| **Chapit 5: Bèt ak plant nan anviwònman yo** | **Unit 5：Animals and Plants in Their Environment** |
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| **Ide Kle:** | **Key Ideas:** |
| **5.1**：Klase popilasyon òganis yo kòm pwodiktè, konsomatè, oswa dekonpozè selon wòl yo ranpli nan ekosistèm la (chèn alimantè ak rezo alimantè) | **5.1:** Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web) |
| **5.2:** Eksplore kouman plant pwodui eleman nitritif avèk lè, dlo, ak enèji ki nan solèy. | **5.2:** Explore how plants manufacture food by utilizing air, water, and energy from the sun. |
| **5.3:** Rive konprann kouman nouriti pwodui enèji ak materyo ki nesesè pou kwasans ak reparasyon. | **5.3:** Understand that food supplies energy and materials necessary for growth and repair. |
| **5.4:** Idantifye popilasyon andedan yon kominote ki an konpetisyon youn ak lòt pou resous. | **5.4:** Identify populations within a community that are in competition with one another for resources. |
| **5.5:** Rive konprann kouman varyasyon pami endividi ki nan yon espès kapab lakòz gen endividi ki benefisye nan kesyon sivi ak repwodiksyon. | **5.5:** Recognize that individual variations within a species may cause certain individuals to have an advantage in surviving and reproducing. |
| **5.6:** Dekri kouman kondisyon anviwònman, tankou fasilite pou jwenn nouriti, dlo, lè, espas, abri, chalè ak limyè solèy afekte sante, kwasans, ak devlopman yon òganis. | **5.6:** Describe how the health, growth, and development of organisms are affected by environmental conditions such as availability of food, water, air, space, shelter, heat, and sunlight. |
| **5.7:** Rive konprann kouman sans bèt yo ede yo siviv. | **5.7:** Understand that their senses help animals survive. |
| **5.8:** Obsève kouman lè anviwònman an chanje gen plant ak bèt ki rive siviv, repwodui, aloske gen lòt ki mouri oswa deplase ale nan lòt anviwònman. | **5.8:** Observe that when the environment changes, some plants and animals survive and reproduce, while others die or move to new locations. |
| **5.9:** Dekri fason kretyen vivan:<br>* Depann de anviwonman natirèl yo osnon anviwonman yo konstui.<br>* Chanje anviwònman yo firanmezi tan ap | **5.9:** Describe the way that humans:<br>* Depend on their natural and constructed environment.<br>* Have changed their environment over time. |

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| pase.<br><br>**5.10:** Idantifye egzanp ki montre kouman aktivite kretyen vivan kapab efè pozitif osnon efè negatif sou lòt òganis yo (pa egzanp, debwazman). | **5.10:** Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation). |
| **Rezime chapit la** | **Unit Overview** |
| Bèt dwe viv nan anviwònman ki ba yo sa yo bezwen pou yo viv. Óganis vivan depann youn de lòt pou yo viv. Yon chèn alimantè se mouvman enèji alimantè nan yon seri òganis vivan. Chak chèn alimantè kòmanse ak pwodiktè yo. Nenpòt òganis vivan ki kapab pwodui pwòp nouriti yo se yon pwodiktè. Gen konsomatè ki manje pwodiktè yo. Konsomatè yo manje yo se jibye. Yon konsomatè ki manje yon jibye se yon predatè.<br>Chenn alimantè yo ka monte youn sou lòt. Plizyè chenn alimantè ki monte youn sou lòt fòme yon rezo alimantè.<br><br>Plant ak bèt se pati ki vivan nan yon ekosistèm. Yo gen efè sou ekosistèm yo. Limyè solèy, lè, dlo, ak tè se pati ki pa vivan nan yon ekosistèm. Yo gen efè sou ekosistèm yo tou.<br><br>Kretyen vivan sèvi ak resous ki nan ekosistèm yo; yo sèvi avèk yo diferan fason. Kretyen vivan fè anpil chanjman negatif kou pozitif nan ekosistèm yo. Pami chanjman negatif yo, gen polisyon ak debwazman. Lè yo plante pyebwa osnon kreye marekaj, kretyen vivan fè chanjman pozitif nan ekosistèm yo. | Animals must live in places that meet their needs. Living things depend on one another to live. A food chain is the movement of food energy in a sequence of living things. Every food chain starts with producers. Any living thing that can make its own food is called a producer. Some consumers eat these producers. Consumers that are eaten are called prey. A consumer that eats prey is a predator.<br><br>Food chains can overlap. Several food chains that overlap form a food web.<br><br>Plants and animals are the living parts of an ecosystem. They affect ecosystems. Sunlight, air, water, and soil are the nonliving parts of an ecosystem. They affect the ecosystems as well.<br><br>Humans use the resources in ecosystems, they use them in many ways. Humans also make many negative and positive changes in ecosystems. Negative changes are like pollution and deforestation. Sometimes humans make positive changes when they plant new trees and create new wetlands. |

