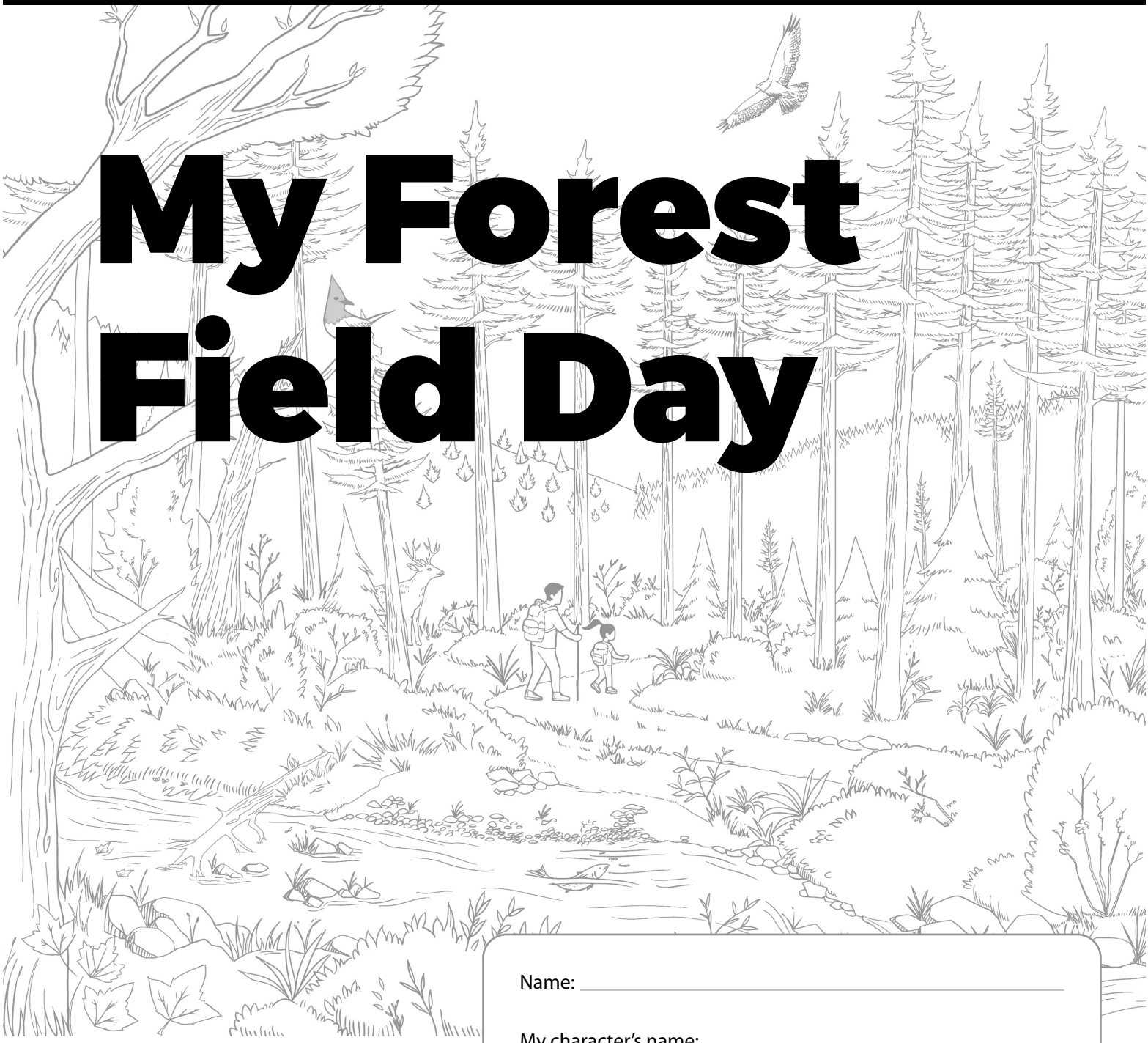
My Forest Field Day



FORESTS TODAY & FOREVER

Name: _____

My character's name: _____

My responsibility for the management plan (circle one):

Timber Water & Soil Recreation Wildlife

My color: _____ My number: _____

My animal: _____

My Questions

Wildlife Station:

Water & Soil Station:

Recreation Station:

Timber Station:

Your Field Day!

