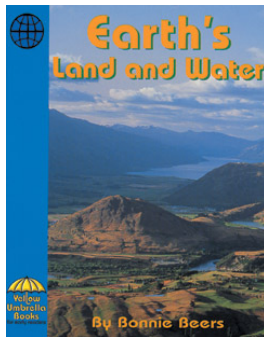


Guided Reading: I

24 Pages

Earth's Land and Water by Bonnie Beers (2001)

Text and photographs describe bodies of water, such as oceans, lakes, and rivers, as well as land forms such as mountains, islands, valleys and plains.



Guided Reading: I
20 Pages

Earthforms Series by Capstone Press (2006)

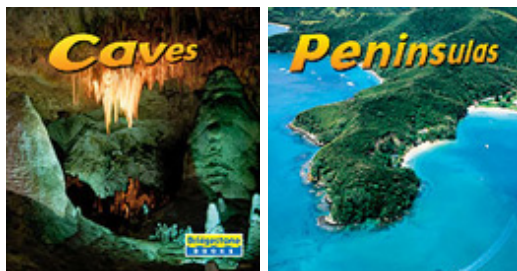
For informative explorations of Earth's land and water formations, turn to Bridgestone's Earthforms set. Each book highlights the plants, animals, people, and weather of an earthform as well as how it was formed.

Canyons, Mountains, Hills, Valleys and Plains by Christine Webster



Guided Reading: O and N
24 Pages

Caves and Peninsulas by Ellen Niz



Guided Reading: N
24 Pages

Lakes, Oceans and Rivers by Kay Jackson



Guided Reading: Q
24 Pages

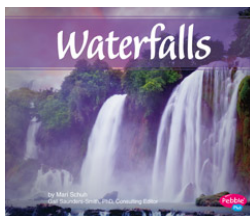
Volcanoes by Xavier W. Niz



Guided Reading: N
24 Pages

Waterfalls by Mari Schuh (2011)

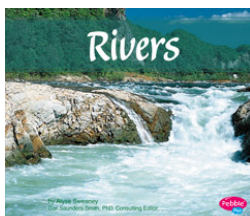
Simple text, maps, and diagrams explain how these landforms take shape and why they are an important part of our planet.



Guided Reading: K
24 Pages

Rivers by Alyse Sweeney (2011)

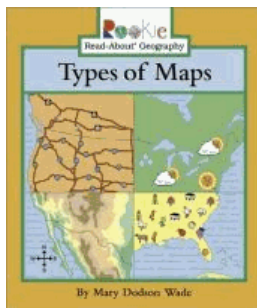
Simple text, maps, and diagrams explain how these landforms take shape and why they are an important part of our planet.



Guided Reading: K
24 Pages

Types of Maps by Mary Dodson Wade (2003)

Introduces different types of maps and how they are used, including those that show how to get to a place and those that show what you will find when you arrive.

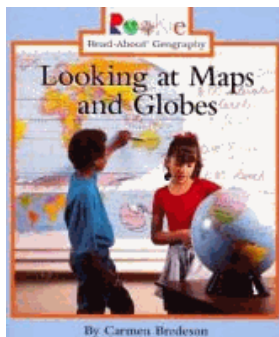


Guided Reading: J

31 Pages

Looking at Maps and Globes by Carmen Bredeson (2001)

Introduction to maps and globes. Covers legends, directions, and scale.

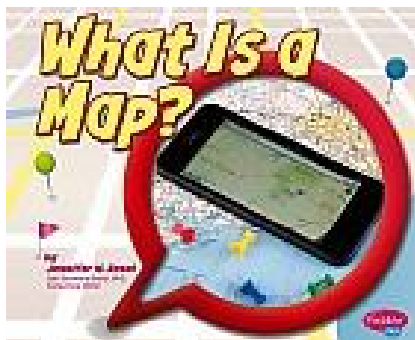


Guided Reading: K

31 Pages

What Is a Map by Jennifer M. Besel (2014)

Includes bibliographical references (page 23) and index. Simple text with full-color photos and illustrations provide basic information about maps.

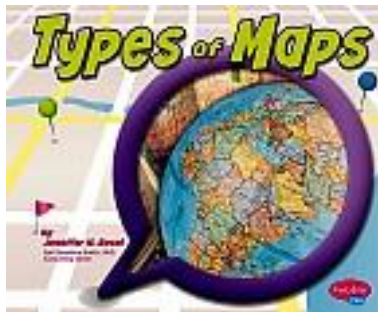


Guided Reading: J

24 Pages

Types of Maps by Jennifer M. Besel (2014)

Learn which type of map can give you the details you're looking for. Includes bibliographical references (page 23) and index.

