

APES Test One

Multiple Choice

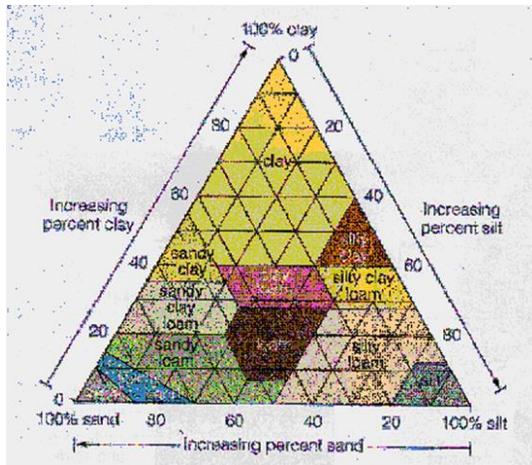
Identify the choice that best completes the statement or answers the question.

1. Which of the following is a social movement dedicated to the protection of the Earth's natural capital?
a. ecology b. environmental science **c. environmentalism** d. natural science e. sustainability
2. Which of the following terms encompasses all of the others?
a. natural capital b. natural resources c. natural services d. renewable resources e. nonrenewable resources
3. Which of the following is best categorized as an example of a natural service?
a. renewable energy b. nonrenewable energy **c. water purification** d. oil e. soil
4. The three principles of sustainability are:
a. solar energy, biodiversity and perpetual energy b. use of natural capital to support human economies c. use of renewable resources, but no use of nonrenewable resources **d. solar energy, biodiversity and chemical cycling**
e. biodiversity, use of perpetual resources and widespread reduction of use
5. What is an essential characteristic that indicates whether a resource should be categorized as a renewable resource?
a. It must be an energy resource. b. It must be a biological resource. c. It must be recyclable. **d. It must have the capacity to be replenished within days to several hundred years.** e. It must have the capacity to be utilized for immediate economic benefit.
6. Which of the following best describes what is meant by an ecological footprint?
a. It is the average size of the lot on which a family home is built. b. It is the number of acres necessary to grow enough food to support a family. c. It is the geographic area in which a person travels during the course of their average daily activities. **d. It is the amount of biologically-productive land and water needed to supply the people in a particular country or area with the resources they need.** e. It is the amount of tillable agricultural land necessary to supply the food requirements of a nation.
7. A worldview that holds that we can and should manage the Earth for our own benefit but that we also have an ethical responsibility to be caring stewards is called the
a. planetary management worldview **b. stewardship worldview** c. environmental wisdom worldview
d. socialist worldview e. monarchy worldview
8. The key reason we should care about recovery of the southern sea otter population is
a. the fact that they are a keystone species b. their charismatic personality, which makes them pleasant to observe c. because they are a food source for humans d. because they are a food source for tuna, which is a food source for humans e. the fact that they are a keystone species *and* because they are a food source for tuna
9. The obvious relationship demonstrated by a food chain is
a. competition **b. predation** c. parasitism d. mutualism e. commensalism
10. A relationship in which one species benefits while the other is neither helped nor harmed to any significant degree is best labeled
a. competition b. predation **c. commensalism** d. parasitism e. mutualism
11. Carrying capacity refers to
a. reproductive rate b. interaction of natality and mortality **c. the maximum size of population the environment will support** d. the proportion of males to females e. the intrinsic rate of increase
12. Factors that act to limit the growth of populations are collectively called
a. carrying capacity b. death c. emigration **d. environmental resistance** e. environmental capacity