Ground Rules:

This is a school day and school rules apply!

Be RESPONSIBLE

- Have your materials.
- Do your own work.
- Dress for the weather.

Be RESPECTFUL

- Listen to the volunteers and actively participate.
- Take care of the property (please pick up trash you find).
- Leave the plants and animals as they are (don't pick them or pick them up — this is their home).
- Respect one another (allow others the opportunity to learn and keep your hands to yourself).

Be SAFE

- Wear appropriate shoes.
- Walk to and from stations (no running).
- Leave sticks and rocks on the ground.
- Stay on the trail to avoid ticks and poison oak.

TABLE OF CONTENTS

Wildlife

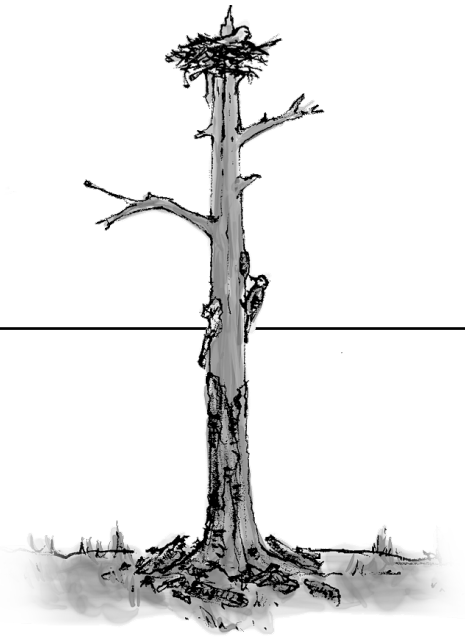
Volunteer Name: _____

Profession: _____

Employer: _____

Managed forests protect wildlife by:

- Creating and maintaining habitat that supports a diversity of wildlife
- Leaving snags and downed logs for nesting sites, shelter, and food sources



1

Oregon's Forest Practices Act has rules to protect wildlife habitat. Here is one important rule (fill in the blanks!):

For each acre that is clearcut, landowners must leave _____ large logs and _____ standing live trees or dead trees (snags) for wildlife habitat.

2

What is Habitat? Fill in the blanks using these words:

arrangement food water shelter

Habitat is an animal's home address; it is the area of land that provides the animal with (fill in the blanks!): _____, _____, and _____.

The _____ of these resources is also important.

3

Below each animal type listed, identify if they use snags (**S**), logs (**L**) or both (**B**) to satisfy their habitat needs.

Owls	Beetles & grubs	Skunks	Bats	Snakes

4

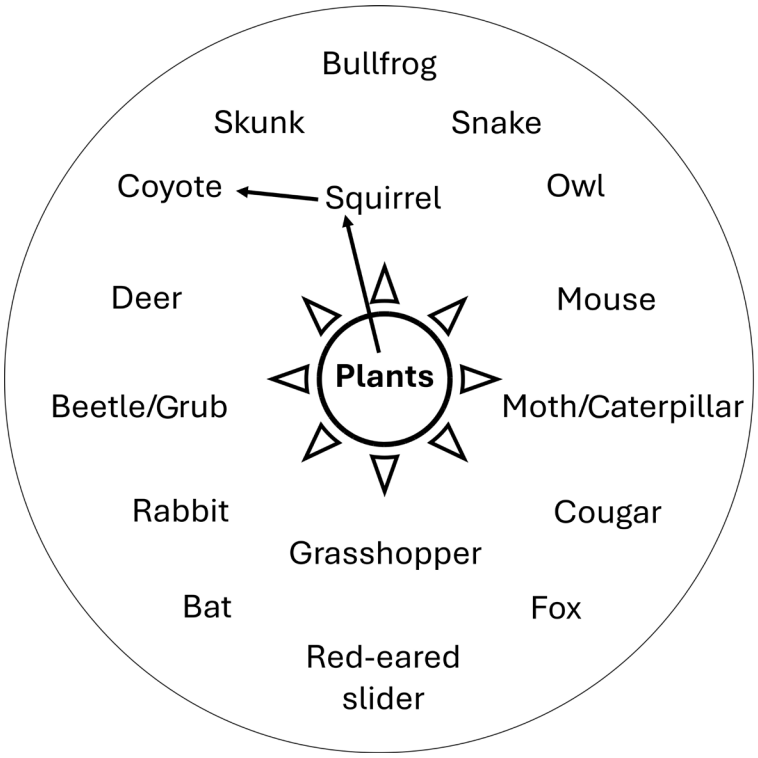
On the trail, name **evidence of wildlife** that you find:

