

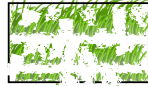
**Directions:** Read all the information to answer the questions.

A group of students are studying the effect of the percentage of soil exposed on the amount of soil loss.

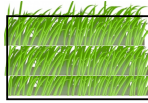
They examine 3 areas of land. Each area of land is the same size and has the same type of soil. At the end of the year, they measure the amount of soil that had been lost during that year. They collected data for 3 years.



**100% exposed**  
(NO grass)



**50% exposed soil**  
Half is covered with grass



**0% exposed soil**  
Completely covered with grass

Percentage of Exposed Soil	Soil Loss (metric tons)			Average Soil Loss (metric tons)
	Year 1	Year 2	Year 3	
100% exposed soil	31	38	36	35
50% exposed soil	23	20	17	20
0% exposed soil	3	6	6	

Calculation

- Calculate** the average (mean) soil loss for 0% exposed soil to complete the table above. Write the answer in the empty box on the table.

2. What is the independent variable? \_\_\_\_\_

3. What is the dependent variable? \_\_\_\_\_

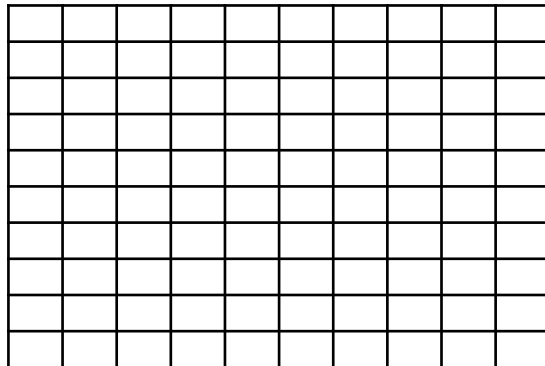
4. **Explain** why doing multiple trials by collecting data over 3 years will help them reach a more reliable conclusion. \_\_\_\_\_

5. **Explain** why there is only one variable different in the experiment? \_\_\_\_\_

- Use the data from the table to construct a **LINE** graph on the grid. Graph only the **averages** of the soil loss.

Be sure to provide.....

- \_\_\_ (1pt) An appropriate title
- \_\_\_ (2pts) Label each axis with appropriate units
- \_\_\_ (1pt) An appropriate number scale in each axis
- \_\_\_ (1pt) Correctly plotted data



**USE THE GRAPH TO ANSWER #11 AND #12**

\_\_\_\_\_ 11. What conclusion can you make about the amount of soil loss and the amount of exposed soil exposed?

- A) The more soil exposed the less soil loss.
- B) The more soil exposed the more soil loss.
- C) The amount of soil exposed does not have any affect on the amount of soil loss.

\_\_\_\_\_ 12. A farmer owns property that has a steep hill and wants to reduce the amount of soil loss. Which of the following would be the best solution for his problem?

- A) The farmer should pour concrete on the hillside.
- B) The farmer should keep the hillside bare and not plant anything.
- C) The farmer should keep his cattle on the hillside.
- D) The farmer should plant grasses on the hillside.