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| **Chapit 5:** Bèt ak plant nan anviwònman yo. | **Unit 5:** Animals and Plants in Their Environment. |
| **Kesyon esansyèl:** Ki wòl plant ak bèt jwe nan anviwònman yo? | **Essential Question:** What roles do plants and animals play in their environments? |
| **Ide Kle 5.1:** Klase popilasyon òganis yo kòm pwodiktè, konsomatè, oswa dekonpozè daprè wòl yo jwe nan ekosistèm la (chèn alimantè ak rezo alimantè). | **Key Idea 5.1:** Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web). |
| **Tèm syantifik:** 1. ekosistèm 2.popilasyon 3. pwodiktè 4. konsomatè 5. dekonpozè | **Scientific Terms:** 1. ecosystem 2. population 3. producer 4. consumer 5. decomposer |
| **Enfòmasyon:**<br>Nou tout ap viv nan yon anviwònman. Yon anviwònman se tout òganis vivan ak òganis ki pa vivan ki antoure nou. Tout òganis vivan ak tout òganis ki pa vivan nan yon zòn fòme yon ekosistèm.<br>Yon ekosistèm ka tou piti; gendwa se espas anba yon wòch. Ti ekosistèm nou jwenn anba wòch la, li gen pati ki pa vivan ladan l tou, tankou pòch lè ak tè ki anba wòch la. Ou gendwa jwenn kèk gout dlo tou. Tout ekosistèm fèt pou yo gen dlo ladan yo, piti kou l ye. Yon ekosistèm gendwa laj anpil, rive nan dimansyon yon forè. Yon forè gen ni òganis vivan ni òganis ki pa vivan ladan l. Li gendwa gen plizyè santèn plant ak bèt. Li gen dlo, lè, tè ak klima.<br><br>Yon plant oswa yon bèt se yon endividi. Ou menm, ou se yon endividi. Yon gwoup ki gen menm kalite endividi yo k ap viv nan menm ekosistèm la se yon popilasyon. Souvan yo bay ekosistèm yo pote non popilasyon ki pi enpòtan ki abite nan ekosistèm lan.<br><br>Pifò nan enèji òganis vivan itilize soti nan solèy la. Plant sèvi ak lè, dlo ak enèji solèy la pou yo fè pwòp nouriti yo. Rasin yo pran mineral ak dlo nan tè a pou pèmèt plant yo pwodui nouriti. Menm si lòt òganis vivan kapab pwodui nouriti ak enèji solèy la, yo itilize nouriti plant yo pwodui. Plant vèt yo rele pwodiktè. Yo rele yo pwodiktè paske | **Content:**<br>We all live in an environment. An environment is all the living and nonliving things that surround you. All the living and nonliving things in an area form an ecosystem.<br>An ecosystem can be very small. It might be the space under a rock. The small ecosystem found under a rock has nonliving parts, too. They include pockets of air and the soil under the rock. You might find a few drops of water as well. All ecosystems must have at least a little water. An ecosystem can also be as large as a forest. A forest has living and nonliving things. It includes hundreds of kinds of plants and animals. It also includes water, air, soil, and climate.<br><br>One plant or animal is an individual. You are an individual. A group made up of the same kind of individuals living in the same ecosystem is a population. Ecosystems are often named for the main population that lives there.<br><br>Most of the energy living things use comes from the sun. Plants make their own food using air, water, and light energy from the sun. Roots bring in minerals and water from the soil to help the plant make food. Although other living things cannot make food from the sun's energy, they use the food made by plants. Green plants are called producers. Plants are called |

