Unit 2: Water and Climate

Content Area: **Science**
Course(s): **Science**
Time Period: **Marking Period 2**
Length: **Weeks**
Status: **Published**

Unit Overview

In the Water and Climate Module grade 3 students are provided with experiences to explore the properties of water, the water cycle and weather, interactions between water and other earth materials, and how humans use water as a natural resource. Students engage in science and engineering practices in the context of water, weather, and climate.

Standards

Disciplinary Core Ideas (DCI's)

3-PS2	Motion and Stability: Forces and Interactions
2-PS1-1	Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
5-PS1-2	Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.
3-PS2-4	Define a simple design problem that can be solved by applying scientific ideas about magnets.
2-ESS2-3	Obtain information to identify where water is found on Earth and that it can be solid or liquid.
3-ESS2-1	Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
3-ESS2-2	Obtain and combine information to describe climates in different regions of the world.
3-ESS3-1	Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

Crosscutting Concepts (CC's)

CCC.1.1	students identify similarities and differences in order to sort and classify natural objects and designed products. They identify patterns related to time, including simple rates of change and cycles, and to use these patterns to make predictions.
CCC.2.1	students routinely identify and test causal relationships and use these relationships to explain change. They understand events that occur together with regularity might or might not signify a cause and effect relationship.

CCC.3.1	students recognize natural objects and observable phenomena exist from the very small to the immensely large. They use standard units to measure and describe physical quantities such as weight, time, temperature, and volume.
SCI.3-5.3.2	Standard units are used to measure and describe physical quantities such as weight, time, temperature, and volume.
SCI.3-5.4.2	A system can be described in terms of its components and their interactions.

Science and Engineering Practices (SEP's)

SEP.1.c	Ask questions that can be investigated and predict reasonable outcomes based on patterns such as cause and effect relationships.
SEP.2.d	Develop and/or use models to describe and/or predict phenomena.
SEP.3.a	Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.
SEP.3.c	Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.
SEP.4.a	Represent data in tables and/or various graphical displays (bar graphs, pictographs and/or pie charts) to reveal patterns that indicate relationships.
SEP.4.b	Analyze and interpret data to make sense of phenomena, using logical reasoning, mathematics, and/or computation.
SEP.4.e	Use data to evaluate and refine design solutions.
SEP.5.b	Organize simple data sets to reveal patterns that suggest relationships.
SEP.6.b	Use evidence (e.g., measurements, observations, patterns) to construct or support an explanation or design a solution to a problem.
SEP.6.e	Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution.
SEP.7.d	Construct and/or support an argument with evidence, data, and/or a model.
SEP.7.f	Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem.
SEP.8.d	Obtain and combine information from books and/or other reliable media to explain phenomena or solutions to a design problem.

Essential Questions

Investigation 1: Water Observations

- What happens when water falls on different surfaces?
- How does water move on a slope?
- How much water can a dry sponge soak up?
- What happens outdoors when rain falls on natural materials?

Investigation 2: Hot Water, Cold Water

- How can you measure temperature accurately?

- What happens to water when it gets hot? cold?
- What happens when hot or cold water is put into room-temperature water?
- How does water change when it gets really cold?
- Where should an animal go to stay warm or to stay cool?

Investigation 3: Weather and Water

- What does the weather forecast tell us?
- What happens to wet paper towels overnight?
- How does surface area affect evaporation?
- What else affects how fast water evaporates?
- What causes moisture to form on the side of a cup?

Investigation 4: Seasons and Climate

- What are typical weather conditions in our region?
- How do we describe different climates?
- How do people deal with natural hazards such as floods?

Investigation 5: Waterworks

- What happens when water is mixed with other earth materials?
- Do soils in the schoolyard drain water at the same rate?
- What is needed to make a waterwheel system function well?