13. An exponential growth curve depicting an ever-growing population is shaped like the letter ____.
a. **J** b. L c. M d. S e. U
14. Which of the following would exhibit primary succession?
a. **rock exposed by a retreating glacier** b. an abandoned farm c. a forest that has been clear-cut d. newly flooded land to create a reservoir e. a forest that has been burned
15. The cultural carrying capacity is the
a. number of humans the planet can support with consumptive **lifestyles** b. **maximum number of people the Earth can support at a reasonable level of comfort and freedom without impairing the planet's ability to sustain future generations in the same way** c. the maximum number of people that can be supported in a fashion that allows them to pursue culturally satisfying forms of social interaction d. the degree to which an urban area can support a variety of cultural entities such as museums and symphony orchestras e. same thing as the standard, typical carrying capacity in any population of plants or animals in nature
16. The crude birth rate is the number of live births per ____ persons in a given year.
a. 50 b. 100 c. 500 d. **1,000** e. 10,000
17. The average number of children born to women in a population during their reproductive years is the
a. crude birth rate b. total birth rate c. **total fertility rate** d. crude fertility rate e. population's natural rate of increase
18. The actual average replacement-level fertility for the whole world is slightly higher than
a. one child per couple b. **two children per couple** c. three children per couple d. four children per couple e. six children per couple
19. Two useful indicators of overall health in a country or region are
a. birth rate and death rate b. replacement-level fertility rate and total fertility rate c. **life expectancy and infant mortality rate** d. life expectancy and death rate e. life expectancy and population growth rate
20. As the number of working adults in the United States declines in proportion to the number of senior citizens so will
a. the process called *the graying of America* b. **the tax revenues necessary for supporting the growing senior population** c. the need for Medicare d. the crude birth rate e. the crude death rate
21. The term *demographic transition* refers to
a. a requirement for a population to reach a specific size before it becomes stable b. the slowing down in the growth of a population as it approaches the carrying capacity c. **the decline in death rates followed by decline in birth rates when a country becomes industrialized** d. the decline in death rates followed by a decline in birth rates that occurred when the germ theory of disease was discovered e. a stabilization of crude birth rates
22. The urban growth occurring in the developing countries is
a. generally well planned and orderly b. helping to eliminate urban poverty c. generally offset by migration to rural areas d. **caused by both immigration and natural increase** e. stabilizing and expected to decline in the next decade
23. A city can be described as a
a. cool pocket b. dust bowl c. **heat island** d. wind tunnel e. heat island and wind tunnel
24. Smart growth or new urbanism tools include greenbelts around cities, high density cluster housing, and
a. extensive freeway networks to provide efficient travel to and from work b. taxing buildings c. **taxing land instead of buildings** d. no construction of expensive mass transit systems e. use of only fuel efficient personal transportation
25. An ecocity is
a. car oriented b. industry oriented c. profit oriented d. **people oriented** e. family oriented
26. In a market-based economic system, economic decisions about prices are made by

- a. supply and demand** b. the government c. past customs and experience d. the banks e. none of these answers
27. The category of economist that has taken the middle ground in the debate about economic growth, and believes in fine-tuning economic systems and tools, is the
a. ecological economist **b. environmental economist** c. neoclassical economist d. neoconservative economist
e. high-throughput economist
28. The United States has ____ its goal of contributing .7% of its annual national income to the Millennium Development Goals.
a. fallen short of b. met c. exceeded d. always met or exceeded e. changed
29. Which one of the following list of federal agencies that manage U.S. public lands is responsible for land that is used primarily for grazing, mining, and oil and gas extraction in the western states?
a. U.S. Forest Service b. U.S. Fish and Wildlife Service c. National Wildlife Refuge System d. National Park System **e. Bureau of Land Management**
30. Which of these ideas is an important component of environmental literacy?
a. Natural capital is expendable b. Ecological footprints of the more- developed world are balanced by those of the less-developed world. **c. Ecological tipping points are irreversible and should not be crossed**
d. Ecological tipping points can be balanced by reforestation and restoration efforts e. gloom-and-doom pessimism in the critical evaluation of experts and leaders
31. Which of the following is a likely scenario for an organic farm?
a. use of synthetic pesticides b. use of synthetic fertilizers c. use of genetically engineered seeds d. use feed additives **e. use of feed that contains no antibiotics**
32. The majority of soil organic matter is concentrated in the
a. O horizon of leaf litter b. A horizon of topsoil **c. O and A horizons** d. C horizon e. B horizon
33. Most soil erosion is caused by
a. wind and moving water b. photosynthesis c. earthquakes d. volcanoes e. excess heat
34. Which of the following is central to most of the efforts to conserve topsoil?
a. an emphasis on agricultural practices that enhance monocultures b. annual crop **rotations** **c. keeping the soil covered by vegetation** d. preventing insect pests from destroying valuable crops e. conversion of croplands into pasturelands or feedlots
35. The epicenter of an earthquake is located
a. deep underground at the very source of the earthquake b. at the point on land where the majority of movement, and the majority of damage, occurs c. at the point on land where the earthquake is first detected by a seismograph
d. at the exact middle point of the earthquake's origin along the length of two faults **e. on the earth's surface directly above the focus of the earthquake**
36. Tectonic plates can slide and grind past each other at a(n)
a. ocean ridge b. convection cell **c. transform fault** d. subduction zone e. seam fault
37. The movement of tectonic plates is significant because it
a. explains the formation of waterfalls and river canyons **b. predicts where earthquakes are likely to occur**
c. explains the formation of ocean currents d. predicts where endangered species might be found e. explains the formation of weather
38. One of the reasons the 2004 tsunami in the Indian Ocean caused so much devastation and death is