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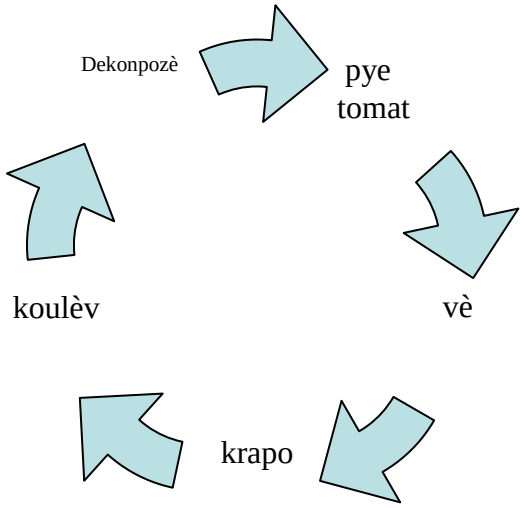
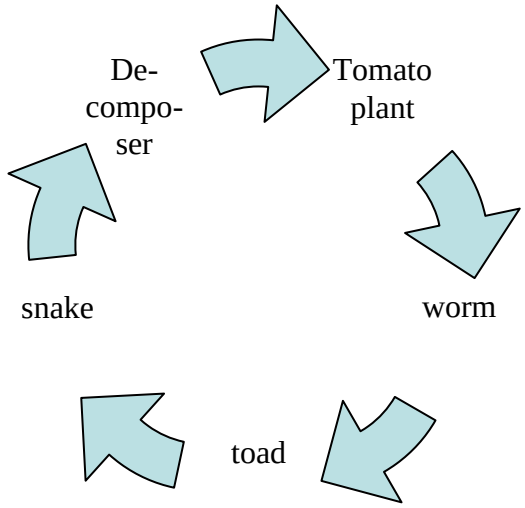
| yo pwodui nouriti esansyèl pou yo menm ak tout bèt yo tou.<br><br>Yon bèt ki manje plant oswa lòt bèt se yon konsomatè. Konsomatè pa ka pwodui pwòp nouriti yo, se sa k fè yo oblije manje lòt òganis vivan.<br><br>**Ekosistèm:** Se yon kote òganis vivan ak òganis ki pa vivan fè entèracksyon youn ak lòt.<br><br>**Óganis:** Se yon bagay vivan tankou plant ak bèt.<br><br>Yon dekonpozè se yon bagay vivan ki manje dechè, restam plant ak kadav bèt. Dekonpozè yo depatya kadav lòt òganis. Gen kèk dekonpozè se bakteri tou piti yo ye, ou kapab wè yo sèlman avèk yon mikwoskòp. Gen lòt dekonpozè ki gwosè pye djondjon oswa vè tè. Dekonpozè jwe yon seri wòl enpòtan. Si se pa t yo menm, kadav òganis ki mouri ta p anpile la. Enèji ak nitriyan ki an rezèv nan òganis sa yo ta gaspiye. Lè dekonpozè depatya kadav òganis ki mouri yo, yo retounen enèji ak nitriyan sa yo nan tè a pou plant itilize.<br><br>Tout òganis vivan depann youn de lòt pou yo viv. Yon chèn alimantè se sekans mouvman enèji alimantè ki nan òganis vivan yo. Yon chèn alimantè kòmanse avèk yon pwodiktè, pa egzanp, pye tomat ki pwodui nouriti apati enèji solèy la bay. Apre sa yon ti vè ka manje fèy tomat pou l pran enèji ki an rezèv nan fèy yo. Apre sa ankò, yon krapo gendwa manje vè a, konsa li pran enèji ki nan kò vè a. Epi krapo sa a gendwa al sèvi repa pou yon koulèv ki grangou.<br>Dekonpozè yo se dènye etap nan yon rezo alimantè. | producers because they produce the basic food supply for themselves and for all animals.<br><br>An animal that eats plants or other animals is called a consumer. Consumers cannot make their own food, so they must eat other living things.<br><br>**Ecosystem:** a place where both living and nonliving things interact with each other.<br><br>**Organism:** a living thing, such as a plant or animal.<br><br>A decomposer is a living thing that feeds on wastes and on the remains of dead plants and animals. Decomposers break down the dead bodies of other organisms. Some decomposers are tiny bacteria that you can see only with a microscope. Other decomposers are as big as mushrooms and earthworms. Decomposers play important roles. Without them, dead organisms would pile up. Their stored energy and nutrients would be wasted. When decomposers break down the bodies of dead organisms, they return energy and nutrients to the soil for plants to use.<br><br>Living things depend on one another to live. A food chain is the movement of food energy in a sequence of living things. A food chain begins with a producer, such as a tomato plant that makes food from the sun's energy. Next, a tomato worm might eat the tomato leaf and get energy from the food stored in the leaf. A toad might eat the food stored in the tomato worm's body. Then the toad might become a meal for a hungry snake.<br><br>Decomposers are the last step in a food chain.<br>**Food Chain:** |

**Chèn alimantè:**




Yon chèn alimantè montre kouman yon bèt jwenn enèji apati de yon sous alimantè. Men chèn alimantè yo ka rantre youn sou lòt. Yon kalite pwodiktè gendwa se nouriti pou diferan kalite konsomatè. Gen konsomatè ki manje diferan kalite nouriti. Plizyè chèn alimantè ki youn nan lòt fòme yon rezo alimantè. Nan yon rezo alimantè, premye nivo konsomatè yo anba, dezyèm nivo konsomatè yo sou tèt premye an, epi konsomatè ki nan denye nivo a, se yo ki anlè rezo a.




A food chain shows how an animal gets energy from one food source. But food chains can overlap. One kind of producer may be food for different kinds of consumers. Some consumers may eat different kinds of food. Several food chains that overlap form a food web. In a food web, the first-level consumers are at the bottom, the second-level consumers go on top of them, and the top-level consumers are at the top.

**Revizyon:**

1. Pou ki sa yo rele plant yo pwodiktè?
2. Ki sa yon pwodiktè ye? Ki sa yon konsomatè ye? Bay de egzanp pou chak.
3. Kouman dekonpozè resikle enèji?
4. Ki sa yon chèn alimantè ye?

**Review:**

1. Why are plants called producers?
2. What is a producer? What is a consumer? Give two examples of each.
3. How do decomposers recycle energy?
4. What is a food chain?

