

# The River Mile Framework 9-12 Sample Connections to Washington State Revised Science Standards



Grades	EALR 1 Systems	EALR 2 Inquiry	EALR 3 Application
9-12	Predictability & Feedback	Conducting Analyses & Thinking Logically	Science & Technology & Society
	<p>Represent TRM system with a diagram specifying components, boundaries, flows and feedbacks. Describe relevant subsystems (e.g., plants, animals, landforms, water quality and quantity, human use and impact)</p> <p>Identify information needed to make your model predictive of future populations (e.g., rate of spread of non-native plants that have no native consumer)</p>	<p>Generate a question, plan &amp; conduct scientific investigation. Collect, analyze, display data, draw conclusions, analyze alternatives, write detailed lab report, formulate a hypothesis based on a model, or theory of a causal relationship, evaluate the investigation, develop of a scientific theory about TRM question that illustrates logical reasoning, creativity, testing, revision, and replacement of prior ideas in the light of new evidence.</p>	<p>Critically analyze scientific information in current events</p> <p>Describe ways that scientific ideas have influenced society or the development of differing cultures around Lake Roosevelt</p> <p>Generate ideas to solve a problem identified at TRM.</p> <p>Consider the unintended consequences of an innovation. Determine the cost benefit ratio?</p>
Grades	EALR 4 - Physical Science		
9-12	Newton's Laws	Chemical Reactions	Transformation & Conservation of Energy
	<p>Measure &amp; compare TRM river flow in CFS from fall to spring. How do landforms change the river's velocity?</p>	<p>Explain how H<sub>2</sub>O molecules combine with atoms, molecules chemicals &amp; gasses in ways that are beneficial &amp; harmful to TRM species.</p>	<p>Find TRM evidence of energy transfer, transformation &amp; conservation. Investigate boat speed &amp; wake amplitude on shoreline erosion &amp; transfer of toxic s in sediment?</p>
Grades	EALR 4 - Earth and Space Science		
9-12	Evolution of the Universe	Energy in Earth Systems	Evolution of the Earth
	NA	<p>Draw a model to show the impact of greenhouse gasses on weather patterns. How do land forms &amp; Lake Roosevelt influence TRM weather?</p>	<p>Research 100 yrs of TRM history. Identify species populations, landforms &amp; river changes due to Grand Coulee Dam. Model change over geologic time?</p>
Grades	EALR 4 - Life Science		
9-12	Processes Within Cells	Maintenance & Stability of Populations	Mechanism of Evolution
	<p>At TRM, select a producer and consumer to study. Research the essential cellular functions and the flow of energy. Illustrate the process of reproduction. Find examples of genetic recombination in offspring. Predict characteristics that support survival of each species?</p>	<p>Research TRM and determine if it is affected by loss of biodiversity. How has the introduction of Grand Coulee Dam affected the biodiversity of fish in the Columbia River? Which plant and animal species at TRM are in danger? Which are thriving?</p>	<p>Predict the effect on a species at TRM if one of these four factors changes: population growth, inherited variability of offspring, finite supply of resources, &amp; natural selection. Describe the effect on a species caused by human technology and interaction?</p>

**Note: This chart is intended as a sample only. Faculties are encouraged to choose school-specific content & develop an articulated grade level focus for TRM site visits.**