

Integrating Project WET, Water Quality, Wetlands, and H2Ohio into the 7th Grade Science Curriculum

Project WET 2.0 Facilitators (provided 2/12 training - available to answer questions related to Project WET 2.0)

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7.ESS.1: The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere and atmosphere

7.ESS.2: Thermal-energy transfers in the ocean and the atmosphere contribute to the formation of currents, which influence global climate patterns.

Week One - The Water Cycle (Water Travels in a Cycle)

NASA – Earth’s Water Cycle (5:52) - cc available
<https://www.youtube.com/watch?v=oaDkph9yQB8>

OR

NASA Earth’s Water Cycle video in EdPuzzle with questions for students embedded - you can copy/edit and force questions to be answered or add/delete questions.
<https://edpuzzle.com/media/621c1f88ff069842a99573c7>

Project WET 2.0 - pg 125

Blue Planet

Project WET 2.0 - pg 155

The Incredible Journey

Consider National Weather Service Water Cycle Paper Craft
*Will take an entire class period - recommend using card stock paper
https://www.weather.gov/jetstream/ll_watercycle_craft

NOAA Water Cycle Poster
https://www.weather.gov/jetstream/hydrocycle_max

[End of Water Cycle Reflection & Discussion](#)

Week Two - Ocean Currents

*Educators have been provided the supplemental text, *Tracking Trash Flotsam, Jetsam, and the Science of Ocean Motion*

Project WET 2.0 - pg 3

Adventures in Density

Introduce Coriolis Effect

<https://www.youtube.com/watch?v=mPsLanVS1Q8>

Global Atmospheric Circulation

<https://www.youtube.com/watch?v=Ye45DGkqUkE>

Consider participating in NOAA's *Adopt A Drifter Program*

<https://www.adp.noaa.gov/>

Consider introducing the idea of ocean plastic pollution and have students create their own infographic text.

<https://oceanservice.noaa.gov/hazards/marinedebris/plastics-in-the-ocean.html>

Consider introducing National Geographic Debris Tracker

<https://www.nationalgeographic.org/education/programs/debris-tracker/>

Consider Ohio Marine Debris through Ohio Sea Grant College Program *Let's Talk Trash* powerpoint.

<https://greatlakes-mdc.diver.orr.noaa.gov/educational-resources>

Week Three - Watersheds

[Review of Globe, Maps, Coordinate System - 6th grade Social Studies Geography Strand](#)

Consider

[Latitude and Longitude Treasure Hunt](#)

What Is A Watershed - (1:18 min youtube introduction to watersheds)

<https://www.youtube.com/watch?v=QOrVotzBNto>

Project WET 2.0 - pg 187

Seeing Watershed

[Introduction to Ohio Watersheds - brief powerpoint presentation with imbedded YouTube links](#)

Project WET 2.0 - pg 239

Color Me a Watershed

Project WET 2.0 - pg 163

Just Passing Through

**If you are located in Franklin County - Franklin Soil and Water Conservation District may be available for *What's In Our Water Student Workshop* - contact Linda Pettit (email at the top of this curricula).

Week Four

Project WET 2.0 - pg 143

Get the Groundwater Picture

Consider - Project WET 2.0 - pg 360

The Pucker Effect

*Franklin Soil and Water Conservation District also has a groundwater model that can be borrowed. Contact Linda Pettit if interested and to determine availability.

Introduction to GIS

[What is GIS? Guided Notes for Students](#)

[What is GIS? Guided Notes KEY](#)

Consider National Geographic Watershed Lesson

<https://www.nationalgeographic.org/activity/watersheds/>

Exploration of GIS using EPA application *How's My Waterway* - Document for educators, detailed instructions for sharing this application in your classroom.

How's My Waterway Document

7.LS.1: Energy flows and matter is transferred continuously from one organism to another and between organisms and their physical environment.

7.LS.2: In any particular biome, the number, growth and survival of organisms and populations depend on biotic and abiotic factors.