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| **Ide Kle: 5.2:** Esplore kouman plant yo fabrike nouriti yo avèk lè, dlo ak enèji ki soti nan solèy la. | **Key Idea 5.2:** Explore how plants manufacture food by utilizing air, water, and energy from the sun. |
| **Tèm syantifik:** 1. vaskilè 2. klowoplas 3. klowofil 4. fotosentèz 5. lanmidon-amidonnen 6. briyofit 7. selil | **Scientific Terms:** 1. vascular 2. chloroplasts 3. chlorophyll 4. photosynthesis 5. starch 6. bryophytes 7. cell |
| **Enfòmasyon:**<br>Rèy vejetal la divize an de gwoup.<br>Youn nan de pi gwo gwoup rèy vejetal la se plant vaskilè ki fè l. Vaskilè vle di "ki gen tib." Plant vaskilè yo gen tib ki transpòte dlo ak nouriti nan tout pati plant la. Plant vaskilè yo gen twa sistèm - rasin, tij, ak fèy.<br><br>Fèy yo fonksyone tankpu yon faktori. Yo pwodui nouriti epi yo bay oksijèn. Klowoplas ki nan selil vejetal yo gen klowofil. Klowofil se yon sibstans vèt ki absòbe limyè solèy la. Klowoplas sèvi avèk gaz kabonik, dlo, epi enèji limyè ki soti nan solèy la pou fè sik. Sik se nouriti pou plant yo. Pwosesis sa a rele fotosentèz. Nan pwosesis sa a, plant yo absòbe gaz kabonik ki nan lè a epi yo degaje oksijèn. Nouriti ki nan fèy yo ale nan tout pati plant lan. Gen nan nouriti a ki an rezèv nan rasin yo sou fòm lanmidon.<br><br>Dezyèm nan de pi gwo gwoup rèy vejetal la se plant ki pa gen system vaskilè ki fè l. Plant ki nan gwoup sa a rele briyofit. Plant ki pa gen tib vakilè yo pa distribye dlo ak nouriti nan diferan pati plant lan. Yo absòbe dlo direkteman, tankou yon eponj. Yo toupiti. Yo grandi ra tè, kote yo ka absòbe dlo ak nouriti ki nan anviwònman yo. Plant sa yo pa gen rasin toutbon nonplis. Yo gen pati ki ta vle sanble ak | **Content:**<br>The plant kingdom is divided into two groups. One of the two large groups of the plant kingdom is made up of vascular plants. Vascular means “having tubes.” Vascular plants have tubes that carry water and food to all their parts. Vascular plants are made up of three systems – roots, stems, and leaves.<br><br>Leaves are like a factory. They make food and give off oxygen. The chloroplasts in plant cells contain chlorophyll. Chlorophyll is a green substance that absorbs sunlight. Chloroplasts use carbon dioxide, water, and light energy from the sun to make sugar. The sugar is food for the plant. This process is called photosynthesis. In this process, plants take carbon dioxide from the air. They give off oxygen. Food made in the leaves is carried to all parts of the plant. Some food is also stored as starch in the roots.<br><br>The second of the two large groups of the plant kingdom is made up of nonvascular plants. Nonvascular means “without tubes.” Plants in this group are called bryophytes. Nonvascular plants do not have any tubes to carry water and food to parts of the plant. They absorb water directly, like a sponge. They are very small. They grow close to the ground, where they |

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| rasin ki fikse yo nan tè a. Lòt pati yo ki sanble ak fèy pwodui nouriti ki deplase de selil an selil. Twa gwoup briyofit sa yo se mous, feyaj tankou limon ak zèb akwatik. Mous se briyofit nou plis konnen yo. Lòt feyaj ki sanble limon ak zèb akwatik yo grandi nan forè ki imid epi toutolon rivyè.<br><br>(Selil: Chak pati nan kò nou fèt ak selil. Piti kou gwo, chak òganis gen yon selil pou pi piti.) | can absorb water and nutrients from their surroundings. They don't have real roots either. Instead, they have rootlike parts that anchor them to the ground. Their leaflike parts make food, which moves from cell to cell. The three groups of bryophytes include mosses, liverworts, and hornworts. Mosses are the bryophytes that you probably know best. Liverworts and hornworts grow in damp forests and along rivers.<br><br>(Cell: Every part of you is made of cells. Big or small, every organism is made of at least one cell.) |
| **Revizyon:**<br><br>1. Ki non twa system ki reprezante plant vaskilè yo?<br>2. Ki sa klowoplas itilize pou yo fè nouriti?<br>3. Kouman yo rele pwosesis lè klowoplas yo fè nouriti?<br>4. Kouman plant ki pa gen sistèm vaskilè yo fè pou yo jwenn dlo ak nouriti? | **Review:**<br>1. What are the three systems that make up vascular plants?<br>2. What do chloroplasts use to make food?<br>3. What do we call the process of chloroplasts making food?<br>4. How do nonvascular plants get water and nutrients? |

