

Grade Level: 10th

Subject Area(s): Interdependent Relationships in Ecosystems

Goal(s): Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.

Objective(s): Students will devise solutions for a proposed problem related to threatened or endangered species or genetic variation of organisms for multiple species within the Columbia River Watershed.

Background Knowledge:

Environmental toxins
 Climate shift
 Mono-agriculture effects on Columbia Basin Watershed
 Primary and Secondary sources
 Water Cycle Stages
 Stages of River Evolution
 Impact of dams on Columbia Basin Watershed
 Gas Bubble Disease

Vocabulary:

Interdependence – ntk^wels
 Erosion
 Deposition
 Drainage
 Adaptation
 Biodiversity
 Extinction
 Speciation
 Population
 Deforestation
 Climate change
 Habitat

Spokane Tribal Values/Tribal Connection: (Values will have interactions between)

Land and environment
 Respect
 Relationships
 Home
 Community
 Honor
 Compassion

Lesson Teaching Plan:**The teacher will:**

Teacher will instruct students what a watershed is and focus on the local Columbia River watersheds boundaries, tributaries and drainage basins.

Brainstorm with students a variety of physical changes in the local watershed environment.

Students will choose one of the physical changes in the local watershed environment and research the causes and effects: Expansion or decrease of species, emergence of a new species, adaptive divergence of a species through adaptation and natural selection, decline or ultimate extinction of a species, ect.

Teacher will provide a format and/or template for researching and creating a Vimeo (in template: add Environmental and cultural impacts)

Activity:

Brainstorm

Research

Seek out Family Elder/Tribal member to gather background knowledge

Create Vimeo Project Public Service Announcement

Presentation

Invite Tribal members/DNR/Tribal Council to view presentations

Submit Presentations to Robin Kennedy in planning, Tribe Website, Wellpinit

School district website, Wellpinit Facebook page

Materials Needed:

List of physical disturbance for reference. (Midnite Mine, Sherwood Mine, Dams, Invasive Species, Fires, Canadian (Teck Cominco) water pollution, deforestation, European expansion into area, Columbia Basin River watershed pictures/maps, Vimeo

Assessment: *Pre-Test/Post-Test Instrument*

Vimeo Public Service Announcement Presentation

Peer input

Enrichment:

Present @ Community fair

Submit PSA's to Robin Kennedy, Tribe website, Wellpinit school district website, Wellpinit Facebook page

LESSON ALIGNED TO:**NGSS**

LS4.C

ESS3.C

ETS1.B

COMMON CORE STANDARDS:

[CCSS.ELA-LITERACY.SL.7.1.B](#) [CCSS.ELA-LITERACY.SL.7.1](#) [CCSS.ELA-LITERACY.SL.7.1.C](#)
[CCSS.ELA-LITERACY.SL.7.1.D](#) [CCSS.ELA-LITERACY.SL.7.4](#)
[CCSS.ELA-LITERACY.RST.9-10.1](#) [CCSS.ELA-LITERACY.RST.9-10.4](#) [CCSS.ELA-LITERACY.RST.9-10.7](#)
[CCSS.ELA-LITERACY.RST.9-10.8](#)

Community Resources

Warren Seyler to discuss Columbia River Basin Watershed

Gene (Bear) Hughes to discuss Midnite Mine

Brian Crosley and Chad McCrea Water Quality

Lucas Bair Air Quality

Randy Connely Super Fund Coordinator

John Matt Preservation