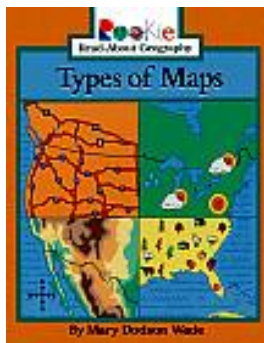


Guided Reading: L

24 Pages

Types of Maps by Mary Wade Dodson (2003)

Includes index. Introduces different types of maps and how they are used, including those that show how to get to a place and those that show what you will find when you arrive.

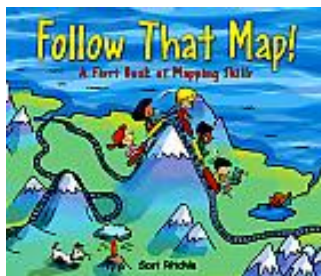


Guided Reading: M

31 Pages

Follow that Map! A First Look at Mapping Skills by Scot Ritchie (2009)

Includes index. An interactive picture book that discusses and demonstrates mapping concepts as Sally and her friends search for Max and Ollie, two pets on the run from the backyard, and take a trip through the neighborhood, city, country, and world. Includes an activity.

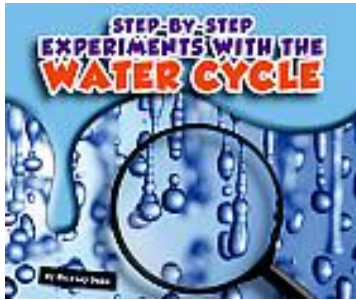


Guided Reading: J

32 Pages

Step-by-Step Experiments with the Water Cycle by Shirley Smith Duke (2012)

Includes bibliographical references (p. 32) and index. Provides an overview of the scientific method and step-by-step instructions for four experiments on the water cycle.

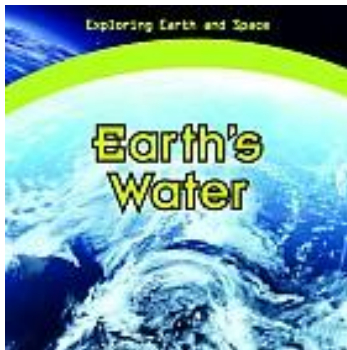


Guided Reading: L

32 Pages

Earth's Water by Desmond Hume (2013)

Includes index. The blue planet -- The water cycle -- Water vapor -- Clouds -- Rain -- Groundwater -- It's snowing! Illustrations and simple text explore the water cycle, covering topics such as water vapor, clouds, rain, and more.



Guided Reading: M

24 Pages

The Water Cycle by Craig Hammersmith (2012)

Includes bibliographical references (p. 23) and index. Simple text and full-color photographs explain the science behind the water cycle.



Guided Reading: M

24 Pages

Earth's Rivers by Bobbie Kalman (2009)

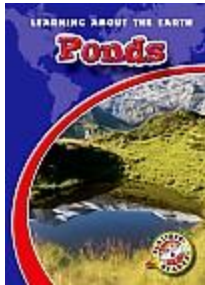
Includes index. An illustrated introduction to rivers that covers sources, mouths, the water cycle, river habitats, how they are used by people, how they are protected, and other related topics.



Guided Reading: M
32 Pages

Ponds by Colleen A. Sexton (2009)

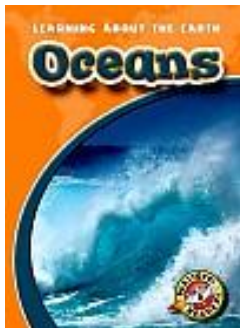
Includes bibliographical references (p. 23) and index. Simple text and full color photographs introduce beginning readers in kindergarten through third grade to the characteristics and geographical locations of ponds.



Guided Reading: M
24 Pages

Oceans by Emily K. Green (2009)

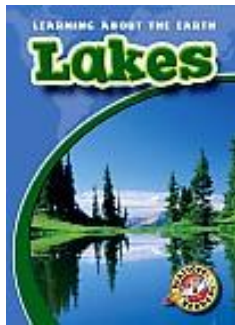
Includes bibliographical references (p. 23) and index. Simple text and photographs introduce the physical characteristics of oceans.