Evidence	animal

5

Below are animals commonly found in the forest. Using arrows, create a **food web**. Your arrows should point from a food source to the animal(s) that eat it. This is the way that energy flows through an ecosystem.

Think of it like this: the sun passes energy to the plant, which passes energy to the squirrel, which passes energy to the coyote. Continue adding arrows until everything is connected.



Put a "**C**" next to one animal that is a CARNIVORE.

Put an "**O**" next to one animal that is an OMNIVORE.

Put an "**H**" next to one animal that is an HERBIVORE.

Put an "**A**" next to one animal that is an APEX PREDATOR.

Circle the two animals that are invasive species.

DISCUSSION QUESTIONS:

1. How do invasive species disrupt a forest food web?
2. How do you think wildfire impacts habitat diversity?

Timber

Volunteer Name: _____

Profession: _____

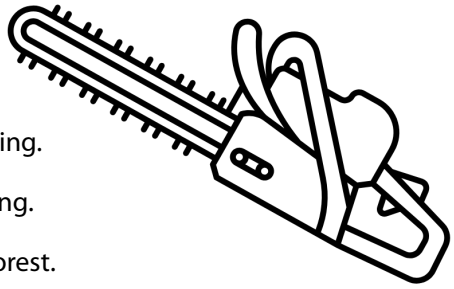
Employer: _____

Managed forests can produce wood sustainably because landowners:

- Regrow forests after harvesting
- Use science and data to make management decisions

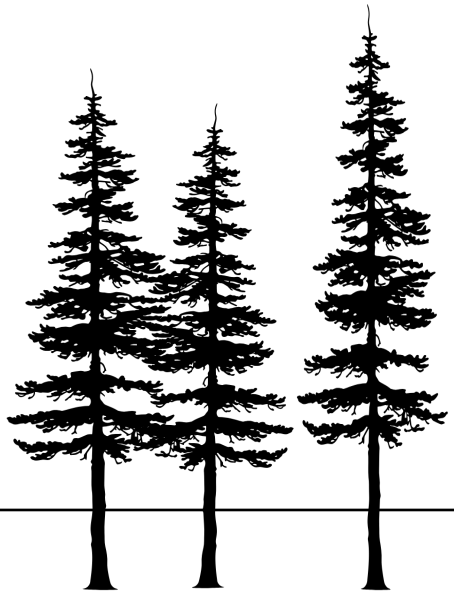
1 **Oregon's Forest Practices Act** has rules to ensure timber is harvested sustainably. The rules include (fill in the blanks!):

- Clearcuts cannot exceed _____ acres.
- Landowners must replant clearcuts within _____ years of harvesting.
- Young trees must be free-to-grow within _____ years of harvesting.
- At least _____ trees per acre must survive and grow into a new forest.

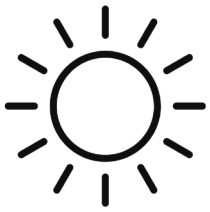


2 What is the **Northwest's most common tree** and the dominant tree on this tree farm?

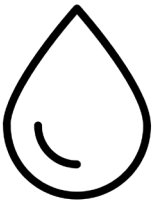
_____ .



