



## Water quality education topics and major subtopics

As you select or develop activities and curriculum materials, consider these topics. This list will also help you to understand the curriculum summary chart and details provided by the electronic database, which lists subtopics.

### Science of water

- Properties
- Importance to living things
- Hydrologic cycle
- Geology/hydrology dynamics
  - surface water
  - groundwater
  - regional supply

### Water related ecosystems

- Types of ecosystems
  - lakes
  - wetlands
  - estuaries
  - rivers
  - watersheds
  - ephemeral systems (intermittent)
  - ponds
  - oceans
  - streams
  - riparian
- Major regional resource (insert name)

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### Ecological concepts

### Drinking water supply: quantity & quality

- Delivery
  - community/public
  - private
  - treatment of drinking water
    - public drinking water
    - home treatment
- Water quality control
  - well concerns
  - testing
    - public
    - private
- Lifestyle impacts/conservation

### Water use

- Use of water by many groups
  - agricultural
  - commercial
  - domestic
  - industrial
  - municipal
  - power production
  - recreation
- Conservation by user groups
- Issues/conflicts between user groups

### Sources of water pollution/contamination

- Point source
  - agricultural sources
  - public and/or private wastewater
  - industrial and business hazardous wastes
  - energy production wastes
- Nonpoint source
  - atmospheric deposition
  - agricultural
  - forestry
  - mining
  - urban

### Water quality: risk assessment & reduction

- Curriculum addresses the concept of how risk decisions are made
- Impact of water quality on health
- Impact of water quality on human food sources
- Impact of water quality on plant and animal communities

- Understanding and reducing risks for specific contaminants
  - bacteria
  - nitrates
  - pesticides
  - sediments
  - salinity
  - other chemicals
- Water quality indicators

### Management & protection strategies for specific uses

- Agricultural management practices
- Chemical spills and emergencies
- Chemical/fuel storage
- Development issues/pressures
- Natural disasters
- Recreational use
- Solid waste management decisions
- Wastewater treatment
- Wildlife habitat/land stewardship management
- Zoning strategies
  - shorelands/floodplains
  - wetlands
  - wellhead/groundwater recharge areas

### Government & citizenship issues

- Policy issues
  - water quality
  - water quantity
- Role of local government in developing protection strategies
- Citizen involvement and participation
- Legislation, regulation, incentives/disincentives

### Water-related careers

- Technical: \_\_\_\_\_
- Professional: \_\_\_\_\_