Guided Reading: L
24 Pages

Lakes by Emily K. Green (2009)

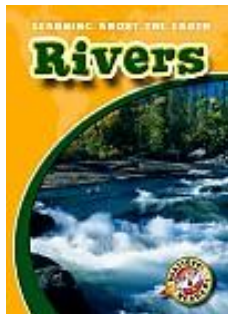
Includes bibliographical references (p. 23) and index. An introduction to lakes, explaining their physical characteristics, locations, and the animals and plants that live in them.



Guided Reading: L
24 Pages

Rivers by Emily K. Green (2009)

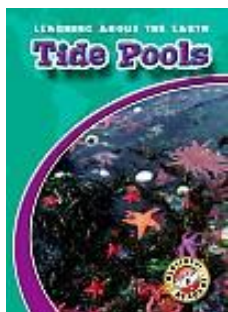
Includes bibliographical references (p. 23) and index. Simple text and supportive images introduce beginning readers to the physical characteristics of rivers.



Guided Reading: L
24 Pages

Tide Pools by Colleen A. Sexton (2009)

Includes bibliographical references (p. 23) and index. Simple text and full color photographs introduce beginning readers in kindergarten through third grade to the characteristics and geographical locations of tide pools.



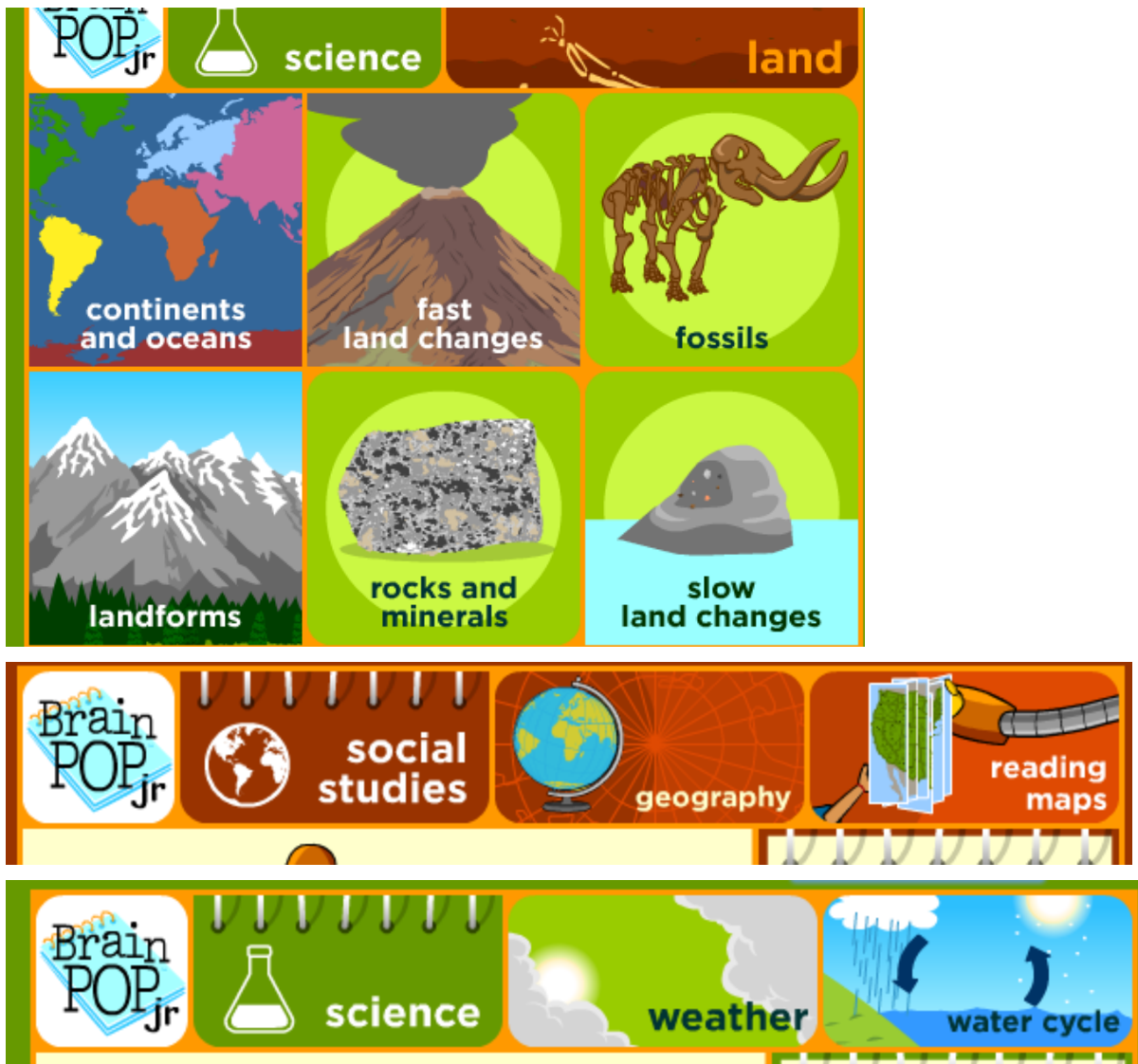
Guided Reading: M
24 Pages

Digital Resources

Databases: (To access these databases remotely, ask your librarian for your school's username and password.)

Brainpop Jr.: *Brainpop, Jr. is a database that provides a 3-6 minute video on informational topics followed by a comprehension quiz. The database includes activities and lesson plans as well. It is geared towards grades K-3.*

Brainpop, Jr. includes videos on fast and slow land changes, landforms, the water cycle, and reading maps. These videos help support the Next Generation Science Standards for second grade on Earth's Systems. Two different online quizzes are offered after each video to check for understanding. They are entitled "Easy" and "Hard" with 5 questions each.



Pebble Go! *Pebble Go is a database that includes non-fiction books, videos and activities. The target audience for Pebble Go is Kindergarten through 3rd grade, however Pebble Go can be a great way to pique interest in a topic for 4th and 5th graders. Each book is 5 pages long and includes a read-aloud button that highlights each word as it reads aloud. There are often one or two very short videos on the topic embedded within each book.*

There are several Pebble Go sections which align with the Next Generation Science Standards for 2nd Grade on Earth's Systems. Within Pebble Go's Earth and Space you will find a section called "All About Water." Its contents look like this:

Back Earth Science **All About Water**

Lakes Oceans Rivers Water

The Water Cycle

Here is a glimpse of "The Water Cycle" book from the "All About Water" section:

Back Earth Science All About Water **The Water Cycle**

What Is It? Evaporation Condensation Precipitation Endless Cycle

On Earth, water is always changing form. It changes from **liquid** to **gas** to **solid**, and back again. Water changing from one form to another creates the water cycle.

