

Task 1

Creating a Deforestation Simulation

In this task, you will develop a simulation showing the deforestation of a forest of your choosing (taiga, rainforest, or temperate forest, for example).

 Time to complete: 2.5 to 3 hours

Part A: Research a Forest

Use credible resources to research the type of forest you chose and address these questions:

- Where is this forest located?
- What is the climate of this region?
- What types of plants and animals live there?
- Why is deforestation of this region a threat?
- Is deforestation currently occurring in this region? If so, what is the primary cause?

Write a paragraph that answers the questions.

Answer:

Characters used: 0 / 15000

Part B: Simulate Deforestation

Next, you'll build a simulation showing the changes in a portion of the forest over time. This sample shows a forest region.

Forest Region

Gray: untouched region (150 trees per block)

Black: deforested region (no surviving trees)

Use your word-processing program's table maker to create three grids showing the rate of deforestation of a forest in three different years—year 1, year 5, and year 10. Choose colors to represent the deforested and untouched regions. Provide a key that shows the number of trees represented by each block, as well as the colors that represent the forested and deforested areas.

Here are the specifications for your forest:

- The forest is represented by a 5 x 5 grid.
- Year 1: There are a total of 4,500 trees in your forest and no deforestation. Figure out how many trees represent each block.
- Year 5: 1,080 trees were deforested.
- Year 10: An additional 1,980 trees were deforested.

After you've completed your grids, use the Insert Image button to insert screen shots of the grids in the answer space.

Answer:

Characters used: 0 / 15000

Part C: Simulate Reforestation

The government has a plan to limit the effects of deforestation. It involves planting new trees to replace some of the larger trees chopped down by deforestation.

- In year 5: 540 new trees will be planted
- In year 10: 900 additional new trees will be planted

Figure out how many blocks of the deforested regions will be restored in the year 5 and year 10 grids. Choose a new color for the blocks that represent the reforested regions and make adjustments to your grids. Then use the Insert Image button to insert screen shots of the two grids in the answer space.

Answer:

Characters used: 0 / 15000