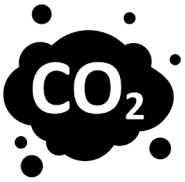
3 Put a check (✓) by the **resources** trees need to grow:



☐ Sunlight



☐ Water



☐ CO_2

☐ Nutrients

COLLECTING DATA

Foresters collect data so they can make science-based management decisions and determine how much money the trees are worth. Sampling is used to estimate: 1) the volume of wood in a timber stand and 2) how fast the trees are growing.

The sample plot is 1/10th of an acre (radius=37.2 ft.). To calculate the volume of wood, we need to count the number of trees in the plot and measure their diameters and heights.

4

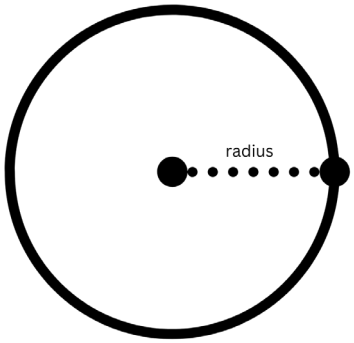
Trees per Acre

How many trees per acre? Make a guess! _____

_____number of tree in 1/10th acre plot

x10 plots per acre

=_____number of trees per acre



5

Average Diameter at Breast Height (DBH)

What is the average DBH (measured at 4.5 ft. above the ground)? Make a guess! _____inches

1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____

8. _____ 9. _____ 10. _____ 11. _____ 12. _____ 13. _____ 14. _____

15. _____ 16. _____ 17. _____ 18. _____ 19. _____ 20. _____ 21. _____

Circle the largest and smallest DBH measured in the plot. Then, find the average DBH for the plot:

_____ total DBH (What is the total DBH of trees measured in the 1/10th acre plot?)

÷_____ number of trees

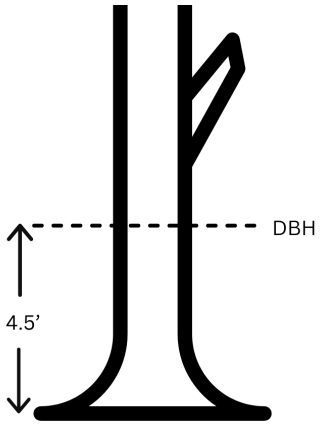
=_____ average DBH

Circle the correct answers to the statements below:

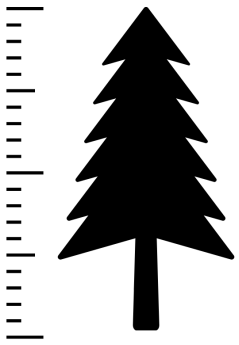
To calculate average DBH, foresters should only measure the largest trees.
TRUE FALSE

The more trees that are measured, the more accurate the data collected.
TRUE FALSE

One plot will provide all the data needed to evaluate a timber stand of any size.
TRUE FALSE



6



Tree Height

How tall are the trees in this stand?

Make a guess!

_____ft.

Actual height of a tree

_____ft.

7

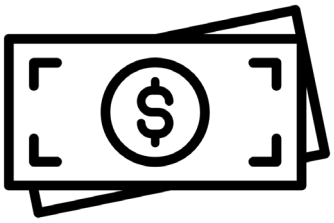
Board Feet (BF)

Choose a tree in the plot. Determine the BF for that tree using its DBH, the tree height measured in #6, and the Timber Volume Table.

_____ BF

8

Monetary Value



What is the value of that tree?

Make a guess!

$_____

Now, calculate the actual value if wood is selling for $0.65 per board foot.

_____BF x $0.65= $_____

Put a check (✓) next to the factors that influence the monetary value of a tree:

☐ Defects ☐ Form ☐ Species

9

Tree Growth

How old are the trees in this plot?

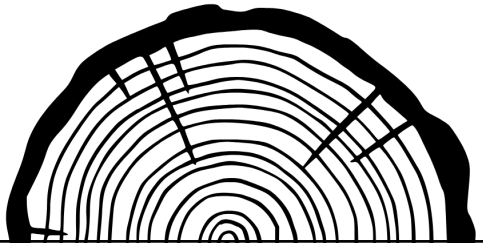
Make a guess! _____ years

Actual Age _____ years

Now, practice reading a core sample to evaluate tree growth.