Application of Knowledge: Students will know that…

- People often modify their homes and their way of life to deal with floods
- Soil is rock particles mixed with organic material called humus
- A material that floats in water is less dense than the water; a material that sinks is more dense
- Climate is the average or typical weather that can be expected to occur in a region, based on long-term observation and data analysis
- Cold water is more dense than warm water
- Condensation is the process by which gas (water vapor) changes into liquid water; it occurs on a cool surface
- Evaporation and condensation contribute to the movement of water through the water cycle
- Evaporation is the process by which liquid (water) changes into gas (water vapor).
- High temperatures, greater surface area, and moving air (wind) increase the rate of evaporation
- Ice melts when heated; water freezes when cooled

- Soils retain more water than rock particles alone
- Temperature is a measure of how hot matter is
- The energy of flowing water can be used to do work; waterwheels are machines powered by flowing water
- The Sun's energy drives weather
- Typical weather in a region often varies with seasons. High and low temperatures and amount of precipitation are the main ways to describe seasonal weather changes
- Water drains more easily through some earth materials than through others
- Water expands when heated and contracts when cooled
- Water expands when it freezes; ice is less dense than liquid water
- Water forms beads on waterproof materials and soaks into absorbent materials.
- Water moves downhill. The angle of the slope and the amount of water affect flow
- Weather data in tables and in graphic displays, may show patterns over time
- Weather is measured using observations and tools such as thermometers, wind vanes, and rain gauges.
- Weather-related natural hazards include tornadoes, hailstorms, blizzards, lightning, floods, and drought
- Wetland protection and restoration is one way to prevent floods

Application of Skills: Students will be able to...

- Collect and use measurement data to construct explanations.
- Construct a thermometer to observe that water expands as it warms and contracts as it cools. Use thermometers to measure temperature.
- Design, construct, evaluate, and redesign a waterwheel and use it to lift or pull objects.
- Differentiate evidence from opinion.
- Discover how water-dome size, slope, and speed are related.
- Interpret the data displayed in tables and graphic displays, and look for patterns over time.
- Investigate the effect of surface area and air temperature on evaporation; investigate the effect of temperature on condensation.
- Investigate what happens when water is poured through two earth materials, soil and gravel.
- Observe and explain the interaction between masses of water at different temperatures.
- Observe and explain the interaction between masses of water in liquid and solid states.
- Plan a procedure, and apply it to solve a problem.
- Use appropriate tools to make accurate measurements.
- Use field techniques to compare how well several soils drain.

Assessments

Investigation. 1: Water Observations

- Formative Assessment: Science notebook entries, Performance assessment

- Benchmark Assessment: Investigation 2 I-Check

Investigation 2: Hot Water, Cold Water

- Formative Assessment: Science notebook entry, Response sheet, Performance assessment
- Benchmark Assessment: Investigation 2 I-Check

Investigation 3: Weather

- Formative Assessment: Science notebook entries, Performance assessment. Response sheet
- Benchmark Assessment: Investigation 3 I-Check

Investigation 4: Seasons and Climate

- Formative Assessment: Science notebook entry
- Benchmark Assessment: Investigation 4 I-Check

Investigation 5: Waterworks

- Formative Assessment: Performance assessment, Science notebook entry, Response sheet
- Benchmark Assessment: Posttest

Suggested Activities

Investigation 1: Water Observations

Part 1 - Drops of Water

- Focus question: What happens when water falls on different surfaces?
- Set up notebooks
- Start the investigation
- Read “A Report from the Blue Planet"

Part 2 - Water on a Slope

- Focus question: How does water move on a slope?
- Start the activity
- Conduct water-dome races
- Read and discuss readings and online activites
- Share notebook entries

Part 3 - Soaking Sponges

- Focus question: How much water can a dry sponge soak up?
- Conduct the investigation
- Introduce the second challenge
- Read and discuss readings and online activites

- Share notebook entries

Part 4- Water in Nature

- Focus question: What happens outdoors when rain falls on natural materials?
- Visit students as they collect samples
- Discuss results
- Read and discuss readings and online activites
- Share notebook entries

Investigation 2: Hot Water, Cold Water

Part 1 - Measuring Temperature

- Describe the cup investigation
- Focus question: How can you measure temperature accurately?
- Mix hot and cold water
- Read and discuss readings and online activites
- Share notebook entries