Video 1

Print This

The Earth Features section also shows how wind and water can change the face of the land:

The screenshot shows a green header bar with a 'Back' button (a white arrow in a green circle) on the left, a small 'Earth Science' icon, and the title 'Earth Features' in white text. Below the header is an orange background containing several white-bordered image cards. The cards are arranged in three rows. The first row has four cards: 'What Is Earth?' (image of Earth from space), 'Air' (image of hands releasing paper airplanes), 'Day and Night' (image of a sunset over a lake), and 'Erosion' (image of a sandy dune). The second row has four cards: 'Fossils' (image of a fossilized fish skeleton), 'Rocks' (image of a person on a rocky shore), 'Soil' (image of a plowed field), and 'Water' (image of a large wave). The third row has one card: 'What Is the Sky?' (image of a blue sky with clouds).

The Erosion book deals with wind, water, ice and soil erosion.

The screenshot shows a green header bar with a 'Back' button, a small 'Earth Science' icon, a small 'Earth Features' icon, and the title 'Erosion' in white text. Below the header is an orange background with a navigation bar containing five yellow buttons: 'What Is It?', 'Wind Erosion', 'Water Erosion', 'Ice Erosion', and 'Soil Erosion'. Below the navigation bar is a white content area. On the left is a yellow speaker icon. To its right is a paragraph of text: 'Erosion is the wearing away of Earth's surface by wind, water, and ice. These forces break rock and soil into smaller pieces. Wind, water, and ice carry pebbles and sand from place to place.' To the right of the text is a large image of a rocky coastline with a stream flowing over the rocks. Above the image are two yellow buttons labeled 'Video 1' and 'Video 2'. In the bottom right corner of the content area is a yellow button labeled 'Print This'.

In the Pebble Go Social Studies section on Maps there is a book on “Physical Maps” which illustrates how land and water can be shown on a map:

Back →  →  → **Physical Maps**

A Useful Tool features **Types of Physical Maps** Symbols Using It



 

Physical maps show the **locations** of mountains, rivers, or lakes in an area. They also show flat, grassy areas or forests. Physical maps show how high or low the land is too.







This book on Globes illustrates the same idea:


Back →  →  → **Globes**

A Useful Tool features **Symbols** Lines on a Globe Using It



Globes show **continents** and **oceans**. You can also find rivers, large lakes, and mountains on a globe. Some globes show the **borders** between countries and states too.