Count the years it took to grow an inch.

_____ years.



10

Tool Review

Draw a line from the tool to how it's used to collect sample plot data in a timber stand:

Clinometer	**DBH**
Compass	**Distance**
D-tape	**Locating sample plots**
Increment borer	**Tree growth and age**
Measuring tape	**Tree height**
Timber volume table	**Volume of wood**

DISCUSSION QUESTIONS:

1. How likely is it that a fire will start, grow, and spread into a wildfire in a managed forest like this one?
2. Trees need CO_2 to survive. Knowing this, how does growing trees and using wood products benefit the planet?

Soil

Volunteer Name: _____

Profession: _____

Employer: _____

Managed forests protect water and soil by:

- Protecting streams and riparian areas
- Preventing stream sedimentation from forest roads

1

Oregon's Forest Practices Act has rules to protect soil and water. The rules include:

Landowners must make sure the location, construction, and use of forest roads doesn't

add _____ to streams.

2

Soil Structure

Match the layer name to its location on the soil profile:

R = Bedrock

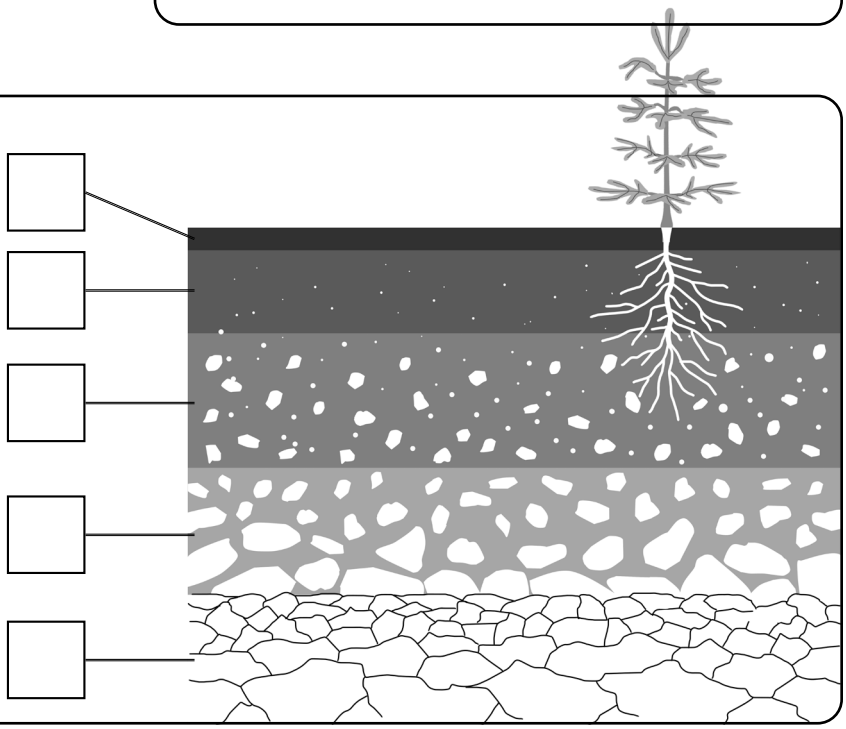
O = Organic layer

C = Parent material

B = Subsoil

A = Topsoil

Put a check (✓) next to the soil layer that is most affected by erosion.



3

Complete the chart below about the three **mineral components** of soil (sand, silt, and clay).

Put a checkmark next to the mineral component that remains suspended in the stream water the longest.