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| **Ide Kle 5.3:** Rive konprann kouman nouriti pwodui enèji ak materyo ki nesesè pou kwasans ak reparasyon. | **Key Idea 5.3:** Understand that food supplies energy and materials necessary for growth and repair. |
| **Tèm syantific:** 1. èbivò 2. kanivò 3. omnivò | **Scientific Terms:** 1. herbivores 2. carnivores 3. omnivores |
| **Enfòmasyon:**<br>Nenpòt òganis vivan ki kapab fè pwòp nouriti li se yon pwodiktè. Limon se yon pwodiktè. Yon pyebwa kajou se yon pwodiktè tou.<br><br>Yon bèt ki manje plant oswa lòt bèt se yon konsomatè. Konsamatè jwenn enèji yo bezwen pou yo viv lè yo manje.<br><br>Gen twa kalite konsomatè – èbivò, kanivò, ak omnivò.<br><br>Yon èbivò se yon bèt ki manje plant sèlman oswa yon pwodiktè. Cheval se èbivò. Jiraf, ekirèy ak lapen se èbivò tou. Cheval manje menm kalite manje a tout tan. Nan sezon cho, yo manje zèb fre. Lè livè, yo manje zèb seche.<br><br>Yon kanivò se yon bèt ki manje lòt bèt sèlman. Yon kanivò gendwa gwosè yon labalèn oswa gwosè yon ti krapo.<br><br>Yon omnivò se yon bèt ki manje ni plant ni lòt bèt. Kidonk omnivò yo manje ni pwodiktè ni konsomatè, sa vle di yo manje omnivò tou. Lous ak yèn se omnivò. Lous manje zèb nan sezon prentan. Apre sa, yo gendwa manje ze zwazo. Lous gendwa tou al detere rasin ki gen bon gou oswa manje pwason nan kouran larivyè. Nan sezon otòn, lous manje grenn bwa ki mi sou pyebwa. | **Content:**<br>Any living thing that can make its own food is called a producer. A moss is a producer. A redwood tree is also a producer.<br><br>An animal that eats plants or other animals is called a consumer. Consumers get the energy they need to live by eating.<br><br>There are three kinds of consumers – herbivores, carnivores, and omnivores.<br><br>An herbivore is an animal that eats only plants, or producers. Horses are herbivores. So are giraffes, squirrels, and rabbits. Horses eat the same kind of food all year. They eat grass during warm weather. During winter, they eat hay, a kind of dried grass.<br><br>A carnivore is an animal that eats only other animals. A carnivore can be as large as a whale or as small as a frog.<br><br>An omnivore is an animal that eats both plants and other animals. That is, omnivores eat both producers and other consumers, including other omnivores. Bears and hyenas are omnivores. Bears eat grass in spring. Later on, they might eat birds' eggs. Bears might also dig up tasty roots or eat fish from streams. In fall, bears eat ripe berries.<br><br>An energy pyramid shows how much |

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| Yon pyramid enèji montre kantite enèji ki pase de yon òganis vivan a yon lòt nan yon chèn alimantè.<br><br>Pwodiktè yo fòme baz pyramid lan. Yo itilize apeprè 90 pousan nan enèji yo resevwa nan solèy la pou yo devlope. Yo mete lòt 10 pousan an an rezèv nan tij yo, fèy yo ak lòt pati yo.<br><br>Lè konsomatè yo manje pwodiktè yo se sèlman 10 pousan nan enèji plant yo yo jwenn, 10 pousan yo te mete an rezèv la. Konsomatè yo itilize 90 pousan enèji yo jwenn nan pwodiktè yo pou yo devlope; rès 10 pousan an, yo mete l an rezèv nan kò yo. Se 10 pousan sa a, konsomatè ki vin manje yo a jwenn. Se pou sa konsomatè dwe manje plizyè òganis vivan pou yo ka viv.<br><br>Pa egzanp, yon lou dwe manje anpil bèt ki pi piti pase l, tankou rena ak koukou pou l ka jwenn enèji li bezwen pou l viv. Rena a ak koukou a dwe manje anpil lòt bèt ki pi piti pase yo pou yo ka jwenn ase enèji pou yo viv. Zwazo, sourit, ak lòt ti bèt dwe manje anpil pwodiktè pou yo ka jwenn enèji yo bezwen pou yo viv. Baz yon piramid enèji gen plizyè milye pwodiktè. | energy is passed from one living thing to another along a food chain.<br><br>Producers form the base of the pyramid. They use about 90 percent of the energy they get from the sun to grow. They store the other 10 percent in their stems, leaves, and other parts.<br><br>Next, consumers eat the producers. They get only the 10 percent of energy that the plants stored. These consumers use about 90 percent of the energy they get from the producers to grow and then store the other 10 percent in their bodies. That 10 percent is passed on to the consumers that eat them. That's why consumers must eat many living things in order to live.<br><br>For example, a wolf must eat many smaller animals, such as foxes and owls, to get the energy it needs to live. The fox and the owl must eat many smaller animals to get enough energy to live. Birds, mice, and other small animals must eat many producers to get the energy they need to live. The bottom of an energy pyramid can include thousands of producers. |
| **Revizyon:**<br>1. Pou ki sa yon sèf dwe manje plant tout lajounen?<br>2. Ki bèt ki jwenn enèji l dirèkteman nan pwodiktè yo?<br>3. Ki bèt ki jwenn enèji l nan lòt konsomatè?<br>4. Ki bèt ki jwenn enèji l nan tou de? | **Review:**<br>1. Why must deer eat plants all day long?<br>2. Which animal gets its energy directly from producers?<br>3. Which animal gets its energy from other consumers?<br>4. Which animal gets its energy from both? |

