

Unit 6: Homework Questions

1. The most sustainable type of development is:
 - A) dispersed development
 - B) compact development
 - C) satellite development
 - D) corridor development
 - E) strip development

2. Urban sprawl is synonymous with this type of development:
 - A) dispersed development
 - B) compact development
 - C) satellite development
 - D) corridor development
 - E) strip development

3. A housing development with many condominiums, compact placement of services, a commons, and houses placed close to streets would be typical in _____ development.
 - A) dispersed
 - B) satellite
 - C) compact
 - D) corridor
 - E) strip

4. Laws that establish acceptable uses for land are called:
 - A) development rights
 - B) patents
 - C) zoning regulations
 - D) development ordinances
 - E) civil laws

5. The differential rate tax reduces urban sprawl because it:
 - A) taxes businesses at a higher tax rate than housing developers
 - B) discourages home owners to buy new houses through tax incentives.
 - C) taxes farmland at a lower rate than housing developments.
 - D) taxes corporations at a higher rate than housing developments.
 - E) relieves housing developers of their tax burden.

6. Buses, commuter trains, and light rail are forms of:
 - A) rural infrastructure
 - B) mass transit
 - C) obsolete transportation
 - D) public transportation
 - E) government socialism

Unit 6: Homework Questions

7. Which of the following is a responsible personal action for more sustainable transportation?
 - A) walk more
 - B) ride a bike
 - C) take a bus or carpool
 - D) drive an energy efficient vehicle
 - E) all of the above
8. Which of the following is a problem associated with urban sprawl?
 - A) Loss of natural habitat.
 - B) Increased chance of flooding.
 - C) Destruction of prime farmland.
 - D) Haphazard pattern of settlement with poor aesthetic appeal.
 - E) all of the above.
9. The most damaging threat to good rangeland is:
 - A) soil erosion
 - B) grass fungus
 - C) grasshoppers
 - D) sheep
 - E) overgrazing
10. Loggers remove all the trees in a 40-200 acre plot in this forestry technique:
 - A) shelter-wood cutting.
 - B) selective cutting.
 - C) strip-cutting.
 - D) clear-cutting
 - E) thinning
11. Which of the following responses is an environmental problem caused by clear-cutting?
 - A) sublimation
 - B) surface runoff
 - C) destroys nutrient-cycling bacteria
 - D) fragments wildlife habitat
 - E) all of the above
12. This forestry technique harvests trees in a narrow strip that blend with the terrain:
 - A) thinning
 - B) selective-cutting
 - C) clear-cutting
 - D) strip-cutting

Unit 6: Homework Questions

E) shelter-wood cutting

13. Which of the following responses is a factor causing global deforestation?

- A) frontierism
- B) lack of knowledge about the importance of forests
- C) population growth
- D) poverty
- E) all of the above

14. This forestry technique harvests only mature trees of a desired species:

- A) thinning
- B) selective-cutting
- C) clear-cutting
- D) strip-cutting
- E) shelter-wood cutting

15. This particular way to harvest forests may be economically competitive with clear-cutting in second growth forests:

- A) thinning
- B) selective-cutting
- C) shelter-wood cutting
- D) strip-cutting
- E) b and c only

16. Land not significantly altered by human activities is called a:

- A) rangeland
- B) preserve
- C) refuge
- D) wilderness
- E) park

17. Geologic processes often concentrate minerals in _____ rocks.

- A) sedimentary
- B) metamorphic
- C) igneous
- D) bedrock
- E) surface

Unit 6: Homework Questions

18. Basalt and granite are:

- A) sedimentary rocks
- B) metamorphic rocks.
- C) igneous rocks
- D) metal-yielding minerals
- E) industrial minerals

