

OREGON ENVIROTHON 2023
FOREST ECOLOGY

TEAM # _____
Test Total: _____ / 50

Part I: Tree Identification and Forest Products

1. Given the tree samples on the table, write in the correct species of tree or shrub using both common and scientific names. (Spelling and capitalization MUST be exact!) [6 points, 0.5 point each]

	Common Name [0.5 point each]	Scientific Name [0.5 point each]
i)		
ii)		
iii)		
iv)		
v)		
vi)		

2. The total forestland in Oregon is 29,656,000 acres. What percent is owned by the federal government? [2 points] _____
3. Many Oregonians are employed in forest sector jobs, such as forestry, logging, millwork, and engineering. How many Oregonians were employed in forest-related jobs in 2021? [2 points] _____

____ / 10 points

Part II: Forest Practices and Forest Ecology

Answer the following questions related to the Oregon Forest Practices Act and forest ecology.

4. The Forest Practices Act lists several types of stream crossing structures. List 3 types.
[3 points, 1 point each]

a.

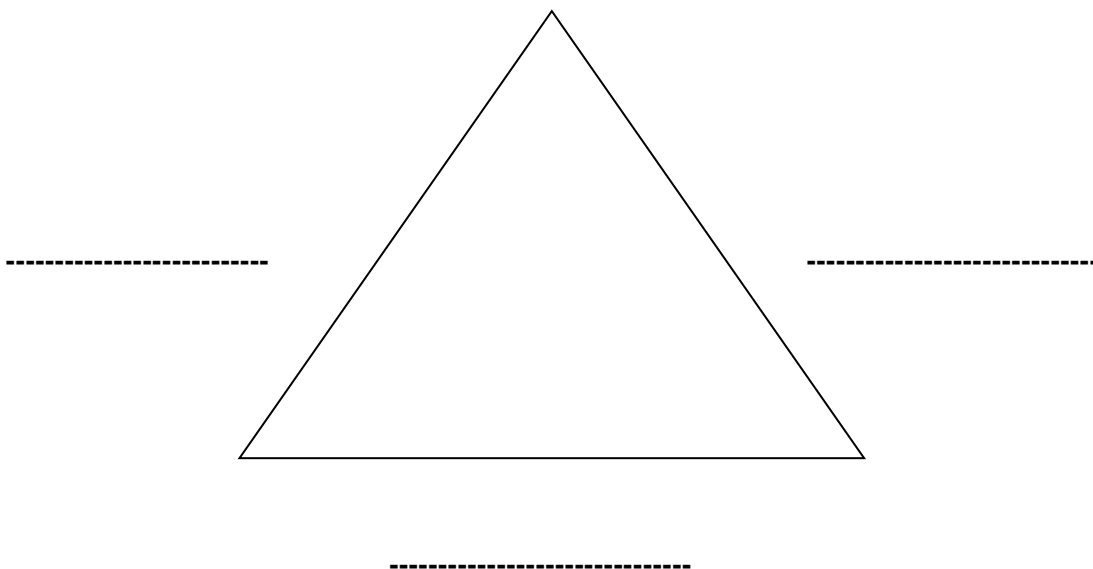
b.

c.

5. Oregon's Forest Practices Act (FPA) was the first in the nation. What year did the Oregon legislature pass the FPA? [1 point]

6. Define the term "operation" as used in the Oregon Forest Practices Act? [1 point]

7. Label each side of the forest sustainability triangle, below. [3 points]



Sustainable Forestry Triangle

____ / 8 points

8. On June 30, 2022, the emerald ash borer (EAB), an exotic beetle that infests some species of trees, was **discovered in Forest Grove, Oregon**, marking the first confirmation of this invasive pest on the West Coast.

Name the Oregon tree species that will be impacted by this insect. [2 points].

____ / 2 points

Part III: Tree Measurements

Directions: There are four trees marked with the letters A, B, C, D. By using the tools and information specified below, answer the following questions.

9. Using the Woodland Stick, what is the diameter (DBH) of **Tree A**?

_____ (inches) [3 points]

10. Using a Diameter or Loggers Tape, what is the diameter (DBH) of **Tree B**?

_____ (inches) [3 points]

11. Using the Woodland Stick, what is the total height of **Tree C**, given you are 100 feet from the base of the tree?

_____ (feet) [3 points]

12. Using a Clinometer, what is the total height of **Tree D**, given you are 100 feet away from the base of the tree?

_____ (feet) [3 points]

____ / 12 points

Part IV: Forest Succession and Growth

Using the “tree cookie” sample provided, answer the following questions. [5 points]

13. How old was this tree? _____ [2 points]

14. From the tree cookie sample, were there any indicators that this tree was stressed?
Explain briefly your answer. [1 point]

15. Describe a forest management activity and/or silvicultural technique that could have improved the health of this tree. [1 point]

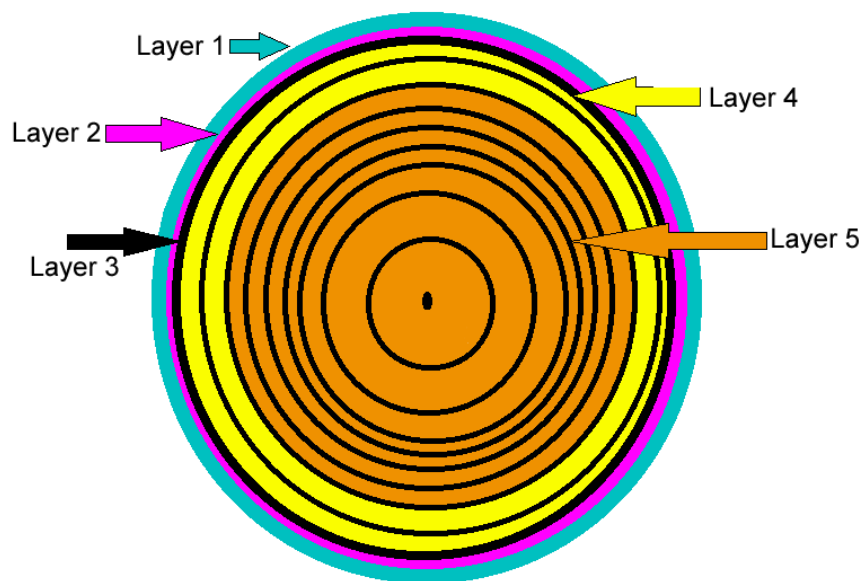
16. Looking at the first 10 years of growth, describe what the forest surrounding this tree looked like at 10 years of age. [1 point]

____ / 10 points

17. Identify the points on the tree cross-section (below). Write in the correct name of the part and its function. [5 points, 0.5 point for each answer]

	Name:	Function:
Layer 1	_____	_____
Layer 2	_____	_____
Layer 3	_____	_____
Layer 4	_____	_____
Layer 5	_____	_____

Cross-section of a Tree



____/ 5 points

Part V: Climate Change – Adapting to a Changing Climate

18. Oregon's forests are already being affected by changes in climate. List two impacts of climate change on Oregon's forests. [2 points]
19. Climate change can have a big impact on forest fires. What are two ways climate change can affect forest fires in Oregon's forests? [4 points]
20. Name two forest management strategies that can help forests adapt to climate change. [2 points]

____ / 8 points