World Book Web:

The World Book Web is a suite of online research tools that includes encyclopedia articles, primary source collections, educator tools, student activities, pictures, audio, and video, complemented by current periodicals and related Web sites. Most all of these World Book Web research tools include options where text can be read aloud to the user. All Ithaca elementary school libraries currently subscribe to **Worldbook Kids**, **Worldbook Student**, **Worldbook Discover**, **Worldbook Timelines** and **Worldbook Classroom: Early World of Learning**. For specific training in how to use these amazing tools consult Worldbook's training website or ask your school's librarian. <http://www.worldbookonline.com/training/>

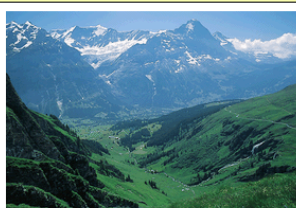
World Book Kids has several articles which align with Next Generation Science Standards for 2nd Grade on Earth's Systems. You can simply type a landform of your interest like: "Mountain," "Valley" "Canyon" "Plain" or "Peninsula" into World Book Kids and choose the article to examine. The Mountain article for example, discusses how mountains are formed.

Mountain

Mountains are parts of the land that stand much higher than the land around them. Mountains usually have steep slopes, or sides, and sharp or slightly rounded peaks. Some mountains stand alone and others are part of a group of mountains called a range. A group of mountain ranges forms a mountain system.

Mountains are found in the ocean as well as on land. Many islands are really the tops of mountains that rise from the ocean floor.

How mountains form



Picture

Mountains form over long periods of time. They are made by great forces inside Earth. Scientists believe that Earth's outer shell is made up of about 30 huge plates, or pieces, of land and ocean floor. These plates are different sizes. They are always moving, but they move very slowly. Most mountains build up along the edges of these plates, where two plates may rub together or crash into each other or pull apart.

There are five kinds of mountains: *volcanic* <<vahl KAN ihk>> mountains, fold mountains, fault-block mountains, dome mountains, and *erosion* <<ih ROH zhuhn>> mountains.



Map
Mountain

World Book Kids also includes a game in the "Games" section called "Learning About Landforms."

Learning About Landforms

Multiple Choice Questions



Q Which of the following words best describes the picture?

Choose the best answer. When you're done, click **Submit**.

- 1. Volcano
- 2. River
- 3. Valley
- 4. Ocean

There is also a map section of World Book Kids that is called “Maps and More.”

WORLD BOOK Welcome South Hill Elem Scho

KIDS

Search: GO Advanced Search

Featured Video

Learn More!

People	Plants and Animals	Science and Mathematics	Arts
Places	History and Government	World Religions	Sports and Hobbies

Pictures World of Animals Important People Science Projects

Dictionary Maps and More Compare Places Games and Activities

“Maps and More” includes interactive maps, world book atlas and outline maps to print, fill in, and color. The interactive maps section is a lot like google maps, but it has little World Book flags for cities, countries, states, rivers and other points of interest that can be clicked on to lead directly to their World Book Kids encyclopedia articles. It is a very useful feature!