19. Oil and coal are _____ minerals.

- A) metal-yielding
- B) industrial
- C) fuel
- D) construction
- E) not

20. Gravel and sand are _____ minerals.

- A) metal-yielding
- B) industrial
- C) fuel
- D) construction
- E) not

21. Lime and gravel are _____ minerals.

- A) metal-yielding
- B) industrial
- C) fuel
- D) construction
- E) not

22. Schist is a _____ rock, formed by heat and pressure deep in the earth.

- A) sedimentary
- B) metamorphic
- C) igneous
- D) bedrock
- E) surface

23. Developed countries have 20% of the world's population and consume ____% of the world's minerals.

- A) 25
- B) 50
- C) 75
- D) 85

Unit 6: Homework Questions

E) 99

24. Aluminum and copper ore are _____ minerals.

- A) metal-yielding
- B) industrial
- C) fuel
- D) construction
- E) not

25. The metal mineral produced in the greatest amount worldwide is:

- A) aluminum
- B) copper
- C) iron
- D) manganese
- E) zinc

26. The nonmetal mineral produced in the greatest amount worldwide is:

- A) salt
- B) sand
- C) stone
- D) lime
- E) soda ash

27. The melting of a metal ore to extract the metal is called:

- A) tinning
- B) leaching
- C) smelting
- D) separation
- E) chemical separation

28. This metal is mainly used to make the steel for automobiles and other vehicles:

- A) copper
- B) lead
- C) iron
- D) magnesium
- E) silver

29. Gold is sometimes extracted by spraying a cyanide solution on piles of ore; this technique is called:

- A) smelting

Unit 6: Homework Questions

- B) heap leaching
- C) stripping
- D) extraction
- E) fluxing

30. This process collects and returns used metals to factories where they are used again:

- A) restoration
- B) recycling
- C) conservation
- D) positive feedback
- E) negative feedback

31. Manufacturing an aluminum can from recycled aluminum requires only ____% of the energy needed to make the can from raw ore.

- A) 5
- B) 10
- C) 20
- D) 30
- E) 40

32. Copper and other nonferrous smelters produce about 8% of the world's _____ emissions.

- A) carbon dioxide
- B) nitrous oxide
- C) sulfur dioxide
- D) ozone
- E) chlorine

33. Deposits of minerals that are fairly certain to exist and are feasible to mine at current prices are called:

- A) reserves
- B) surplus
- C) extractable
- D) new deposits
- E) undepleted reserve

34. Mining lower grade ores produces greater environmental damage than mining higher-grade ores because:

- A) Larger mines are needed.
- B) More material will be transported to the smelters.

Unit 6: Homework Questions

- C) More waste will be produced at the mine and smelters.
- D) More air and water pollution will result from increased mining activities.
- E) all of the above

35. Which of the following materials is a nonfuel mineral?

- A) zinc
- B) oil
- C) natural gas
- D) oil shale
- E) tar sands

36. *Decide whether each of the weather characteristics listed below is associated with cities or rural regions:*

	<u>cities</u>	<u>rural</u>
higher temperature	<input type="checkbox"/>	<input type="checkbox"/>
more precipitation	<input type="checkbox"/>	<input type="checkbox"/>
higher humidity	<input type="checkbox"/>	<input type="checkbox"/>
more fog	<input type="checkbox"/>	<input type="checkbox"/>
less danger of flooding	<input type="checkbox"/>	<input type="checkbox"/>

37. Most cities have one sewer system that handles both sewage and storm drainage. Sewage is usually treated and the processed wastewater dumped into a river or the ocean. What problem can occur during heavy rainstorms?