List sand, silt, and clay by size:	How does it feel? (circle as many as you like)
Smallest:	Gritty Smooth Rough Course Slimy Soft
Mid-size:	Gritty Smooth Rough Course Slimy Soft
Largest:	Gritty Smooth Rough Course Slimy Soft

4

Erosion & Compaction Experiments

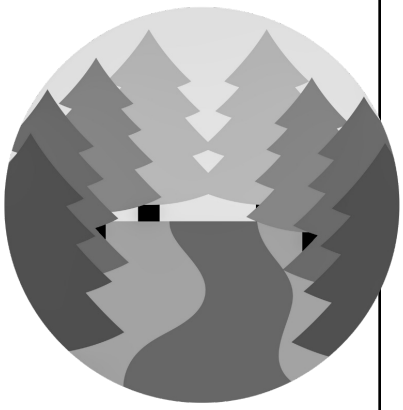
Answer the following questions based on what you learned from the experiments.

Water infiltrates compacted soil MORE LESS easily than uncompacted soil.

Compacted soil is MORE LESS likely to erode than uncompacted soil.

Vegetation makes it MORE LESS likely that eroding soil will reach a stream.

Rocked roads are MORE LESS likely to erode than unsurfaced (dirt) roads.



DISCUSSION QUESTIONS:

1. What are causes of soil compaction?
2. When might compacted soil be helpful?
3. How do you think wildfire impacts soil?

Water

Volunteer Name: _____

Profession: _____

Employer: _____

Managed forests protect water and soil by:

- Protecting streams and riparian areas
- Preventing stream sedimentation from forest roads

STREAM WALK

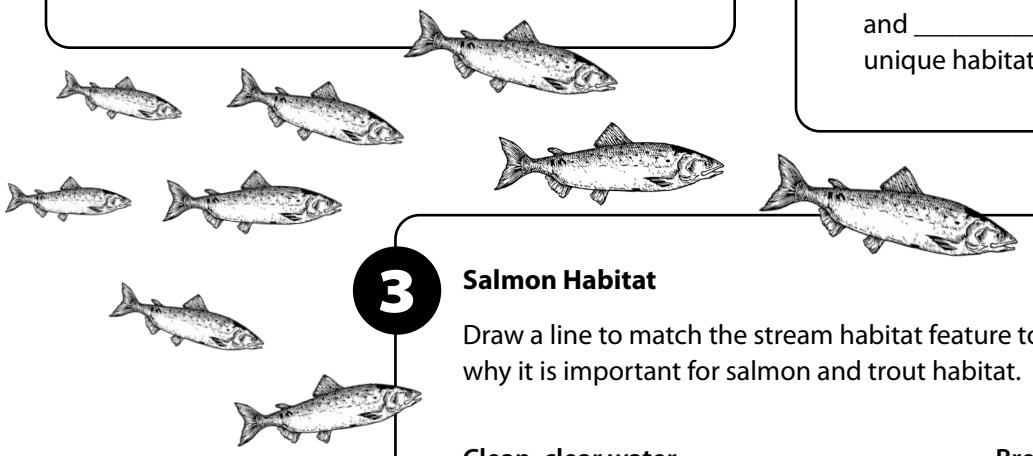
1

Oregon's Forest Practices Act has rules to protect water and soil. The rules include:

- Landowners must leave wide _____ along streams to protect fish habitat and water quality.
- Use of chemicals must comply with rules for stream protection.

2

A riparian area is the land adjacent to _____, _____, and _____ that provides unique habitat for plants and animals.



3

Salmon Habitat

Draw a line to match the stream habitat feature to why it is important for salmon and trout habitat.

Clean, clear water	**Breathing and hunting**
Gravel	**Feeding**
Invertebrates	**Nesting**
Logs and boulders	**Nutrients and shade**
Pools	**Protection from fast-moving water**
Trees and shrubs	**Refuge during hot summer days**

4

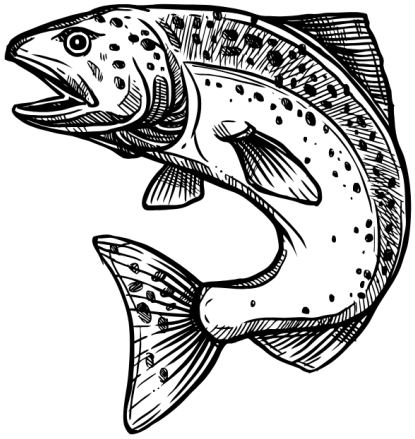
Streambank Invaders

Circle the changes you would expect to see if the streambank was mostly covered by invasive blackberry.

