# Sketch Like a Scientist

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Use words, pictures, or numbers to describe each of these things!

Check to see if your work is following A.B.C.D.E!

- Accurate
- Colorful
- Big
- Detailed
- Explained

Color in star if you have all 5
WATERSHED WONDER

How might the water change your land over time?

How does the model expand your understanding of the water cycle? What makes the water move?

What are the limitations of using a model like this? Could you model the watershed a different way?

What terms would you give to the bodies of moving or collected water?

What geographic terms would you use to describe your model’s landforms?

Describe a single drop of water from the atmosphere to the aquifer.

How does pollution affect our watershed? What makes it move?

What questions do you have after learning about watersheds?
CONNECTING THE SPHERES

Draw or write examples of objects that would be in each sphere. In the rectangles, show how elements from each sphere interact with one another.

REMEMBER: make sure your drawings are A.B.C.D.E.

Accurate
Big
Colorful
Detailed
Explained

LIFE

EARTH

GEOSPHERE

Biosphere
What could you put in the center circle to show how all four spheres intersect at the same time? What would our world be like if the four spheres never intersected?
Scientists use drawings to communicate what they see in the field or lab.

**REMEMBER:** MAKE SURE YOUR DRAWINGS ARE A.B.C.D.E.

- Accurate
- Detailed
- Big
- Explained
- Colorful
WHAT COULD GO IN YOUR WETLAND?

 WHAT WILL YOU SEE AT SALTESE?

# how many examples from each?

- **geosphere**
  - high/low points
  - shape and space
  - earth material

- **atmosphere**
  - precipitation
  - temperature
  - wind
  - sky

- **hydrosphere**
  - collection
  - flow
  - depth
  - quality

- **biosphere**
  - mammals
  - birds
  - plants
  - insects
  - fish

✓ “I have…”

- all 4 spheres represented
- habitat for all my organisms
WHAT IN THE WORLD IS A WETLAND?

How is surface water and groundwater affected by the wetland?

Why do you think people may not want wetlands?

Why are the Geo, Bio, and Atmo spheres affected?

Why is a wetland important to our watershed?
EXPLORER EXPECTATIONS

You are about to explore the Saltese Wetlands. When you are out in the field, it is very important to be SAFE, RESPONSIBLE, and RESPECTFUL. Doing this will allow everyone to have the most FUN!

Field Science Expectations

<table>
<thead>
<tr>
<th>SAFE</th>
<th>RESPONSIBLE</th>
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<tbody>
<tr>
<td><strong>Stay With Your Group</strong></td>
<td><strong>Gear/Equipment Stewardship</strong></td>
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<tr>
<td>Always ask an adult before you leave the group to use the restroom, or for any other reason.</td>
<td>Everything in your Ziploc bag is your responsibility. Keep track and take care of your supplies.</td>
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<tr>
<td><strong>No Sticks</strong></td>
<td><strong>Leave No Trace</strong></td>
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<tr>
<td>Inevitably it always turns into someone getting their eye or head poked.</td>
<td>If you pack it in, make sure to pack it out.</td>
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<tr>
<td><strong>Don’t Handle Animals (Alive or Dead)</strong></td>
<td>“Take nothing but memories, leave nothing but footprints” ~Unknown</td>
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<tr>
<td>Always check with an adult first.</td>
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<table>
<thead>
<tr>
<th>RESPECTFUL</th>
<th>FUN</th>
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<tr>
<td><strong>Participate Fully</strong></td>
<td><strong>Enjoy Yourself</strong></td>
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<tr>
<td>This is a school day. Even though we don’t have four walls, this is our classroom for today. Classroom rules apply- listening while others talk, following instructions, etc.</td>
<td>Being out in nature can be so much fun and give you a much-needed recharge. Make sure to take a minute to enjoy where you are!</td>
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GET READY! ✓

- Long pants and layers for spring weather
- Clothes to get messy in
- Rain boots and coat (if you have them)

Wait till you are out at the Saltese Wetland before you do any more pages
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**CAPTURE THE MOMENT**

*Use words, pictures, or numbers to describe each of these things!*

[Image of a cartoon character]
Can you find where you are on the map?
WHERE ARE WE?

We are standing on land where the Schitsu’umsh Tribe traveled, hunted, and lived generations before Europeans came to the Pacific Northwest. They freely followed the seasonal bounties of game, fish, medicinal and edible plants and berries in an area spanning 5 million acres from their current reservation land in Idaho, through this valley, all the way to Sile’ Lake (Cheney).

Scan to learn more about the original people who called the wetlands home.
**WATER WORLD**

**WATER IS THE KEY ELEMENT IN MAKING A WETLAND, WELL, A WETLAND!**

**Staff Gauge Reading:**
What is the pond’s depth?

**Clarity:**
How does the water appear? Cloudy? Clear? What color is it?

**Water Flow:**
How is the water moving? Bubbles? Ripples? Surface disturbances?

**Water Temperature:**
Does it vary depending on location?

**Observation:**
Silently study the water for 2 minutes. I notice - I wonder - it reminds me

**DRAW GRAHAM POND ON YOUR COVER!**

What shape is it? Describe the shoreline. Is the surface water moving and/or reflecting?
What are the land/soil characteristics? What kind of plants line the pond bank or grow in the water? Are there any animals in the pond?