Part 2 - Build a Thermometer

- Focus question: What happens to water when it gets hot? cold?
- Introduce the bottle-and-pipe system
- Investigate ice water
- Read and discuss readings and online activites
- Share notebook entries

Part 3 - Sinking and Floating Water

- Focus question: What happens when hot or cold water is put into room-temperature water?
- Demonstrate the vial-and-stick assembly
- Start the hot-water challenge
- Introduce the cold-water challenge
- Discuss hot and cold investigations

Part 4 - Water as Ice

- Focus question: How does water change when it gets really cold?
- Observe frozen containers
- Observe solid and liquid water
- Discuss ice cubes in water

- Read and discuss readings and online activites
- Share notebook entries

Part 5 - Ice Outdoors

- Start the activity
- Answer the focus question - *Where should an animal go to stay warm or to stay cool?*
- Assess progress: I-Check

Investigation 3: Weather and Water

Part 1 - Measuring Weather

- Focus question: What does the weather forecast tell us?
- Monitor data collection
- Look for patterns after 7 days
- Read and discuss readings and online activites
- Share notebook entries

Part 2 - Evaporation

- Focus question: How does surface area affect evaporation?
- Retrieve the experiment (3–4 days later)
- Read and discuss readings and online activites
- Share notebook entries

Part 3 - Surface Area

- Focus question: What else affects how fast water evaporates?
- Set up the investigation
- Retrieve the trays (after 4 days)
- Read and discuss readings and online activites
- Share notebook entries

Part 4 - Evaporation Locations

- Assess progress: response sheet
- View online activity
- Share notebook entries

Part 5 - Condensation

- Focus question: What causes moisture to form on the side of a cup?

- Introduce *condensation*
- *Introduce the condensation chamber*
- Introduce the water cycle
- Read and discuss readings and online activites
- Share notebook entries

Investigation 4: Seasons and Climate

Part 1 - Seasonal Weather

- Focus question: What are typical weather conditions in our region?
- Introduce the four weather calendars
- Make bar graphs of the weather data
- Compare weather across four months

Part 2 - Describing Climate

- Focus question: What happens when you mix two materials?
- Start the investigation
- Record group results on the board
- Look for patterns in class data

Part 3 - Weather-Related Natural Hazards

- Focus question: What are typical weather conditions in our region?
- Introduce four weather calendars
- Compare weather across four months
- Review Vocabulary

Investigation 5: Water Works

Part 1 - Water in Earth Materials

- Focus question: What happens when water is mixed with other earth materials?
- Introduce a recording system
- Review Vocabulary

Part 2 - Water in Soil

- Focus question: Do soils in the schoolyard drain water at the same rate?
- Demonstrate procedure
- Share data
- Review Vocabulary

Part 3 - Waterwheels

- Focus question: What is needed to make a waterwheel system function well?
- Record results
- Share designs

Activities to Differentiate Instruction

Differentiation for special education:

- General modifications may include:
    - Modifications & accommodations as listed in the student's IEP
    - Assign a peer to help keep student on task
    - Modified or reduced assignments
    - Reduce length of assignment for different mode of delivery
    - Increase one-to-one time
    - Working contract between you and student at risk
    - Prioritize tasks
    - Think in concrete terms and provide hands-on-tasks
    - Position student near helping peer or have quick access to teacher
    - Anticipate where needs will be
    - Break tests down in smaller increments
    - More time with the active investigations or online activities.
    - More experience building explanations of the science concepts orally or in writing or drawing
    - Making vocabulary more explicit through new concrete experiences orthrough reading to students.
    - Scaffolding their thinking through graphic organizers.
    - Designing individual projects or small-group investigations.
    - More opportunities for experiencing science outside the classroom in more natural, outdoor environments.
    - Interdisciplinary extensions at the end of each investigation

Differentiation for ELL's:

- General modifications may include:
    - Strategy groups
    - Teacher conferences
    - Graphic organizers
    - Modification plan
    - Collaboration with ELL Teacher
- Content specific vocabulary important for ELL students to understand include: *absorb. bead, bead up, Data, direction, Dome. earth material. Evidence, Gravity, move, natural material, Observation, Opinion, relationship, Repel, slope, surface. waterproof, Bulb, Cold, Contract, Degree Celsius (ºC), Expand, Float, Freeze, Hot, Less dense, Liquid, Mass, Melt, More dense, Sink, Solid, State,*

