

The Incomplete Constellation: Organisms and Environment

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The Incomplete Constellation – What happens to STAAR when there are gaps in student learning?

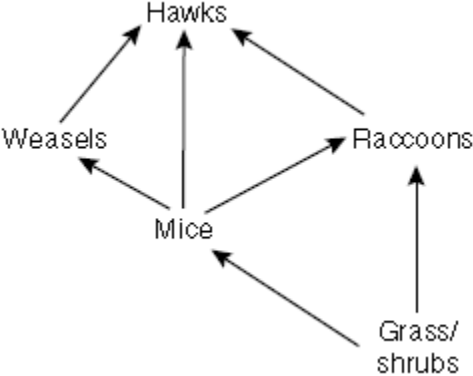
Environmental Change Vertical Alignment

Standard (TEKS)	Classroom Reality	Assessment
<p>3.9A Observe and describe the physical characteristics of environments and how they support populations and communities within an ecosystem. Supporting Standard</p>	<p>Feeling immense pressure to prepare students for the third grade reading and math tests the teacher rarely teaches science during science time. Adding to the sense that science is not a priority in the third grade, the district has canceled curriculum based assessments for subjects that are not also state tested in a particular grade level.</p>	<p>None</p>
<p>5.9A Observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements. Readiness Standard</p>	<p>Frustrated with students' lack of knowledge of the physical characteristics of environments the teacher spends two weeks having students research a particular biome and its physical environment. Interactions of organisms with living elements are largely ignored.</p>	<p>On the prairie the ■■■■■■■■■■ would compete most for —</p> <p>A oxygen B space C grass D soil</p> <p>2003 5th Grade TAKS Question 11</p>

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Standard (TEKS)	Classroom Reality	Assessment
<p>8.11A Describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems. Readiness Standard</p>	<p>The only eighth grade teacher on campus, this second year teacher falls behind in pacing during the first semester. Students have struggled so much with TEKS involving calculations the teacher feels he must dedicate additional time to those TEKS. The teacher “covers” 8.11A by leaving a video for the students to watch while he is out for a mental health day.</p>	<p>Before a quarry was dug, an area contained more ■■■■■■■■■■. Now, there are fewer ■■■■■■■■■■s. What impact has this change most likely had on the local ecosystem?</p> <p>A Larger predator populations B A lower number of producers C A greater number of herbivores D A smaller amount of available carbon dioxide</p> <p>Adapted from 2006 8th Grade TAKS Question 15</p>  <p>In the food web above the hawks are best described as</p> <p>A ■■■■■■■■■■ B Producers C ■■■■■■■■■■ D Decomposers</p> <p>Picture from 2003 10th Grade TAKS Question 30 ESC Region XIII Sample Question for 8th Grade STAAR</p>

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Standard (TEKS)	Classroom Reality	Assessment
<p>B.12A Interpret relationships, including predation, parasitism, commensalism, mutualism, and competition among organisms, Readiness Standard</p>	<p>After pretesting students the teacher discovers students do not have even a basic understanding of how living organisms interact. Frustrated when she realizes students are not prepared for the highly engaging activity she has planned the teacher instead has students define each of the relationship types from the glossary and gives them examples of each to record in their notes. Students find the activity meaningless and retain little of the information.</p>	<p>Which of these is the best example of a ■■■■■■■■■■ relationship in an aquatic environment?</p> <p>F Some fish can survive repeated infections by harmful bacteria. G Some fish have bacteria living in their digestive tract that help the fish digest food. H Some bacteria are present in aquatic food chains in which fish are secondary consumers. J Some bacteria are aquatic decomposers that recycle nutrients useful to fish.</p> <p>Adapted from 2006 Exit Level TAKS Question 34</p>

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Original Questions:

Grade 5

On the prairie the herbivores would compete most for —

- A oxygen
- B space
- C grass
- D soil

2003 5th Grade TAKS Question 11

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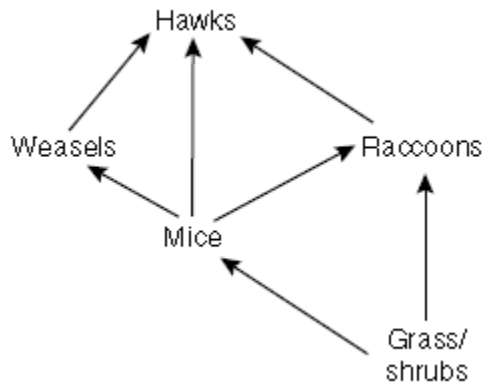
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Grade 8

Before a quarry was dug, an area contained more vegetation. Now there are fewer producers. What impact has this change most likely had on the local ecosystem?

- A Larger predator populations
- B A lower number of producers
- C A greater number of herbivores
- D A smaller amount of available carbon dioxide

Adapted from 2006 8th Grade TAKS Question 15



In the food web above the hawks are best described as

- A Prey
- B Producers
- C Predators
- D Decomposers

Picture from 2003 10th Grade TAKS Question 30

ESC Region XIII Sample Question for 8th Grade STAAR

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Biology

Which of these is the best example of a mutualistic relationship in an aquatic environment?

- F** Some fish can survive repeated infections by harmful bacteria.
- G** Some fish have bacteria living in their digestive tract that help the fish digest food.
- H** Some bacteria are present in aquatic food chains in which fish are secondary consumers.
- J** Some bacteria are aquatic decomposers that recycle nutrients useful to fish.

Adapted from 2006 Exit Level TAKS Question 34