

Example Items

Environmental Systems

Environmental Systems Example Items are a **representative set** of items for the ACP. Teachers may use this set of items along with the test blueprint as guides to prepare students for the ACP. On the last page, the correct answer, content SE and SE justification are listed for each item.

*The specific part of an SE that an Example Item measures is **NOT** necessarily the only part of the SE that is assessed on the ACP.* None of these Example Items will appear on the ACP.

Teachers may provide feedback regarding Example Items.

(1) Download the [Example Feedback Form](#) and email it. The form is located on the homepage of the Assessment website (assessment.dallasisd.org).

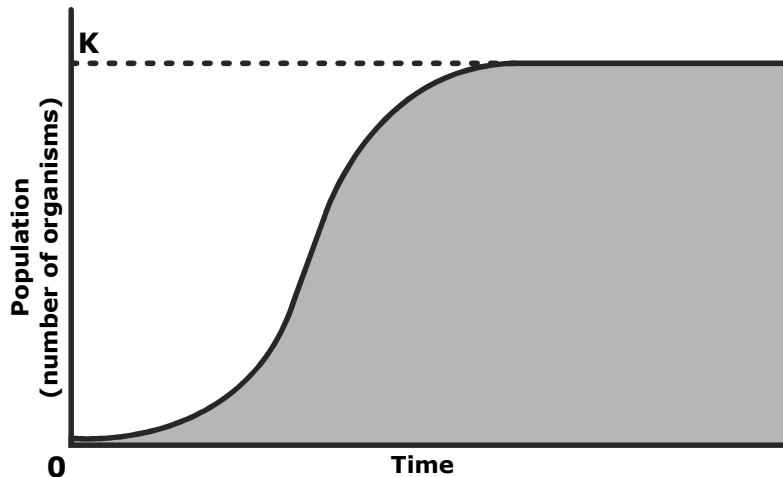
OR

(2) To submit directly: Login to the [Assessment website](#). Under “News” in the left-hand column, click on “Sem 2 Example Items Download.” Above the subjects, click on “Example Feedback Form.”

Second Semester
2017–2018
Code #: 3121

EXAMPLE ITEMS Enviromental Systems, Sem 2

1 Students were given a graph of population over time.



The letter K on the graph represents the —

- A production rate
- B carrying capacity
- C limiting factor
- D demographic transition

2 Due to loss of habitat, the population of the Giant Panda is decreasing. The occurrence having the greatest negative impact on the panda's habitat is the increasing —

- A rainfall
- B air pollution
- C number of carnivores
- D destruction of vegetation

3 Exponential growth causes a population to double in a fixed amount of time. The doubling time depends on the annual growth rate according to the formula $T = 0.7/r$. If the annual growth rate (r) of Kenya's population is 10%, how long will it take for Kenya's population to double?