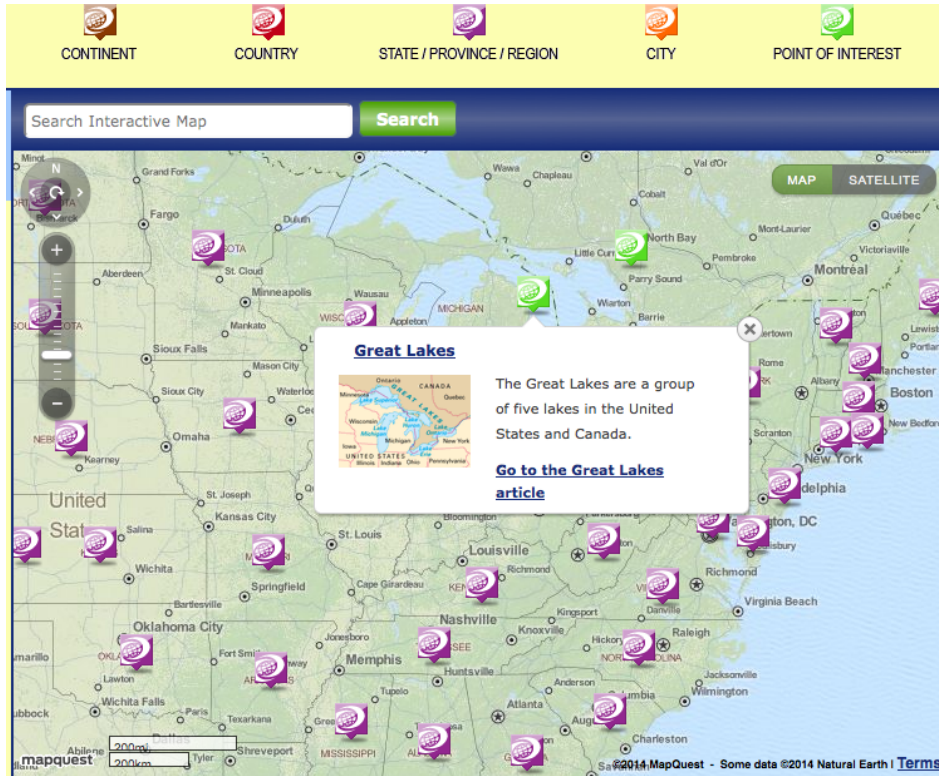
Maps and More

Interactive Maps
Explore the interactive map to find World Book articles about interesting places, cities, countries, and more!

World Book Atlas
Find maps showing political, population, economic, and weather information.

Outline Maps and Flags
Blackline maps to fill in and color.

Notice the colored tags at the top of the screen. They can narrow down a search on the map. Students can also look at the map from a satellite view. You can see how when the point of interest “Great Lakes” was clicked a bubble came up that gives a quick fact and then offers to take you to the Great Lakes article.



Using World Book Kids “Maps and More” you can select an outline map and flag from any country or continent in the world to print and use.

Outline Maps and Flags

[Home](#)
[World](#)
[Africa](#)
[Asia](#)
[Europe](#)
[North America](#)
[United States of America](#)
[Canada](#)
[South America](#)
[Australia and the Pacific Islands](#)
[Australia](#)

[Back](#)

Outline Maps and Flags

Click on the continents below to find outline maps, flags, and more.

[World](#)

Websites:

Power Up: Wind Energy game

<http://climatekids.nasa.gov/power-up/>

Capture clean energy from the wind and the Sun to produce enough electricity to run the town. Move your wind turbine up and down to keep it in the strongest, fastest winds.

Kids Ahead: Wind Energy Activities

<http://kidsahead.com/subjects/2-wind-energy/activities>

A list of activities dealing with wind power and wind energy.

Wind Vane Project

<http://stem-works.com/external/activity/161>

This project will teach your students how to make a wind vane, where to place it so they can know which direction the wind is blowing, and why knowing wind direction is important.

Reading a Map

<http://www.nps.gov/webrangers/activities/readingmap/?id=21>

Short interactive video showing real pictures of a park and comparing it to a map to teach map reading skills.

Map Grid Activity

<http://olc.spsd.sk.ca/DE/k9mod/Mapskill/grid1.swf>

A grid activity with grid coordinates and questions.

BBC Kids Map Zone

<http://mapzone.ordnancesurvey.co.uk/mapzone/PagesHomeworkHelp/mapability/>

Practice using a compass, map symbols and grids.

Map Reading Activities: Enchanted Learning

<http://www.enchantedlearning.com/geography/mapreading/>

Includes two neighborhood map reading activities and a compass rose activity.

iPad apps:

Puzzling Plates - by Tasa Graphic Arts, INC.

Cost: \$2.99

Learn how tectonic plates fit together by moving them into position like a jigsaw puzzle. See where earthquakes and volcanoes form on Earth's surface and explore Earth's interior. See how plate boundaries collide and split apart.

Ancient Earth: Assembly of Pangea - by Thomas L. Moore

Cost: \$9.99

Watch mountain ranges rise and fall, old ocean basins close, landmasses be uplifted and polar ice caps wax and wane. A great historical picture of Earth's systems and land masses.

The Water Cycle - by Classroom Complete Press, Ltd.

Cost: Free

Interactive images showing the four stages of a water cycle.

Water Cycle, HD - by Sprout Labs, LLC

Cost: \$1.99

Tests knowledge of the water cycle. Easy, Intermediate and Advanced level questions. Very visual game.

iLearn: Continents and Oceans - by Jumper Mobile

Cost: Free

Use learn mode, game mode and test mode to identify oceans and continents.

GeoSeeker USA HD: Map-Reading and Geography - by Selectsoft

Cost: \$2.99

Covers map-reading skills, including grids and legends.