38. Describe how and why each of the following elements of the urban water budget is changed by urbanization:

- Humidity
- Precipitation
- Flood hazard

39. Name the two principal goals of wilderness management.

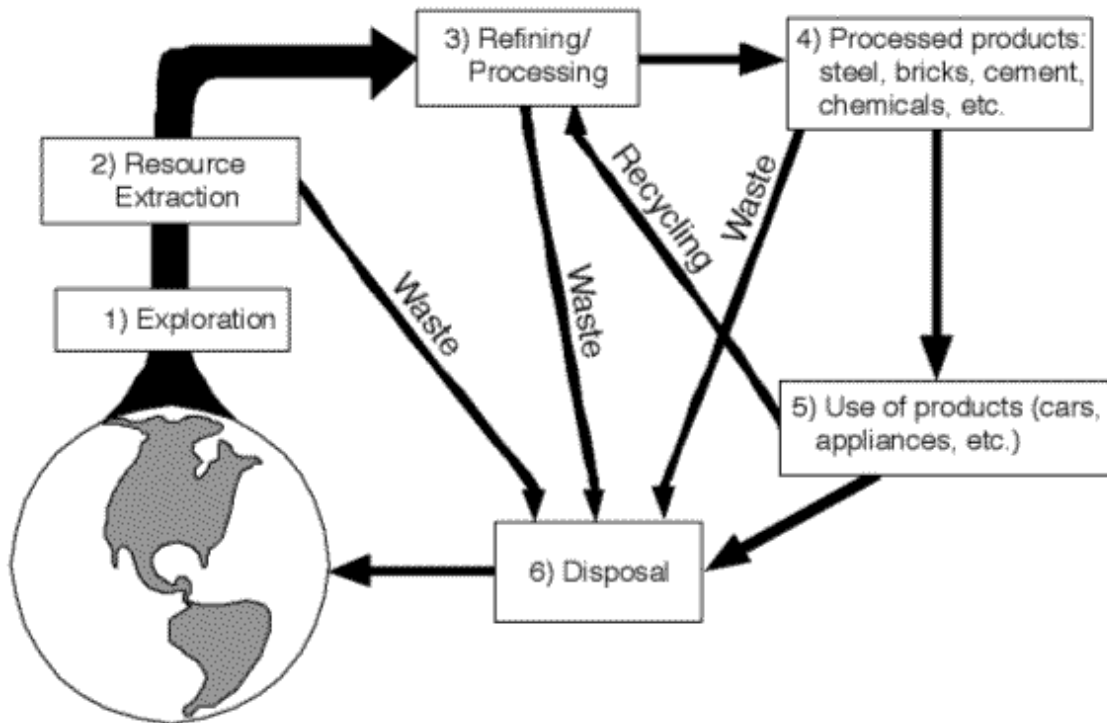
40. Forests benefit people and the environment indirectly through public service functions. Name at least three such public-service functions.

Unit 6: Homework Questions

41. Why is whole-tree harvesting detrimental to the forest over a long period of time?
42. A forest along a lake is clear-cut. Soon after, a bloom of algae occurs in the lake. What changes resulting from the clear-cut might account for this algae bloom?
43. Prescribed fire, also called controlled burning, is increasingly common. Why is this done to certain forest types?
44. How does a coastal climate differ from an inland climate, and in what specific ways?
45. What is the difference between the two following timbering methods: selective cutting and thinning?
46. List the principal advantages of strip-cutting in managed forests over other timbering methods.
47. The top 1 km of the Earth's crust contains an estimated 2×10^{12} metric tons of silver, equal to hundreds of millions times the average consumption of the metal. Explain why silver remains a valuable and relatively scarce material.
48. Name the four possible solutions when the availability of a particular mineral becomes a limitation.
49. Name two environmental problems that are caused by open-pit copper mines.
50. What are the four main mineral resources that humans utilize?

Unit 6: Homework Questions

51. Pick one mineral resource (for example, iron ore, oil, uranium ore, etc.). For each of the six stages illustrated below, name one type of environmental impact that occurs.



52.

	Identified	Undiscovered	
		In known districts	In unknown districts of forms
Economic	a	d	e
Marginally economic	b		
Not economic	c		

In the figure, which blocks (a, b, c, d, or e) refer to resources and which blocks (a, b, c, d, or e) refer to reserves?

Ans: Resources - a, b
Reserves - c, d, e

Difficulty: Medium

Link to: 26.3

Unit 6: Homework Questions

53. What are the five processes which result in rich mineral resources?
54. The modern trend is away from subsurface mining and toward more surface mining. Explain this fact.
55. The Environmental Science text lists three conditions that favored widespread and profitable mining in the past that are no longer favorable. List these three conditions.
56. Cite three ways that resource depletion can be slowed. List them in the order you think most feasible today.
57. The environmental impact of mineral exploitation depends on a number of factors related to the nature of the mineral deposit and the location of the mining site. List at least three such factors.
58. A typical home contains numerous products manufactured from mineral resources. For example, a stone house is built of stone. List at least five other mineral products found in a typical home.
59. Name four mineral resources.