Kootenai River Valley Watershed Studies
A Year-Long Interdisciplinary Theme

Guiding Questions

1. What is a watershed?
2. What does the watershed have to do with us?
3. What is our watershed like?
4. How did the watershed come to be the way it is?

Addressing the Guiding Questions

1. What is a watershed?
   - Develop a class definition
   - View pictures of watersheds local & worldwide

2. What does the watershed have to do with us?
   - Investigate how our lifestyles & resources are shaped by the watershed (economic, recreational, water, homes, aesthetics) + its hazards
3. What is our watershed like?
   - Geography (basic map skills)
   - Climate (water cycle, snow depth, SNOTEL data)
   - Biology (environmental studies, life cycles, food web)
   - Human history (Kootenai Tribe, settlement based on resources, current uses)

4. How did our watershed come to be the way it is?
   - Geology
   - Human modifications

Concept Development
Students will develop concepts while constructing a timeline of watershed history. This will be accomplished through a series of field trips and activities. The project that I am developing will include a notebook of lessons including interdisciplinary standards, resources, field trips, activities (for use before, during, and after the field trips), and assessments. An example follows.
Topic: Sedimentary Rocks

Standards:

Fourth grade science:
1.1.1 Explain that a system consists of an organized group of related objects that form a whole.
1.2.1 Make and record observations then analyze and communicate the collected data.
1.2.2 Define observations and inferences.
1.2.3 Make, describe and/or use models.
4.1.2 Explain the effect of gravity on orbits and objects.
5.2.1 Identify tools used for space exploration and for scientific investigations.
2.1.1 Use instruments to measure properties.
2.1.2 Describe the physical properties of solids, liquids, and gases.
2.1.3 Explain the changes caused by heating and cooling materials.
1.3.2 Measure in both U.S. Customary and International System of Measurement (metric system) units.

Mathematics: 2.1.8
2.1.1 and 2.1.2 (Relating to estimation and measurement)

Other subjects - to be determined
Topic: Sedimentary Rocks

Resources: To be developed
(Student texts, online, nonfiction books, audiovisual materials, etc.) & local experts

Field trip: Road cut on West side
Road at turnoff to Myrtle Creek Road, approximately one mile north of Kootenai National Wildlife Refuge office.

Activity during field trip: observe layers of sedimentary rock and folding; measurements to be taken where possible; sketch observations and record data; generate list of questions to be researched; photograph site; make rubbings with crayons

After field trip:
1. Compare and discuss observations
2. Organize list of questions and conduct research
3. Teach about formation of sedimentary rocks
4. Show and collect examples of sedimentary rocks, including those with fossils
5. Create models of sedimentary rocks in a variety of ways, including plaster of Paris, epsom salts, and clay + foods
6. Create a collection of sedimentary rocks and rubbings
Topic: Sedimentary Rocks

Assessment:

Students should describe the processes that create sedimentary rocks. Appropriate vocabulary and local references should be emphasized.

Closure

The placement of sedimentary rock formations should be added to the class timeline.