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| **Ide Kle 5.4:** Idantifye popilasyon nan yon kominote ki an konpetisyon youn ak lòt pou resous. | **Key Idea 5.4:** Identify populations within a community that are in competition with one another for resources. |
| **Tèm syantifik:** 1. popilasyon 2. kominote 3. predatè 4. jibye/pwa 5. abita | **Scientific Terms:** 1. population 2. community 3. predator 4. prey 5. habitat |
| **Enfòmasyon:**<br>Yon plant oswa yon bèt se yon endividi. Ou se on endividi. Yon nenifa se yon endividi. Yon gwoup ki gen menm kalite endividi yo, k ap viv nan menm ekosistèm la se yon popilasyon. Tout moun k ap viv nan yon vil fòme yon popilasyon. Yon gwoup nenifa se yon popilasyon. Yon kominote se tout diferan popilasyon k ap viv menm kote a.<br><br>Tout òganis vivan depann youn de lòt pou yo viv. Yon chèn alimantè se sekans mouvman enèji alimanè ki nan òganis vivan. Chak chèn alimantè kòmanse avèk pwodiktè yo. Kèk konsomatè tankou sèf, manje pwodiktè sa yo. Apre sa lòt konsomatè tankou lyon, manje sèf yo. Konsomatè yo manje yo rele pwa. Yon konsomatè ki manje yon pwa se yon predatè. Pwa se sa yo chase. Predatè se chasè.<br><br>Yon abita se yon anviwonman ki konfòm selon bezwen yon òganis vivan. Gen bèt nan yon abita ki se yon pwa, gen lòt bèt se predatè yo ye. Predatè limite kantite pwa ki nan yon abita. Lè kantite pwa yo diminye, predatè yo pa p gen ase manje, epi kantite yo ap diminye tou. Pa egzanp, lou se predatè antilòp; yo nan konpetisyon youn ak lòt pou antilòp yo. Sa lakòz popilasyon antilòp la diminye. Lè gen mwens antilòp lou yo nan grangou, epi kòm rezilta, popilasyon lou an diminye. Kon popilasyon lou yo diminye, sa vin fè gen yon ogmantasyon nan popilasyon | **Content:**<br>One plant or animal is an individual. You are an individual. One water lily is an individual. A group made up of the same kind of individuals living in the same ecosystem is a population. All the people living in one city are a population. A group of water lilies is a population. A community is all the populations that live in the same place.<br><br>Living things depend on one another to live. A food chain is the movement of food energy in a sequence of living things. Every food chain starts with producers. Some consumers, such as deer, eat these producers. Then the deer are eaten by other consumers, such as mountain lions. Consumers that are eaten are called prey. A consumer that eats prey is a predator. Prey is what is hunted. Predators are the hunters.<br><br>A habitat is an environment that meets the needs of a living thing. Some animals in a habitat are prey, while other animals are predators. Predators limit the number of prey animals in a habitat. After the number of prey decreases the predators will not have enough food, and their number will decrease, too. For example, wolves are predators of antelope; they are in competition for the antelope. This causes the population of antelope to decrease. With fewer antelope available for food, the wolves go hungry, and, as a result, their population decreases. Once the population |

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| antilòp la. Lè gen plis antilòp, pral vin gen plis lou tou. Konpetisyon an nan mitan lou yo rekòmanse. Antilòp, antre yo, nan konpetisyon menm jan an tou pou pwodiktè yo. Kidonk konpetisyon pou resous nan yon abita se yon fason natirèl pou balanse diferan popilasyon yo. | of wolves decreases, it causes an increase in the antelope population. When there are more antelope, there will also be more wolves. The competition for antelope will once again take place. Antelope and the producer have a similar relationship. So the competition for resources in a habitat is a nature's way of keeping a balance among populations. |
| **Revizyon:**<br>1. Sa k fè yon popilasyon diferan ak yon kominote?<br>2. Nonmen youn nan wòl yon predatè?<br>3. Ki sa yon abita ye? | **Review:**<br>1. How is a population different from a community?<br>2. Name one of the roles of a predator.<br>3. What is a habitat? |