Temperature, Thermometer, Volume, Compass, Condensation. Evaporation, Forecast, Gas, Meteorologist, Meteorology, Precipitation, Rain gauge. Surface area, Water cycle, Water vapor, Weather, Wind vane, Blizzard, Climate, Climatologist, Drought,. Embankment, Flood. Floodplain, Hailstorm, Hurricane, Lightning, Monsoon, Natural hazard, Season, Sluice gate. Tornado, Typical. Wetland, blade, Constraint, Criteria. Criterion. drainage, Energy, gravel, humus, Load, Natural resource, Nonrenewable resource, Renewable resource, retain, shaft, soil, System. water retention, Waterwheel

Differentiation to extend learning for gifted students may include:

Investigation 1 - Look for waterproof materials, Discuss using water, Problem of the week, Weigh water, Measure water drops, Listen to water music, Explore surface tension with a penny, Go outdoors after a rainstorm, Study the movement of water in earth materials, Capture raindrops

Investigation 2 - Explore vocabulary, Describe icy worlds, Problem of the week, Research ice in warm climates, Research ice in cold climates. Put water in different containers, Calibrate a thermometer, Measure the temperature of your freezer, Freeze salt water, Compare the densities of salt and plain water, Layer red, white, and blue water

Investigation 3 - Research recycling water, Problem of the week, Measure and graph surface area, Research water storage and delivery systems, Investigate how humidity affects evaporation

Investigation 4 - Describe your local climate, Problem of the week, Search for severe weather, Review the USDA plant hardiness zone map, Hunt for high and low temperatures

Investigation 5 - Investigate local water, Research soil words, Problem of the week, Graph water use

Integrated/Cross-Disciplinary Instruction

Technology

Investigation 1, Part 2: Water on a Slope

"Surface Tension" tutorial

Investigation 1, Part 3: Soaking Sponges

"MeasuringVolume" tutorial

"Measuring Mass" tutorial

"Reading a Graduated Cylinder"

“MeasuringVolume and Mass”

“Kilogram Hunt”

“Metric Mystery”

Investigation 2, Part 1: Measuring Temperature

“Measuring Temperature” tutorial

“Reading a Thermometer” quiz

Investigation 2, Part 2: Build a Thermometer

“Bottle Thermometer” tutorial

Investigation 2, Part 3: Sinking and Floating Water

“Density of Hot and Cold Water” tutorial

“Hot and Cold Water Density” virtual

Investigation 2, Part 4: Water as Ice

"Expansion and Contraction of Water”

Investigation 3, Part 1: Measuring Weather

“Weather Grapher"

Weather forecast websites

Investigation 3, Part 4: Evaporation Locations

“Evaporation Experiment”

Investigation 3, Part 5: Condensation

"Water Cycle" tutorial

Investigation 4, Part 2 Describing Climate

Climate regions map

Interdisciplinary Extensions

Investigation 1:

Language Extension - Look for waterproof materials, Discuss using water

Mathematics Extension - Problem of the week

Science Extensions - Weigh water, Measure water drops, Listen to water music, Explore surface tension with a penny, Go outdoors after a rainstorm, Study the movement of water in earth materials, Capture raindrops

Investigation 2:

Language Extension - Explore vocabulary, Describe icy worlds

Mathematics Extension - Problem of the week

Science Extensions - Research ice in warm climates, Research ice in cold climates. Put water in different containers, Calibrate a thermometer, Measure the temperature of your freezer, Freeze salt water, Compare the densities of salt and plain water, Layer red, white, and blue water

Investigation 3:

Language Extension - Research recycling water

Mathematics Extension - Problem of the week

Science Extensions - Measure and graph surface area, Research water storage and delivery systems, Investigate how humidity affects evaporation

Investigation 4:

Language Extension - Describe your local climate

Mathematics Extension - Problem of the week

Science Extensions - Search for severe weather, Review the USDA plant hardiness zone map, Hunt for high and low temperatures

Investigation 5:

Language Extension - Investigate local water, Research soil words

Mathematics Extension - Problem of the week

Science Extensions - Graph water use

LA.RI.3.1	Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
LA.RI.3.2	Determine the main idea of a text; recount the key details and explain how they support the main idea.
LA.RI.3.3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
LA.RI.3.5	Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.
LA.RI.3.7	Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
LA.RF.3.4	Read with sufficient accuracy and fluency to support comprehension.
LA.K-12.NJSLSA.SL2	Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
LA.K-12.NJSLSA.SL3	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
LA.RF.3.4.C	Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
LA.K-12.NJSLSA.L5	Demonstrate understanding of word relationships and nuances in word meanings.
LA.K-12.NJSLSA.L6	Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
LA.W.3.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.

LA.W.3.8	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
LA.SL.3.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.
LA.SL.3.4	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
LA.SL.3.6	Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.
LA.L.3.4.D	Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.

Resources

www.FOSSweb.om - Teacher-user account

Investigation 1:

Science Resources Book

"A Report from the Blue Planet"

"Surface Tension"

"Which Way Does It Go?"

"Opinion and Evidence"

"Water Everywhere"

Videos

Aquatic Surface Dwellers

Aquatic Insect Adaptations

Online Activities (7)

"Measuring Volume"

"Measuring Mass"

"Metric Mystery" and more

Investigation 2:

Science Resources Book

“Vacation Aggravation”

“Celsius and Fahrenheit”

“Water: Hot and Cold”

“Ice Is Everywhere”

Online Activities (6)

“Measuring Temperature”

“Reading a Thermometer”

“Bottle Thermometer”

“Density of Hot/ColdWater”

“Expansion and Contraction of Water” and more

Investigation 3:

Science Resources Book

“Studying Weather”

“Drying Up”

“Surface-Area Experiment”

“Condensation”

“The Water Cycle”

Videos

All about Meteorology

Water Cycle

Online Activities

“Weather Grapher”

“Evaporation Experiment”

“Water Cycle”

Investigation 4:

Science Resources Book

"Climate Regions"

"Wetlands for Flood Control"

"Conserving Water during Droughts"

Videos

All about Climate and Seasons

Come a Tide

Floods

Online Activity

"Climate Regions Map"

Investigation 5:

Science Resources Book

"Water: A Vital Resource"

"Natural Resources"

"Ellen Swallow Richards: An Early Ecologist"

"Making Drinking Water Safe"

"Using the Energy of Water"

Websites

World Water Monitoring Day
URL: www.worldwatermonitoringday.orgDescription: World Water Monitoring Day™ is an international education and outreach program that engages citizens to conduct basic monitoring of their local water bodies. An easy-to-use kit enables everyone from children to adults to sample local water bodies and share the results with participating communities.

A Primer on Water Quality
URL: water.usgs.govDescription: Is the water safe for drinking? Can fish and other aquatic life thrive in streams and lakes that are affected by human activities? What is the water quality? To answer these questions,

check out this U.S. Geological Survey site to find out what water quality means, how it is determined, and the natural processes and human activities that affect water quality.

A Teacher's Guide to Water Related Lesson Plans and Materials
URL: www.seametrics.comDescription: A list of various teaching tools including lesson plans, web quests, activities, and handouts to help teach students all about water. Materials from a variety of sources are included in a list by categories, such as lesson plans, web quests, activities, projects and handouts.

Ask a Geologist
URL: walrus.wr.usgs.govDescription: USGS earth scientists provide a limited service in which you may ask scientific questions about geology, geophysics, and geochemistry. You can e-mail any questions you have about earth science to geologists at this site, and you can browse through their frequently asked questions.

Bill Nye's Online Labs
URL: www.billnye.comDescription: This site contains Bill Nye the Science Guy's online labs which contain chemistry experiments.

EPA-Teachers-Waters Curriculum Resources
URL: www.epa.govDescription: Useful site with lesson plans, activities, and parent/teacher resources.