**Pond bottom**
(circle all that apply)

- Clay/Mud
- Sand
- Boulders
- Gravel
- Bedrock

**What colors do you see…**

- On the pond bank?
- In the soil?
- On the pond bottom?
I THINK THE WATER IS

claim

BECAUSE

evidence

How could a sudden change in temperature or climate impact creatures like macroinvertebrates?

14
# Wings on the Wetland

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<thead>
<tr>
<th><strong>Raptors</strong></th>
<th>Bird Name</th>
<th>Tally</th>
<th>Total</th>
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<th><strong>Waterfowl</strong></th>
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<th><strong>Shorebirds</strong></th>
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<th><strong>Songbirds</strong></th>
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## Binocular Tips

- Focus on something stationary to start
- Scan the area slowly
- Be patient, it's a new skill you're learning
FOOD CHAIN

At the Saltese Wetlands, everything is eating or getting eaten by something. Draw or write out a food web to show who is eating who. Start with a "I spy" animal and go from there!

You get to decide what activity to do next!
Pages 16-18 are Explorer's Choice!
SALTESE WETLAND
SCAVENGER HUNT

Put an x in each circle when you spot these!

Red-Winged Blackbird
Listen for my call: “conk-la-reel”
“Do you like my beautiful red wing?”

Deer
I’m an herbivore (I eat plants!).
Look for my white tail.

Bird Nest
Look up towards the trees and see if you can spot a bird’s home!

Hawk
Hawks have excellent eyesight. They can see 8 times better than humans!

Garter Snake
Garter Snakes leave scent trails for each other!

Habitat for a Fish

A Plant that Lives in Water
Wetlands are full of plants that like to live in and under the water!

Worm

Dragonfly
Watch me swirl and dive through the air as I “swallow” bugs. I’m like an acrobat!

Grasshopper

Snail

An Info Sign

Cattails
You’ll find me in most wetlands.

Painted Turtles
Painted turtles bask in the sun for five to six hours a day.

An Invasive Species
Invasive species is a non-native organism which harm the environment

River Otter
River otters can hold their breath for up to 8 minutes while underwater!
Baby otters are called pups.

EXPLORER’S CHOICE 17
YOU MAY NOT HAVE BEEN ABLE TO FIT ALL OF YOUR WORK ON PREVIOUS PAGES. USE THIS PAGE TO CONTINUE YOUR WORK!

The following pages are meant for you to complete back in your classroom.
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**USE WORDS, PICTURES, OR NUMBERS TO DESCRIBE EACH OF THESE THINGS!**
Land like the Saltese Wetlands has been used and enjoyed in many different ways. Sometimes those ways are at odds with each other. Read over these situations, think, and then respond how you would navigate the “murk”.

**Wet Feet**

A farmer owns a portion of land that is right up against the Saltese Wetlands. One day, she finds a corner of her property flooded with water coming from the wetland.

A conservation group has been working to restore the wetlands and in doing so, they have diverted a small stream which has caused water to pool in the farmer’s land. Diverting the stream allows more water to fill up Graham Pond and keep consistent water levels in the warmer months. The farmer wants the conservation group to provide an answer to her flooded property. The conservation group says they are not able to keep water levels in the pond high enough for healthy fish populations if the stream is not diverted.

What would be your solution to this murky situation?

**Bird & Biker Bother**

An Audubon Club bird watcher has been keeping careful tabs on a flock of quail nesting next to a mountain bike path circling the Saltese Wetlands. Bikers have created a shortcut by going off the path which has trampled vegetation, and the new route is very close to the quail nesting area. The bird watcher wants the bike path to be removed since the bikers are not respecting the path anyway. The bikers say the path is meant for them to use and they can’t be responsible for the few bad riders who have created this shortcut and are not staying on the path.

What would be your solution to this murky situation?
Native peoples have lived in the Saltese Wetlands area since time immemorial. They traded, harvested, hunted, and gathered on the land in a way that didn’t permanently change the land’s structure. They did not see the land as something that could be owned or possessed; they saw themselves as equal partners with the land, the same as river, tree, bear, or bird.

Settlers came with a very different idea about land and how it was used and lived on. Land could be purchased, sold and traded, drained to turn into farmland or cleared for orchards. The land was often permanently changed to accommodate the livelihoods of those who bought the land.

Take some time to ponder the pros and cons of each way of seeing the land. Could both ways exist at the same time?

The area around the Saltese Wetlands has had an increase in housing development in recent years. More and more of the land has been bought up and turned into new neighborhoods. A wildland protection group is worried that the land and waterways could become polluted and that there is less land to remain as vital habitat for plants and animals. The housing developers say they are just meeting the needs of a growing population and providing people a place to live.

What would be your solution to this murky situation?

Hey, You!
Be inspired! What can you do to contribute to solutions for these murky situations?
What will you do today to make the Saltese Wetlands a better place?
As a Wetland Explorer, I pledge to be SAFE, RESPONSIBLE, RESPECTFUL, & have FUN. I will teach others about what I learned today to help preserve and defend these wild places.