Grade: 8th

Program Title: Water Cycle (Incredible Journey)

Related Iowa Core Performance Expectations:

MS-ESS2-4. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity. [Clarification Statement: Emphasis is on the ways water changes its state as it moves through the multiple pathways of the hydrologic cycle. Examples of models can be conceptual or physical.] [Assessment Boundary: A quantitative understanding of the latent heats of vaporization and fusion is not assessed.]

Future Considerations: Blend this program with the unit storyline developed by the classroom teacher.

Alignment with the Iowa Core Science Standards:

Disciplinary Core Ideas (DCIs)	**Investigative Question**	**Investigative Phenomena**	**Practices (SEPs) Students will:**	**Cross Cutting Concepts (CCCs) Students will identify:**
ESS2.C-The Roles of Water in Earth's Surface Processes • Water continually cycles among land, ocean, atmosphere via transpiration, condensation, evaporation, and crystallization, and precipitation, as well as downhill flows on land. • Global movements of water and its changes in form are propelled by sunlight and gravity.	The Water Cycle is much more intricate than typically described. Where else does water go beyond the simple diagram we learned in Elementary school? .	*Poem by Verne N. Rockcastle* *http://dnr.wi.gov/org/caer/ce/eek/earth/groundwater/poem.htm* How does this poem fit with our understanding of how water on earth moves around?	**Create a model** when they draw a simple water cycle. **Use a model** when they use a string of beads while playing the game "Incredible Journey"- Project Wet Curriculum **Use math and computational thinking** when they compile data of visits to each station and create a bar graph on the board. **Engage in reasoning and argument based on evidence** when they critique the activity and the models, using reasoning and evidence to do so. **Communicate information and ideas** when they write a short story describing their journey bead by bead using the terminology from the water cycle word wall.	Bracelets and graphing will help students see **patterns** within the water cycle more clearly. The Incredible Journey activity model will help the students examine the complexity of the water cycle as a **system**. How the **energy** of the sun, gravity, and water drive the Water cycle as a **system**.

Program components: The presenter will have students use the CCCs, the SEPs and the phenomena to figure out how to answer the investigative question and to grasp the disciplinary core ideas.

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Can be accessed at: http://files.dnr.state.mn.us/education_safety/education/project_wet/sample_activity.pdf

Extension activities: Noted in the activity packet