Native plants	MORE	LESS
Streambank erosion	MORE	LESS
Wildlife	MORE	LESS
Young trees	MORE	LESS

Put a check (✓) under the weed control method(s) that can be used in managed forests:

Chemical Manual Mechanical



5

Stream Table

Use the stream table to investigate each condition suggested below. Add checkmarks (✓) to the appropriate columns.

	How might this affect erosion and water quality?		How might this affect fish habitat?	
				
Make the stream channel as straight as possible.				
Place "logs" or "boulders" in the stream.				

DISCUSSION QUESTION:

How do you think wildfire impacts fish habitat and water quality?

Recreation

Volunteer Name: _____

Profession: _____

Employer: _____

Managed forests are great places to enjoy the outdoors!

Responsible recreation requires caring for the land and being safe.

1 Fire Awareness

Circle the outdoor activities that are restricted or prohibited on forestlands when the fire danger is "High" or "Extreme."

Then, put a check (✓) next to the recreational activity that causes the most forest fires. Finally, put a star (★) next to a recreational activity you enjoy!

Building a campfire	Off-roading
Hiking	Operating a chainsaw
Hunting and fishing	RV and tent camping
Lighting fireworks	Smoking
Mountain biking	Using a camp stove

2 Respecting Property

Match the illegal activity to the definition.

Then, put a check (✓) next to the illegal activity that includes intentionally starting fires (arson).

Dumping	**Act of stealing**
Theft	**Deliberately destroying or damaging public or private property**
Trespassing	**Disposing of trash without permission**
Vandalism	**Entering a property without permission**

3 Smart Recreation

Outdoor enthusiasts carry these 12 items when recreating in a forest.

Circle the four items that are the most important to have with you if you get lost or hurt.

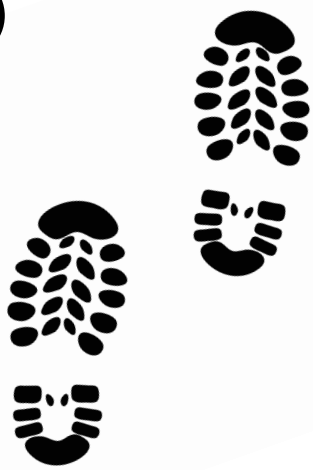
1. Emergency shelter
2. Fire-starting tools
3. First-aid supplies
4. Water
5. Illumination
6. Extra layers
7. Navigation tools
8. Multi-tool
9. Food
10. Communication tools
11. Shovel
12. Sun protection

4 Camping

Circle the two most dangerous features of the campsite:

Cooler	Overhanging tree
Fire pit	Proximity to the road
No water	Trash can
No toilet	Uneven tent site

5 Hiking



Circle the correct answers to the statements below:

As long as you both have a map, it's OK to leave your hiking buddy behind.	TRUE	FALSE
There is no need to clean up after your dog on a forest trail.	TRUE	FALSE
Trail cutting harms native vegetation and causes soil erosion.	TRUE	FALSE
Vehicles, shoes, and clothing can spread invasive species.	TRUE	FALSE
When passing others on a trail, the people going uphill have the right-of-way.	TRUE	FALSE

6 Navigating

What can you use to determine which way is north?
Circle the correct answer(s):

Compass Stars Streamflow Sunlight Wind

Circle the correct answers to the statements below:

You can rely on Google Maps to navigate forest roads.	TRUE	FALSE
Modern maps are drawn so that the top of the map is "north."	TRUE	FALSE
Topographic maps show the location of hills, valleys, and streams.	TRUE	FALSE
Topographic maps only show roads that are open to the public.	TRUE	FALSE

My Take-aways

For each station, write something you learned that you didn't know before.

Wildlife Station:

Water & Soil Station:

Recreation Station:

Timber Station:

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