Water Security: Making it Right Again

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Duration: 80 minutes

LEVEL	SUBJECTS	PROVINCES / TERRITORIES	TOOL
Grade 7-8, 9-12	Language Arts, Science & Technology, Religion	Across Canada	HTML, CSS, Glitch

Overview

This is an introductory lesson to consider the quality of water in a particular watershed, by giving students the tools they need to make connections, make discoveries, and make a plan to improve our environment.

Prep Work

- Recommended: Facilitate an introductory HTML lesson ahead of time (e.g. Superhero Profiles)
- Computers with access to the internet (either per student, or in pairs)
- Optional chart paper/markers for Minds On portion
- Have learners create a Github account at: **github.com** → We won't be accessing Github directly, but we'll use this account to save our websites

Key Coding Concepts

✓ Sequence

Terminology

HTML
HTML (hypertext markup language) is a language used for tagging or "marking up" text files to achieve font, color, graphics, videos, and links on webpages.

CSS
CSS (cascading style sheets) is the visual language used for presentation or styling of a document written in a markup language. CSS files are what

Lesson

Minds On: (10 minutes)

What is the difference between 'want' and 'need'? Take 2 minutes to quickly list 5 items under each category. (Students jot lists, could be shared with a partner or create a class-agreed list.)

Looking at the list, discuss the following questions:
- Which side seems to detail basic human rights and which one seems to be for privileged society?
- Is there anything missing from the 'need' list? (encourage the addition of 'water' if it is not already there)
- Can we organize the items under 'need' from this unordered list into an ordered list? (using numbers instead of bullets).
- What do you already know about water? (Sample answers: chemical makeup is H20; the world is about 70% water; human bodies are up to 60% water; all cells need water to function properly; water is a basic human right; you can only survive a number of days without water; soft drink manufacturers are bottling water to sell to us)
- Knowing what we already do about water, and taking your points into consideration, how valuable is water to life on Earth?

Today we will be investigating the quality of water within our own watershed. We will be looking at the Conservation Ontario website (see links below) to access the water quality report for this area.

Action: (60 minutes)
1. Go to glitch.com and log in
2. Visit the starter project:
   https://water-security-starter.glitch.me/
3. Investigate Conservation Ontario website to narrow search to one watershed.

make the web colourful, patterned, responsive, and cool

Curricular Connections

Religion – An Effective Communicator, A Reflective, Creative, Holistic Thinker; A Responsible Citizen)

Language - Reading for Meaning, Understanding Form and Style, Developing and Organizing Content, Using Knowledge of Form and Style in Writing, Applying Knowledge of Language Conventions and Presenting Written Work Effectively, Media Literacy

Science - Gr 7+8 Understanding Life systems; Understanding of Matter and Energy, Understanding Earth and space

References

Conservation Ontario
http://conservationontario.ca/

Watershed Checkup (Conservation Ontario)
http://watershedcheckup.ca/conservation-authority-map

4. Access Watershed Report Card to consider results of the 2 reports: Is there progress? How may we best improve before the next report cycle?
5. Remix the starter project (Glitch icon > "Remix on Glitch")
6. Include the following details in any order:
   - Watershed area name/title
   - An explanation of the territory encompassed
   - A hyperlink to the Conservation authority responsible for monitoring this area
   - 2 images (e.g. map, Conservation Authority logo, water sampling methods)

   - Mission statement from yourself/group that demonstrates your personal goal to improve water quality
   - Unordered list <ul> pointing out up to 8 choices that locals have available to improve water quality in this area

Consolidation: (10 minutes)
Share websites with the class. Point out unique qualities through a number of sites showcased.

Assessment

Have learners use <!--Comments--> to explain their code

Provide time for learners to present their websites to the class.

Guide learners through editing and revising their work using the CUPS strategy (Capitalization, Usage, Punctuation, Spelling) - before submitting their final version.

Extensions

- Record personal video of local waterway into webpage
- Begin researching how to record water quality and begin a longitudinal study
- Investigate local conservation authority to see if a school partnership can be established
- Investigate how students can lobby municipal government to support the health of local watershed
- Investigate and consider enrolling in Waterdocs Film Festival

Unplugged modification:
- Paper-pencil creation (poster, letter, etc)
- Simplify directions to reflect 2-3 bullet lists; 1 image insert
- Teacher remixes the page to provide scaffold of expectations