

8th GRADE SCIENCE

Competency Goal 3: The learner will conduct investigations and utilize appropriate technologies and information systems to build an understanding of the hydrosphere.

Objectives

3.01 Analyze the unique properties of water including:

- Universal solvent.
- Cohesion and adhesion.
- Polarity.
- Density and buoyancy.
- Specific heat.

3.02 Explain the structure of the hydrosphere including:

- Water distribution on earth.
- Local river basin.
- Local water availability.

3.03 Evaluate evidence that Earth's oceans are a reservoir of nutrients, minerals, dissolved gases, and life forms:

- Estuaries.
- Marine ecosystems.
- Upwelling.
- Behavior of gases in the marine environment.
- Value and sustainability of marine resources.
- Deep ocean technology and understandings gained.

3.04 Describe how terrestrial and aquatic food webs are interconnected.

3.05 Analyze hydrospheric data over time to predict the health of a water system including:

- Temperature.
- Dissolved oxygen.
- pH.
- Nitrates.
- Turbidity.
- Bio-indicators.

3.06 Evaluate technologies and information systems used to monitor the hydrosphere.

3.07 Describe how humans affect the quality of water:

- Point and non-point sources of water pollution in North Carolina.
- Possible effects of excess nutrients in North Carolina waters.
- Economic trade-offs.
- Local water issues.

3.08 Recognize that the good health of environments and organisms requires:

- Monitoring of the hydrosphere.
- Water quality standards.
- Methods of water treatment.
- Maintaining safe water quality.
- Stewardship.