Week Five and Six - Introduction to biomes with a focus on wetland ecosystems

Introduction to ecosystems, biotic and abiotic factors, and the interconnectedness of all parts of the system.

**We realize educators have developed curriculum that is typically used for introduction of biomes and have only included a few videos that we thought may be helpful. Please adapt or adopt the material you find useful to your classroom.

[Ecosystems Episode 1: What is an ecosystem?](#)

[Energy Flows within an ecosystem](#)

Wetland Ecosystem

WOW! The Wonders of Wetlands - pg 71
Introducing Wetlands

[Interactions in Ecosystems - Wetlands](#)

WOW! Wonders of Wetlands - pg 109
Marsh Market

Project WET 2.0 - pg 217

Wetland Soils in Living Color

Consider using one of the following:

WOW! The Wonders of Wetlands - pg 231
Do You Dig Wetland Soil?

WOW! The Wonders of Wetlands - pg 239
How Thirsty Is the Ground

WOW! The Wonders of Wetlands - pg 245
A Rottin' Experiment

As part of H2Ohio, wetlands are being used to remove excess nutrients from the state's freshwater. Please acquaint your students with ways that wetland performs this function.

[How Wetlands Work](#)

USDA NRCS Virtual Wetland Field Trip

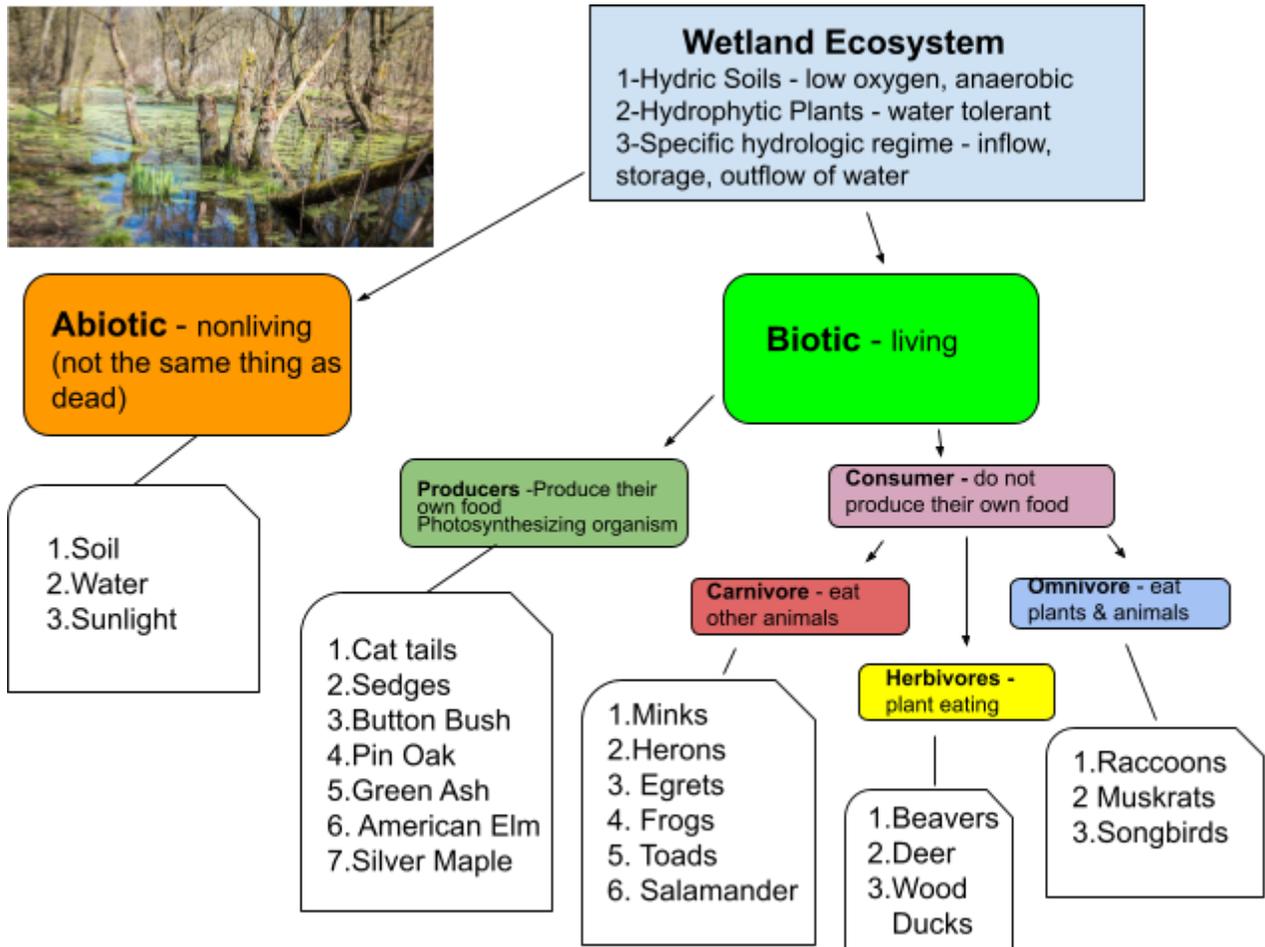
<https://www.youtube.com/watch?v=pS-4Qk-mjJI>

