Project WET: H_2Olympics

* Activities are correlated as written. However, by using the extensions or adapting the activity using the grey-shaded text, additional correlations or parts of correlations are met.

** Gray shaded areas demonstrate additional connections that can be made/strengthened with a few minor additions and/or restructuring of activity.*

** Blue text represents the Extension section of the activity.*

Grade: Upper Elementary	Topic: Adhesion and Cohesion	Project WET Guide, Page #: Guide 2.0, p. 13
Brief Lesson Description: Students compete in a Water Olympics to investigate two properties of water, adhesion and cohesion.		
Performance Expectation:		
Science & Engineering Practice(s)	**Disciplinary Core Idea(s)**	**Crosscutting Concept(s)**
NA	NA	NA

NGSS Common Core Connections:

ELA/Literacy **–** NA

Mathematics **–** NA

Connections for H_2Olympics to other Common Core Standards at this Grade Level:
RI.3-4.3

Additional SEP Connections: Grades 3-5	
Asking questions (for science) and defining problems (for engineering)	Asking questions and defining problems in 3–5 builds on K–2 experiences and progresses to specifying qualitative relationships • Identify scientific (testable) and non-scientific (non-testable) questions.
Planning and carrying out investigations	Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K– 2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions. • 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.
Analyzing and interpreting data	Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used. • Analyze data to refine a problem statement or the design of a proposed object, tool, or process. • Use data to evaluate and refine design solutions.

Additional Crosscutting Concepts by Grade Level 3-5	
Patterns	Patterns: 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.
Cause and Effect	Cause and Effect: 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.

Correlation Comments	**Correlator Initials:** ELC

There were no Performance Expectations matched at the Upper Elementary Level for this activity.
The idea of cohesion and adhesion of water is key to understanding some life science information, such as how trees can get water high up in the trunk and how soils hold on to water, but isn't really included in the NGSS. It is too specific and not a broad enough concept to be addressed in NGSS.

This activity does lead directly to 5-LS1-1 Support an argument that plants get the materials they need for growth chiefly from air and water. *How* do they get the water they need? Cohesion of water molecules and Adhesion between water and xylem tubes. Perhaps we could even make that connection for teachers as another extension or mention at the end of the activity?

Post Review Comments: After looking at both reviewers' comments and the activity again, I tried to correlate to 5-PS1-3. It's a bit of a tough call. It seems that the activity fits with the three dimensions, but the PE is aimed at identification of substances from their properties, which the activity is not. It showcases cohesion/adhesion as properties of water (a known substance). This activity is a great example of carrying out an investigation and making observations, but I think Erica is right that it doesn't really correlate with the NGSS using our correlation methods.

As for 5-LS1-1, I would say the concepts in this activity are secondary to that. Yes, it is the mechanism that allows water to move through plants, but that standard is focused on the process/system of photosynthesis. Since this activity does not directly involve plants I think it is too far removed to correlate.

Sadly, no correlations.