Cycle

Please draw the cycle in the box below.

How are humans impacting the cycle?

Give evidence that supports whether humans are positively or negatively affecting the cycle.

Science Practices

- Observations
- Modify hypothesis to agree with data
- Develop questions
- Hypothesize or predict the answer
- Collect data from experiments
- Develop experiments to test your prediction

What is Science?

- Observing
- Making connections
- Drawing and writing
- Asking questions
- Discussing ideas from evidence
Vocabulary

Abiotic: the non-living parts of the environment (such as air, rocks, water and sunlight)

Adaptation: a physical or behavioral characteristic that helps an organism survive in its environment

Biotic: the living parts of the environment

Climate: the long-term weather that determines what types of life will survive in a particular area

Consumer: an organism that feeds on plants or other animals to get energy

Decomposer: an organism that breaks down dead and decaying matter to get energy and recycles nutrients in the ecosystem (fungi, bacteria, and many invertebrates)

Ecology: the study of the interrelationships between organisms and their environment

Ecosystem: all the different species of organisms that interact with each other and with nonliving components of their habitat such as sunlight, air, water, soil and minerals

Erosion: the loosening and detachment of earthen material that is transported to another area through the movement of wind, water, ice or human and animal activity

Geology: field of science that studies the dynamics and physical history of the earth, including rocks and minerals in all forms

Habitat: the specific place in which an organism lives and has access to resources such as nutrients, water, shelter and space

Igneous Rock: formed by the cooling of magma, either above or below the earth's surface

Invertebrate: an animal without a backbone (such as worms, insects, or snails)

Metamorphic Rock: pre-existing rock that is changed by extreme heat or pressure into another type of rock
Aquatic Macroinvertebrate Pollution Tolerance
Aquatic invertebrates that have low tolerance for pollution (PTI=3)
Aquatic invertebrates that have medium tolerance for pollution (PTI=2)
Aquatic invertebrates that have high tolerance for pollution (PTI=1)

<table>
<thead>
<tr>
<th>Name</th>
<th>Pollution Tolerance Index (PTI)</th>
<th>Write PTI # if you found this organism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caddisfly Larva</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Mayfly Nymph</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Stonefly Nymph</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Dobsonfly Larva</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Flatworm</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Cranefly Larva</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Damselfly Nymph</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Dragonfly Nymph</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Freshwater Scud</td>
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<td></td>
</tr>
<tr>
<td>Aquatic Snail</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Water Mite</td>
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</tr>
<tr>
<td>Blackfly Larva</td>
<td>1</td>
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</tr>
<tr>
<td>Horsefly Larva</td>
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</tr>
<tr>
<td>Midge Larva</td>
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<td></td>
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<tr>
<td>Backswimmer</td>
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<td></td>
</tr>
<tr>
<td>Giant Water Bug</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Water Boatman</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Water Strider</td>
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</tr>
<tr>
<td>Mosquito Larva</td>
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<tr>
<td>Whirligig Beetle</td>
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</tr>
<tr>
<td>Aquatic Worm</td>
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<td></td>
</tr>
<tr>
<td>Leech</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Crayfish</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Total of PTI # =

PTI Scale:
0 – 5 = Poor water quality
6 – 9 = Fair water quality
10 – 13 = Good water quality
14 – 17 = Excellent water quality
The Ohlone People

Did you ever wonder how the traditional people of the redwood forest lived? After looking around the forest, imagine what it was like to live here 1000 years ago.

The word Ohlone is Miwok language word meaning "western people." The Ohlone People possess a deep understanding of ethnobotany (the cultural uses of plants) in this area. For example, the California bay laurel is nature's insect repellant. Additionally, the smoke created by burning these leaves can be used to drive squirrels out of their burrows. The tan oak tree produces acorns that can be ground into a mush and used to make bread. The bark could also be used as a dye. The berries from the manzanita can be eaten raw, or soaked in water to make a cider.

Pick one of the above plants and create a story that uses the plant to solve a problem.

Describe some ways plants are utilized by our society today.

What is one of your favorite foods? Describe what plants were involved in creating it.

Field Journaling with Students-BEETLES PL Session Materials
Welcome to Outdoor School!

What expectations do you have for outdoor school this week? Have you heard anything about it from friends/brothers and sisters who have been here before? Write a few sentences about what you’d like to accomplish and experience here this week.

What is your cabin leader’s nature name? Write one interesting thing they have told you so far.

What would your nature name be if you could choose one?

What do you think of when you hear the word science?

What aspects of science do you want to learn about/experience most this week?
"How glorious a greeting the sun gives the mountains!" - John Muir
Chorus:

Banana Slug Song

Ba-na-SLUG! SLUG! SLUG! SLUG!

Ba-na-SLUG! SLUG! SLUG! SLUG!

Ba-na-SLUG! SLUG! SLUG! SLUG!

Ba-na-SLUG! SLUG! SLUG! SLUG!

You know I love my baby (love my baby)

I love the way that it hugs (way that it hugs)

People don't understand it (don't understand it)

It's a banana slug (banana slug)

It's just got one foot (got one foot)

It ain't got no toes (got no toes)

It hangs out in the forest (out in the forest)

And helps to decompose (decompose)

The way you wiggle your antennae (wriggle your antennae)

You know it gives me such bliss (gives me such bliss)

Come on, come on, come on, banana slug (come on banana slug)

Why don't you blow me a kiss? (why don't you blow me a kiss?)

Some people say that it's gross (say that it's gross)

Some people say that it's good (say that it's good)

You know it's got an (looks so odd)

It's stomach is its foot (looks so odd)

It's a gastropod (gastropod)

Don't want to hear that live (hear that live)

Cause if it weren't for my baby (if it weren't for my baby)

The forest might not survive (might not survive)

You know I love my baby (love my baby)

But he doesn't love me (doesn't love me)

He is hermaphrodite (hermaphrodite)

That means he's also a she.