I Was Wondering: Women's Adventures in Science
URL: Description: This project of the National Academy of Sciences showcases the accomplishments of contemporary women in science and highlights the varied and intriguing careers of some of today's most prominent scientists.

Project WET
URL: www.projectwet.orgDescription: Project WET (Water Education for Teachers) is a project of the Water Education Foundation, concerned with educating young people about one of the most precious resources on the planet. They can also be reached via telephone: (916) 444-6240.

Rivers of Life
URL: easyscienceforkids.comDescription: Rivers of Life is a place where students can find a variety of information about rivers from around the world.

Rock of Ages Granite Quarry, Vermont
URL: www.rockofages.comDescription: Founded in 1885, Rock of Ages has grown to include dozens of quarries producing the highest combined volume of dimensional granite in North America. From Barre Gray Granite, the finest gray granite available, to the unrivaled purity of Bethel White, Rock of Ages has very high standards for the granite it quarries and delivers. Primary students may need adult assistance with this site.

South Pole Research Station.
URL: astro.uchicago.eduDescription: Take a virtual tour of the South Pole. Learn about the history of exploration of the South Pole, learn about life there and concerns of living at the South Pole.

The Water Cycle
URL: ga.water.usgs.govDescription: Very comprehensive U.S. Geological Survey website about the water cycle. It includes an interactive diagram and lots of photos. Available in 36 languages.

Tryscience.org Field Trips
URL: www.tryscience.orgDescription: Find out about more than 400 science and technology centers and museums worldwide. Use an interactive map of the world to find and explore a science and technology center or museum near you. You can also find online adventures and field trips, ideas for experiments at home, plus

live webcams. TryScience.org is your gateway to experience the excitement of contemporary science and technology through on and offline interactivity with science and technology centers worldwide. TryScience is brought to you through a partnership between IBM Corporation, the New York Hall of Science (NYHOS), the Association of Science-Technology Centers (ASTC), and science centers worldwide.

USGS Publications Online
URL: pubs.usgs.govDescription: Provides access to a variety of electronic documents from the U.S. Geological Survey. Includes the Geologic Time and Fossils, Rocks, and Time brochures.

Water around the World
URL: www.windows2universe.orgDescription: From the Windows to the Universe web site, this section describes our planet Earth and explains why water is so important to this planet and life itself. Find out Amazing Water Facts and how the Water Cycle works.

Water Cycle Overview
URL: ww2010.atmos.uiuc.eduDescription: This site from the Department of Atmospheric Sciences (DAS) at the University of Illinois at Urbana-Champaigne includes a nice animation of the water cycle including various processes such as evaporation and condensation along with maps and photographs to illustrate them.

Water Cycle: Follow a Drip
URL: ga.water.usgs.govDescription: This site is part of the USGS Water Science for Schools web pages. Follow a drip through text and graphs as it travels around the water cycle.

Water Education Foundation
URL: Description: The mission of the Water Education Foundation, an impartial non-profit organization, is to create a better understanding of water issues and help resolve water resource problems through educational programs. They can also be reached via telephone: (916) 444-6240.

Water Science for Schools
URL: wwwga.usgs.govDescription: The U.S. Geological Survey's (USGS) Water Science for Schools web site offers information on many aspects of water, along with pictures, data, maps, and an interactive center where you can give opinions and test your water knowledge.Spanish and Chinese versions also available.

Where Does My Water Come From?
URL: www.water-ed.orgDescription: This website is intended to help Californians identify their source(s) of drinking water, learn more about how drinking water is treated, and learn how to help prevent pollution of our groundwater and surface water supplies.

U.S. Geological Survey
URL: Description: This is the site for the U.S. Geological Survey, a part of Department of Interior. It includes links to the various functions, activities and products of the Survey,

USGS Science Education Website
URL: www.usgs.govDescription: Explore things on, in, around, and about Earth, such as plants and animals, land, water, and maps. Shows how biology, geology, hydrology, and geography help us understand our changing world.

21st Century Skills

CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP11	Use technology to enhance productivity.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.