

Test Code	Year	Form
3121	16	6
Last Revision Date: 04/07/2016		

**ACP Blueprint  
Environmental Systems  
Semester 2, 2016–2017**

SE Descriptions	TEKS/SE	No. of Items	% of Test
1. Measure the concentration of solute, solvent, and solubility of dissolved substances such as dissolved oxygen, chlorides, and nitrates and describe their impact on an ecosystem.	ES.4E	2	6%
2. Predict how the introduction or removal of an invasive species may alter the food chain and affect existing populations in an ecosystem.	ES.4F	2	6%
3. Predict how species extinction may alter the food chain and affect existing populations in an ecosystem.	ES.4G	2	6%
4. Relate carrying capacity to population dynamics.	ES.7A	2	6%
5. Calculate birth rates and exponential growth of populations.	ES.7B	2	6%
6. Analyze and predict the effects of non-renewable resource depletion.	ES.7C	2	6%
7. Analyze and make predictions about the impact on populations of geographic locales due to diseases, birth and death rates, urbanization, and natural events such as migration and seasonal changes.	ES.7D	2	6%
8. Analyze and describe the effects on areas impacted by natural events such as tectonic movement, volcanic events, fires, tornadoes, hurricanes, flooding, tsunamis, and population growth.	ES.8A	2	6%
9. Examine how natural processes such as succession and feedback loops restore habitats and ecosystems.	ES.8C	2	6%
10. Describe how temperature inversions impact weather conditions, including El Nino and La Nina oscillations.	ES.8D	2	6%
11. Identify the causes of air, soil, and water pollution, including point and nonpoint sources.	ES.9A	2	6%
12. Investigate the types of air, soil, and water pollution such as chlorofluorocarbons, carbon dioxide, pH, pesticide runoff, thermal variations, metallic ions, heavy metals, and nuclear waste.	ES.9B	2	6%
13. Examine the concentrations of air, soil, and water pollutants using appropriate units.	ES.9C	2	6%
14. Research the advantages and disadvantages of "going green" such as organic gardening and farming, natural methods of pest control, hydroponics, xeriscaping, energy-efficient homes and appliances, and hybrid cars.	ES.9J	2	6%
15. Analyze past and present local, state, and national legislation, including Texas automobile emissions regulations, the National Park Service Act, the Clean Air Act, the Clean Water Act, the Soil and Water Resources Conservation Act, and the Endangered Species Act.	ES.9K	3	9%
16. Analyze past and present international treaties and protocols such as the environmental Antarctic Treaty System, Montreal Protocol, and Kyoto Protocol.	ES.9L	2	6%
<b>Total</b>		<b>33</b>	

**Note:** Percentages are rounded to the nearest whole number. There will **NOT** be a formula chart or periodic table printed with the test. Calculators are permitted on this assessment. This test is consumable.

### Scientific Process Skills Eligible for Assessment

Descriptions	SE
1. Demonstrate safe practices during laboratory and field investigations, including appropriate first aid responses to accidents that could occur in the field s such as insect stings, animal bites, overheating, sprains, and breaks.	ES.1A
2. Demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.	ES.1B
3. Know the definition of science and understand that it has limitations, as specified in subsection (b)(2) of this section.	ES.2A
4. Know that scientific hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power which have been tested over a wide variety of conditions are incorporated into theories.	ES.2B
5. Know that scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well-established and highly-reliable explanations, but may be subject to change as new areas of science and new technologies are developed.	ES.2C
6. Distinguish between scientific hypotheses and scientific theories.	ES.2D
7. Follow or plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology.	ES.2E
8. Collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range.	ES.2F
9. Demonstrate the use of course apparatuses, equipment, techniques, and procedures, including meter sticks, rulers, pipettes, graduated cylinders, triple beam balances, timing devices, pH meters or probes, thermometers, calculators, computers, Internet access, turbidity testing devices, hand magnifiers, work and disposable gloves, compasses, first aid kits, binoculars, field guides, water quality test kits or probes, soil test kits or probes, 100-foot appraiser's tapes, tarps, shovels, trowels, screens, buckets, and rock and mineral samples.	ES.2G
10. Use a wide variety of additional course apparatuses, equipment, techniques, materials, and procedures as appropriate such as air quality testing devices, cameras, flow meters, Global Positioning System (GPS) units, Geographic Information System (GIS) software, computer models, densitometers, clinometers, and field journals.	ES.2H
11. Organize, analyze, evaluate, build models, make inferences, and predict trends from data.	ES.2I
12. Perform calculations using dimensional analysis, significant digits, and scientific notation.	ES.2J
13. Communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.	ES.2K
14. In all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student.	ES.3A
15. Communicate and apply scientific information extracted from various sources such as current events, news reports, published journal articles, and marketing materials.	ES.3B
16. Draw inferences based on data related to promotional materials for products and services.	ES.3C
17. Evaluate the impact of research on scientific thought, society, and the environment.	ES.3D
18. Describe the connection between environmental science and future careers.	ES.3E
19. Research and describe the history of environmental science and contributions of scientists.	ES.3F