WETLAND VIRTUAL FIELD TRIP CONCEPT MAP

After viewing this virtual wetland field trip created by the USDA NRCS, complete this wetland concept map using the vocabulary terms: hydric soils, hydrophytic plants, hydrologic regime, abiotic, biotic, producers, consumer, carnivore, herbivore, and omnivore.

[Virtual Wetland Field Trip](#)

For each term, include a concise definition and examples for each of the following components of the concept map.



In this video, wetlands are referred to as which human body organ? Why? [Kidney, filter water](#)

List four benefits of wetlands explored in this video. [Biodiversity, extensive food web; pollutant retention, sediment retention, flood control](#)

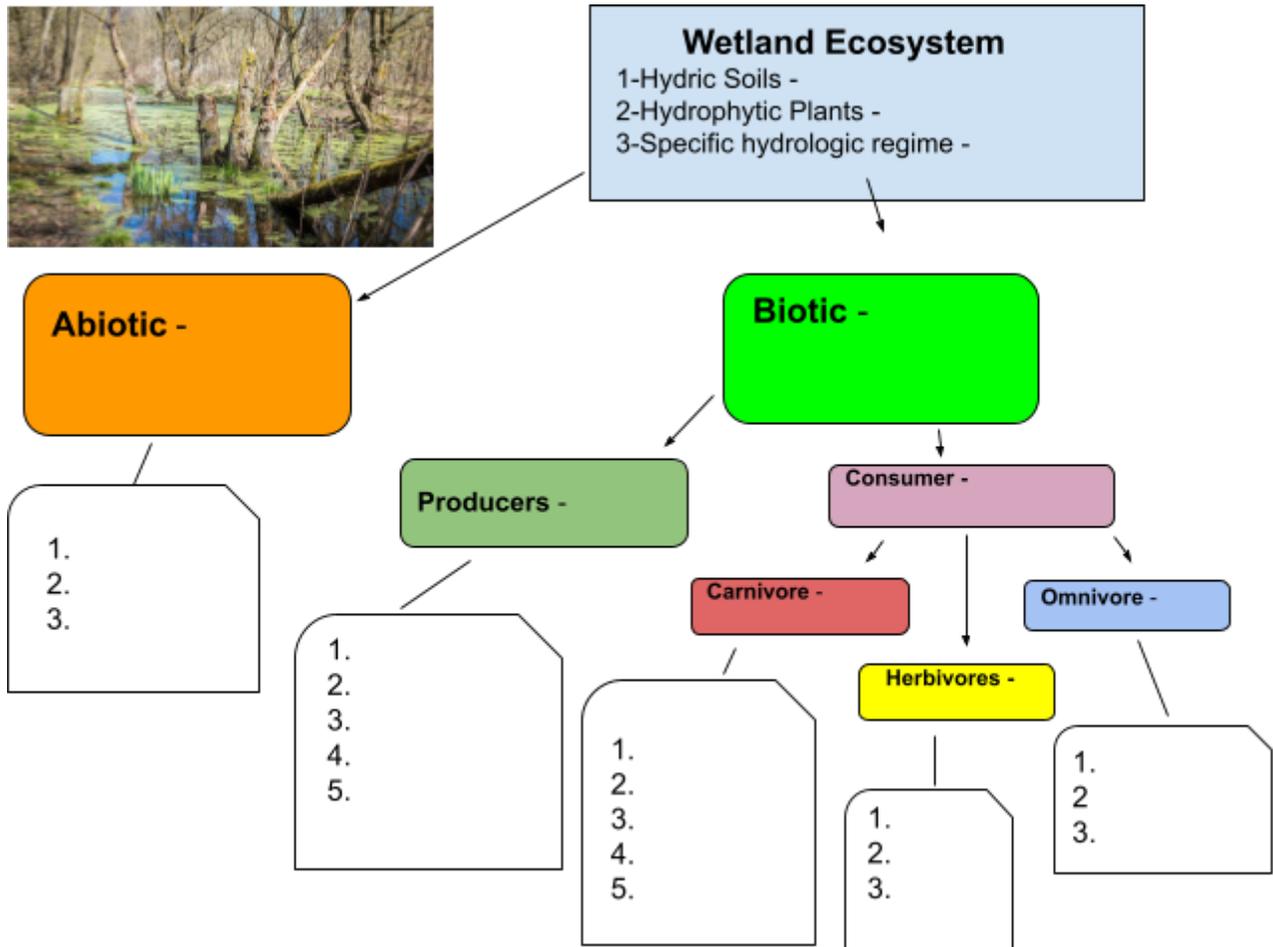
Name: _____ Period: _____

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In this video, wetlands are referred to as which human body organ? Why?

List four benefits of wetlands explored in this video.

Additionally use one or both:

WOW! The Wonders of Wetlands - pg 120

Treatment Plants

WOW! The Wonders of Wetlands - pg 250

Nature's Filters

If you have a wetland on your school property, consider:

WOW! Wonders of Wetlands - pg 143

Run for the Border

PROJECT WET 2.0 - pg 421

Water Quality? Ask the Bugs!

PROJECT WET 2.0 - pg 343

Macroinvertebrate Mayhem

Week Seven + Eight - Changes in Our Water + Concluding Project

*Agriculture and wetland presentation on conservation efforts, as available.

PROJECT WET 2.0 - pg 299

8, 4, 1, One for All (water usage and sources)

PROJECT WET 2.0 - pg 277 - takes 3 class periods

Nature Rules!

PROJECT WET 2.0 - pg 395 - preview, can take up to one week

Stormwater

PROJECT WET 2.0 - pg 283

Sum of Parts

PROJECT WET 2.0 - pg 371

Reaching Our Limits (how we treat water matters)

Think about your school and local community. Engage with your students and consider a final project to conclude this unit. The intent of this project was to introduce place based learning into the 7th grade science curriculum, explore water quality issues being faced in Ohio, introduce wetland ecosystems and their value, communicate how organizations and institutions in our state are working together to address current water quality issues, and provide skills to students to take positive action in their own lives and feel empowered. Some suggestions in

Project WET include My Water Footprint (pg 441), Water Audit (pg 469), Water Inspirations (pg 535), or Make-a-Mural (pg 515). Be creative in your final project! Please consider sharing your project with the Ohio Wetlands Association by emailing details and photos to me at laura@ohwetlands.org. OWA is an all volunteer nonprofit and would love to share your final projects with both educators and members of our organization.