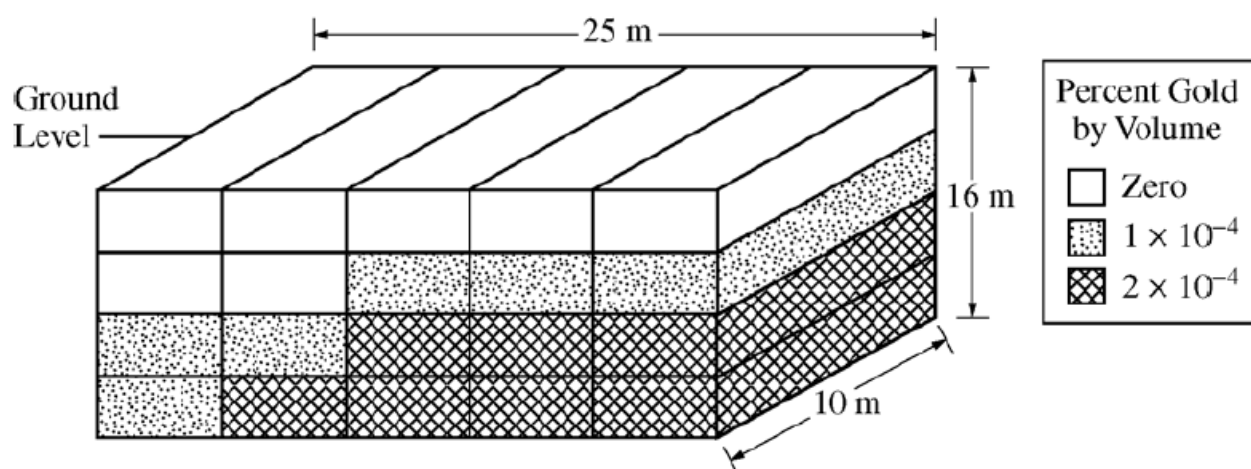


Chapter 14 Review Questions + Problem Set

Directions- On loose-leaf paper, answer the following questions in well-written complete sentences. You do not need to write the question. Number each answer so the number corresponds the question that you have answered. **Only hand-written responses will be accepted. Typed or emailed copies will not be graded.**

Chapter 14 Review Questions

1. Describe some environmental effects of gold mining (Core Case Study).
2. Define geology.
3. Define and distinguish among core, mantle, crust, asthenosphere, and lithosphere.
4. Define tectonic plates and explain how they were likely formed.
5. Distinguish between a subduction zone and a transform fault.
6. What is weathering and why is it important?
7. Define volcano and describe the nature and effects of a volcanic eruption.
8. Define earthquake and define its nature and effects.
9. What is a tsunami and what are its effects?
10. Define mineral, rock, sedimentary rock, igneous rock, and metamorphic rock and give an example of each.
11. Define and explain the importance of the rock cycle.
12. Define mineral resource and list two major types of such resources.
13. Describe three uses of rock as a resource.
14. Define ore and distinguish between a high-grade ore and a low- grade ore.
15. What are reserves? Describe the life cycle of a metal resource.
16. Describe three major harmful environmental effects of extracting, processing, and using nonrenewable mineral resources.
17. What is surface mining?
18. Define overburden, spoils, and open-pit mining.
19. Define strip mining and distinguish among area strip mining, contour strip mining, and mountaintop removal mining. What is subsurface mining?
20. Describe three harmful environmental effects of mining.
21. What is smelting and what are its major harmful environmental effects?
22. What five nations supply most of the world's nonrenewable mineral resources?
23. How dependent is the United States on other countries for important nonrenewable mineral resources, including strategic metals?
24. Describe the relationship between the supply of a mineral resource and its market price.
25. Discuss the pros and cons of the U. S. General Mining Law of 1872.
26. Describe the opportunities and limitations of increasing mineral supplies by mining lower-grade ores.
27. What are the advantages and disadvantages of biomining?
28. Describe the benefits of recycling and reusing valuable metals.
29. List five ways to use nonrenewable mineral resources more sustainably.

Problem Set → Show All Work Do Not Use A Calculator

30. Auric Miners, Inc., won a contract to mine gold from the terrain represented in the diagram above. The terrain can be divided into 20 rectangular blocks, each with a volume of 200 cubic meters. Site analysis has revealed the average gold content of each block, as designated by the different patterns shown in the legend.
- Calculate the volume of gold, in cubic meters, that can be mined from the excavation of all 20 blocks. Show all work.
 - Calculate the percent of gold in the total excavation. Show all work.
 - If the total cost of excavating and extracting the gold is \$1,520,000, calculate the price that the gold must be sold for, in dollars per gram, in order for the mine to break even. (The density of gold is 19 g/cm^3 .)
 - Describe TWO potential uses for the mine waste that will be produced during the extraction of the gold from the excavated material.
 - Describe TWO environmental problems that are likely to develop at the mine site after the gold has been extracted and the mine is abandoned.