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| **Chapit 5:** Bèt ak plant nan anviwònman yo. | **Unit 5 :** Animals and Plants in Their Environment |
| **Kesyon esansyèl:** Ki wòl plant ak bèt jwe nan anviwònman yo? | **Essential Question:** What roles do plants and animals play in their environments? |
| **Ide Kle 5.5:** Rive konprann kouman varyasyon pami endividi ki nan yon espès kapab lakòz gen endividi ki benefisye nan kesyon sivi ak repwodiksyon. | **Key Idea 5.5:** Recognize that individual variations within a species may cause certain individuals to have an advantage in surviving and reproducing. |
| **Tèm syantifik:** 1. varyasyon (diferans pami manm menm popilasyon an) | **Scientific Terms: 1.** variation (Differences among members of the same population.) |
| **Enfòmasyon:**<br>Gen diferans pami manm menm popilasyon. Diferans sa yo rele varyasyon. Varyasyon pami òganis yo kapab baze sou koulè, fòm oswa gwosè. Varyasyon kapab jwe yon wòl nan sivi yon popilasyon. Bèt ki siviv kapab repwodui. Varyasyon ki pèmèt yo siviv yo, yo pase yo bay pwojeniti yo.<br><br>Pa egzanp, yon zile pa t gen ase mange pou tout elefan yo. Elefan ki pi piti yo te bezwen mwens manje pase gwo elefan yo. Kidonk elefan ki te pi piti yo rive siviv e repwodui pi byen. Rive on lè, se elefan ki piti yo sèlman ki te rete sou zile a.<br><br>Koulè kapab gen efè sou sivi tou. Ann fè sipozisyon gen de koulè ensèk nan yon popilasyon, vèt ak wouj. Ensek vèt yo gen plis chans pou yo siviv nan yon abita ki gen anpil zèb, paske yo pa fasil pou rekonèt nan anviwònman sa a tankou ensèk wouj yo.<br><br>Yon lòt egzanp se papiyon de nui an Angletè. Papiyon sa yo repoze yo lajounen sou twon pyebwa. Papiyon sa yo sèvi nouriti pou zwazo. Anvan yo te konstwi faktori nan lane 1850 yo, pifò twon pyebwa yo te gen koulè klè. Zwazo yo te wè papiyon koulè fonse yo pi fasilman pase papiyon koulè klè yo. Kidonk zwazo yo te manje pifò papiyon koulè fonse yo. Sa te | **Content:**<br>There are differences among members of the same population. These differences are called variations. Variations among organisms might include color, shape, or size. Variations can affect the survival of a population. Animals that survive can reproduce. The variations that helped them survive are passed on to their young.<br><br>For example, an island had too little food for all the elephants. The small elephants needed much less food than the large elephants. They were better able to live and reproduce. After a time, there were only small elephants living on the island.<br><br>Color can also affect survival. Suppose there are two colors of insects in a population. The two colors are green and red. The green insects are more likely to survive in a grassy place. They are not as easy to find as the red insects.<br><br>Another example is the peppered moths in England. Peppered moths rest on tree trunks during the day. Birds feed on the peppered moths. Before factories were built in the 1850's, most tree trunks were light in color. Birds could see the dark-colored moths more easily than the light-colored moths. More of the dark moths were eaten. So more light-colored moths survived and reproduced. But when the factories put |

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| lakòz papiyon klè yo siviv epi repwodui. Men lè faktori yo koumanse lage sann nan lè a, sann la vin kole sou ekòs pyebwa yo. Anpil nan twon pyebwa yo vin nwa. Avan lontan, kantite papiyon nwa yo ogmante. Zwazo yo manje plis nan papiyon klè yo, konsa papiyon nwa yo siviv.<br><br>Annou reflechi sou jiraf. Nan tan lontan, kou yo te pi kout. Sa vle di jiraf yo te nan konpetisyon pou nouriti ak anpil lòt bèt ki manje plant. Natirèlman, kou tout jiraf yo pa t menm longè. Jiraf, kou yo te on ti jan pi long, te rive manje nouriti lòt bèt pa t ka rive pran. Jiraf sa yo te gen plis chans pou yo viv epi repwodui. Alòske jiraf kou yo te pi kout yo, se te nan redi pou yo siviv. Apre plizye milyon lane, plis jiraf kou long siviv epi yo transmèt karakteristik yo bay pitit yo. Jodi a, jiraf se bèt ki pi wo sou latè. | black soot into the air, the soot settled on the bark of the trees. Many of the tree trunks became black. Soon, the number of dark moths increased. The birds did not see them. They blended in with the dark tree trunks. The birds ate more light-colored moths. The dark moths survived.<br><br>Let's think about giraffes. Once upon a time, their necks were much shorter. That meant giraffes had to compete for food with many other plant-eaters. Of course, each giraffe was slightly different from the rest. Giraffes with longer necks were able to eat food that other animals couldn't reach. Those long-necked giraffes had a good chance of living and mating. In contrast, short-necked giraffes found it harder to survive. Over millions of years, more long-necked giraffes survived, passing on their traits to their offspring. Today, giraffes are the tallest animals on Earth. |
| **Revizyon:**<br>1. Kouman variasyon ka afekte chans yon bagay vivan pou l siviv? Bay de egzanp.<br>2. Èske tout chanjman nan anviwònman an itil yon popilasyon? Esplike. | **Review:**<br>1. How can variations affect the chance that a living thing will survive? Give two examples.<br>2. Are all changes in the environment helpful to a population? Explain. |