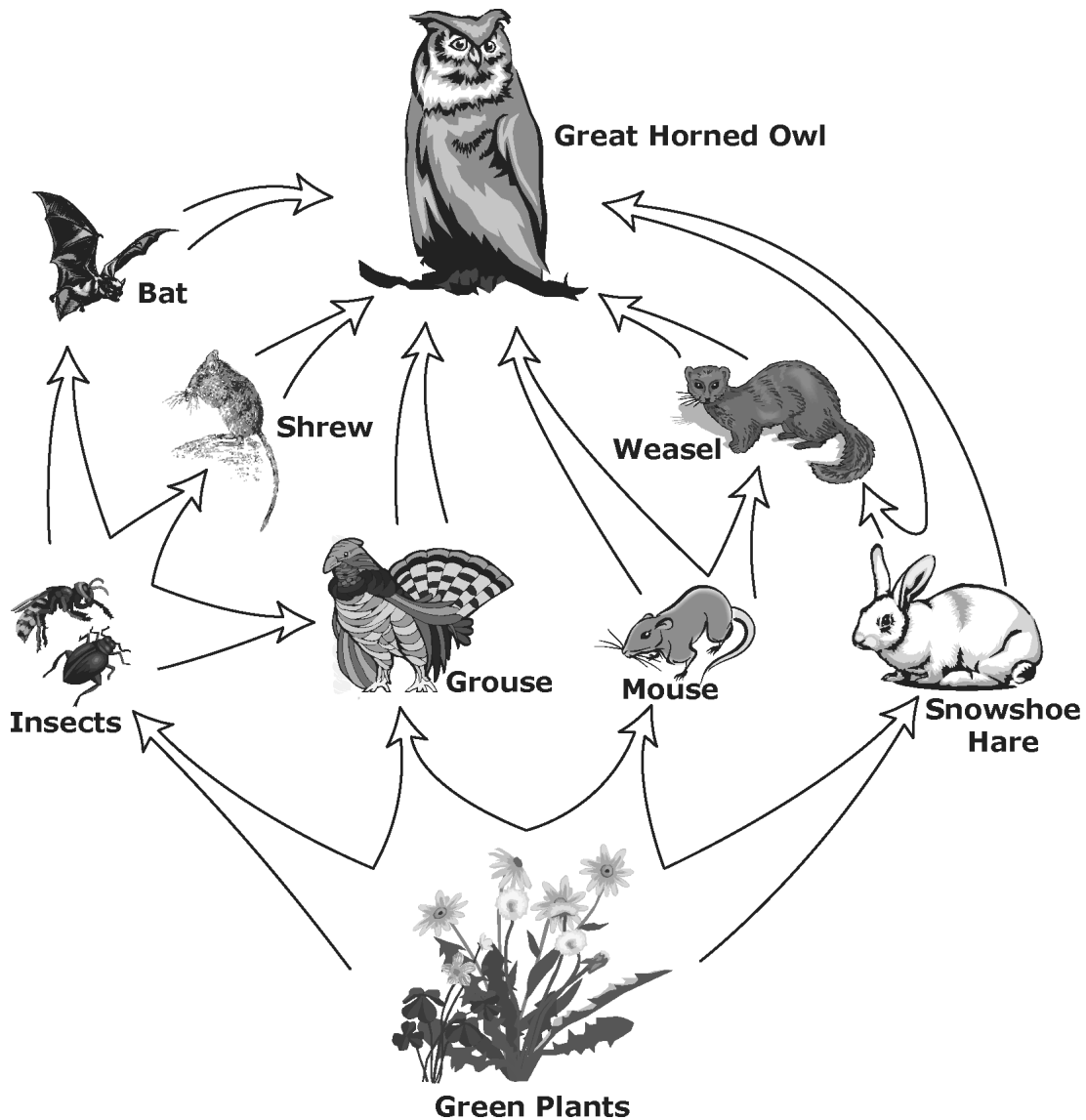
- A 0.07 years
- B 0.7 years
- C 7 years
- D 70 years

EXAMPLE ITEMS Environmental Systems, Sem 2

- 4** When a predator species invades an ecosystem, survival usually becomes —
- A** more difficult for native predators, because they must compete for food
 - B** easier for native predators, because they will crossbreed
 - C** more difficult for prey, because they must compete with the invading species for food
 - D** easier for prey, because the invading species will compete with native predators
- 5** Which consequence is a direct result of rapid human population growth?
- A** Increase in natural resource renewal
 - B** Decrease in sewage
 - C** Increase in standard of living
 - D** Decrease in available lumber
- 6** The increased rate of eutrophication of a body of water due to agricultural and residential runoff is an example of —
- A** acid precipitation
 - B** nonpoint source pollution
 - C** rising carbon levels
 - D** strategic irrigation
- 7** The United States government declined to participate in the —
- A** Montreal Protocol
 - B** Antarctic Treaty System
 - C** Kyoto Protocol
 - D** North American Free Trade Agreement
- 8** Which environmental issue is directly addressed by the Clean Air Act?
- A** Ozone depletion
 - B** Acid rain
 - C** Vehicle emissions
 - D** Industrial pollution

EXAMPLE ITEMS Environmental Systems, Sem 2

9 Farmers often spray their crops with pesticides to get rid of particular pests or insects.



If the pesticide gets rid of all the insects, what effect will it have on the food web shown above?