- a. the lack of attention to dire predictions from emergency warning centers b. the fact that early detection systems indicated the tsunami was not very powerful **c. the lack of buoys or gauges in place to signal the danger to human settlements** d. more than one of these answers is correct e. this is the first tsunami in recent history, so they have not been considered a danger until this event
39. Convection cells or currents
a. move large volumes of rock and heat within the earth's mantle like giant conveyer belts b. occur during tsunamis and create an effect of amplifying the waves that repetitively strike a shoreline c. operate in the ocean and in the atmosphere, but not in any part of the lithosphere d. are part of the process of earth movement during earthquakes e. are a feature of the mantle that geologists are just beginning to recognize, but as yet do not understand
40. The majority of earthquakes and volcanoes occur
 a. in the interior of continents b. on oceanic islands **c. along the edge of continents** d. in the open ocean e. in the US
41. Tectonic plates move apart in opposite directions at a(n)
a. divergent plate boundary b. transform fault c. convergent plate boundary d. subduction zone e. mantle fault
42. Tectonic plates move in opposite but parallel directions along a fault at a(n)
 a. divergent plate boundary. **b. transform fault.** c. convergent plate boundary. d. subduction zone. e. mantle fault.
43. An earthquake is most directly caused by
a. the creation of a fracture in rock b. a change in ocean currents c. dumping of toxic waste d. comets crashing into earth e. mining
44. Soil is developed most directly through
 a. moving tectonic plates b. earthquakes **c. weathering** d. mass wasting e. volcanoes
45. A cross-sectional view of the _____ in a soil is properly termed a soil _____.
a. profile... horizon b. horizons... sample c. profile... sample d. surface litter... profile e. horizons... profile
46. The surface litter horizon is described by the letter
 a. a b. b c. c d. d **e. o**
47. The A-horizon of soil is commonly referred to as
a. topsoil b. surface litter c. subsoil d. parent rock e. hummus
48. The dissolving of material from the upper layer of the soil and its movement to lower horizons horizons is called
 a. percolation b. weathering c. accumulation **d. leaching** e. humus
49. Hummus is
 a. indicative of poor soils b. light colored or nearly white c. poisonous to soil **microorganisms** **d. partially decomposed organic matter** e. freshly fallen leaves
50. Topsoil that is _____ in color is the most highly fertile
 a. gray b. red c. yellow d. green **e. black**
51. Which of the following types of soils has the *least* pore space?
 a. silt b. loam **c. sand** d. clay e. all equal
52. Clay has ____ permeability and ____ porosity.
 a. high... high b. high... low **c. low... high** d. low... low e. medium... medium



53. The official definition of a loam is soil with 40% sand, 40% silt, and 20% clay would be classified as a _____, according to the soil triangle above
 a. sandy loam b. clay loam c. silty loam **d. medium loam** e. sandy clay
54. According to the soil triangle above, a mixture of 10% sand, 60% silt, and 30% clay would be classified as a:
a. silty clay loam b. clay loam c. sandy loam d. clay e. sandy clay loam
55. According to the soil triangle, the minimum amount of clay does a soil have to have to be considered a clay is
 a. 80% b. 70% c. 60% d. 50% **e. 40%**
56. Which of the following is a form of natural capital gained directly or indirectly as a result of solar energy?
 a. forests b. flowing water and wind energy c. wind energy only d. coal and oil **e. forests, flowing water, wind energy, coal and oil.**
57. You have decided to install solar collectors on the roof of your home that will cut your use of propane gas to heat both your hot water tank and the living spaces in your home. In doing so, you are using a _____ resource rather than a _____ resource.
 a. renewable; nonrenewable b. perpetual; renewable c. renewable; perpetual d. nonrenewable; renewable **e. perpetual; nonrenewable**
58. Nutrient recycling is a vital natural service carried out by which natural resource?
 a. natural gas b. clean air **c. topsoil** d. grazing animals such as deer e. two of these answers
59. Chattanooga's environmental success story is an example of how
a. Ethics, economics, and politics can be used to solve environmental problems. b. Top-down changes can solve environmental problems. c. Environmental policies do not need the endorsement of common citizens. d. Federal funding solves environmental problems. e. None of these answers.
60. The ecological economist believes that conventional economic growth will eventually
 a. Pull us out of our dependence on Middle Eastern oil. b. Lead us into a socialist economy. **c. Become unsustainable because it will deplete natural capital.** d. Lead us into a sustainable economy. e. Collapse when oil runs out.