- A A decrease in the mouse population
- B An increase in the shrew population
- C A decrease in the bat population
- D An increase in the weasel population

EXAMPLE ITEMS Environmental Systems, Sem 2

- 10** The forest fires of California completely destroyed vegetation in areas where they occurred. As California recovers, the first organisms to repopulate the areas are —
- A** grasses
 - B** herbivores
 - C** slow-growing trees
 - D** small mammals
- 11** What happens during a temperature inversion?
- A** Warm air is trapped below a layer of cold air.
 - B** Cold air is trapped below a layer of warm air.
 - C** Smoke is trapped below a layer of clouds.
 - D** Clouds are trapped below a layer of smoke.
- 12** Saltwater seeping into well water can cause changes in the concentration of dissolved —
- A** oxygen
 - B** carbon dioxide
 - C** chloride
 - D** phosphate
- 13** If nonrenewable resources are used rapidly, the most likely outcome will be a —
- A** decrease in the net worth of the resources
 - B** decrease in the demand of the resources
 - C** increase in the usage of resources
 - D** increase in the cost of resources
- 14** Which compound is known to react in the sun's UV radiation, resulting in a breakdown of ozone?
- A** Chlorofluorocarbon
 - B** Methylmercury
 - C** Carbon monoxide
 - D** Sulfur Dioxide

EXAMPLE ITEMS Environmental Systems, Sem 2

15 Purchasing organic foods, xeriscaping, using energy efficient appliances, and driving a hybrid car are ways that a person can “go green”. There are both advantages and disadvantages to going green. All are disadvantages of going green except —

- A** a decreased carbon footprint on the environment
- B** the higher cost of “green” products compared to non-green products
- C** that going green requires specific facilities or procedures to dispose of some products
- D** none of the above

16 In 2014, changes were made in the city of Flint, Michigan to lower the cost of providing drinking water. The changes caused lead concentrations to rise above the safe drinking level. What is the appropriate unit for engineers to use to report the concentration of lead in the water?

- A** $\mu\text{g}/\text{m}^3$
- B** ppb
- C** ppm
- D** %

EXAMPLE ITEMS Environmental Systems Key, Sem 2

Item#	Key	SE	Process Skills	SE Justification
1	B	E.7A	2I	Relate carrying capacity to population dynamics.
2	D	E.7D	--	Analyze and make predictions about the impact on populations of geographic locales due to birth and death rates, urbanization, and natural events such as seasonal changes.
3	C	E.7B	--	Calculate exponential growth of populations.
4	A	E.4F	--	Predict how the introduction of an invasive species may alter the food chain and affect existing populations in an ecosystem.
5	D	E.8A	--	Analyze and describe the effects on areas impacted by natural events such as population growth.
6	B	E.9A	--	Identify the causes of water pollution, including point and nonpoint sources.
7	C	E.9L	--	Analyze past and present international treaties and protocols such as the Kyoto Protocol.
8	C	E.9K	--	Analyze past and present local, state, and national legislation, including the Clean Air Act.
9	C	E.4G	2I	Predict how species extinction may alter the food chain and affect existing populations in an ecosystem.
10	A	E.8C	--	Examine how natural processes such as succession restore habitats and ecosystems.
11	B	E.8D	--	Describe how temperature inversions impact weather conditions.
12	C	E.4E	--	Measure the concentration of solute, solvent, and solubility of dissolved substances such as chlorides, and describe their impact on an ecosystem.
13	D	E.7C	--	Analyze and predict the effects of non-renewable resource depletion.
14	A	E.9B	--	Investigate the types of air pollution such as chlorofluorocarbons.
15	A	E.9J	--	Research the advantages of going green.
16	B	E.9C	--	Examine the concentration of pollutants using appropriate units.