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| **Chapit 5:** Bèt ak plant nan anviwònman yo. | **Unit 5 :** Animals and Plants in Their Environment |
| **Kesyon Esansyèl:** Ki wòl plant ak bèt jwe nan anviwònman yo? | **Essential Question:** What roles do plants and animals play in their environments? |
| **Ide Kle 5.6:** Dekri kouman kondisyon anviwònman an, tankou fasilite pou jwenn manje, dlo, lè, espas, abri, chalè, ak limyè solèy gen efè sou santé, kwasans ak devlopman òganis. | **Key Idea 5.6:** Describe how the health, growth, and development of organisms are affected by environmental conditions such as availability of food, water, air, space, shelter, heat, and sunlight. |
| **Tèm syantifik:** 1. marekaj | **Scientific Terms:** 1. swamp |
| **Enfòmasyon:**<br>Tout òganis vivan konekte youn ak lòt. Óganis vivan bezwen bagay ki pa vivan tou, tankou tè, dlo ak lè. Si gen yon pwoblèm ak tè a, dlo a oswa lè a, sa afekte òganis vivan yo tou.<br><br>Kretyen vivan ka chanje yon zòn pou satisfè pwòp bezwen yo. Lè yo fè sa, sa afekte lòt òganis vivan nan kominote a. Gen de fwa, efè yo konn negatif. Fatra ki soti nan kay oswa nan faktori yo kapab al tonbe nan yon rivyè, dlo nan rivyè a vin kontamine, li pa bon pou bwè l, li touye plant ak bèt tou. Ann fè sipozisyon dlo kontamine, rivyè a rive nan yon lagon. Sa k ap pase òganis vivan ki manm kominite sa a? Sa k ap pase ak rezo alimantè yo?<br><br>Faktori ak machin degaje gaz danjere nan lè a. Pwazon pou ensèk kiltivatè yo flite nan jaden yo polye lè a tou. Kèk nan pwazon sa yo touye bèt avèk ensèk inosan.<br><br>Espas afekte òganis.<br>Sipoze ou gen yon bokal plen mouch. Ou mete manje nan bokal la. Paske gen manje, popilasyon mouch yo ògmante. Men, kisa ki pral rive popilasyon mouch sa a apre yon tan? Gen anpil manje toujou, men popilasyon an diminye. Anpil mouch mouri paske gen twòp akimilasyon dechè nan bokal la. Pa gen ase espas pou mouch yo. | **Content:**<br>All living things are connected. Living things also need non-living things like soil, water, and air. If something happens to soil, water, or air, living things will be affected.<br><br>Humans can change an area to meet their own needs. When they do this, it affects other living things in the community. Sometimes the effects are not good. Wastes from homes and factories may enter a river. The water in the polluted rivers is unfit to drink. It also kills plant and animal life. Suppose the polluted river water reaches a pond. What would happen to its community members? What would happen to the food chains and food webs?<br><br>Factories and cars give off harmful gasses into the air. Insect poisons that farmers spray on their crops also pollute the air. Some of these poisons kill harmless animals as well as insects.<br><br>Space affects organisms.<br>Suppose you have a jar of flies. You put food in the jar. Because there is food, the population of flies grows. But what will happen to the population of flies after a longer time? There is still plenty of food, but the population has decreased. Many of the flies have died because of the buildup of wastes in the jar. There is not enough space for the flies. |

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| Rate manje limite gwosè yon popilasyon sèf. Popilasyon sèf kapab devlope trè vit. Te gen yon lè popilasyon sèf nan Evègled Florida te depase limit. Evègled se yon zòn marekaj. Gen yon lane te gen inondasyon la. Plant sèf yo te kònn manje te anba dlo. Te gen mwens manje pou tout sèf yo, sa te lakòz anpil ladan yo vin fèb epi tonbe malad. Sèf ki te malad yo mouri epi popilasyon an kòmanse diminye. | A lack of food limited the size of a deer population. Deer populations can grow very fast. One time, the population of deer in the Florida Everglades exploded. The Everglades is a swamp. One year it flooded. The plants that the deer eat were covered by water. There was less food for the deer and many of them became weak and sick. The sick deer died and the population started to decrease. |
| **Revizyon:**<br>1. Kouman dechè kapab tounen yon danje pou aviwònman an?<br>2. Kouman lè ki<br>3. polye kapab yon danje pou anviwònman an?<br>4. Kouman espas afekte òganis yo? | **Review:**<br>1. How could wastes harm the environment?<br>2. How would polluted air harm the environment?<br>3. How does space affect organisms? |

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| **Chapit 5:** Bèt ak plant nan anviwònman yo. | **Unit 5 :** Animals and Plants in Their Environment |
| **Kesyon esansyèl:** Ki wòl plant avèk bèt jwe nan aviwònman yo? | **Essential Question:** What roles do plants and animals play in their environments? |
| **Ide Kle:** Rive konprann kouman sans bèt yo ede yo siviv. | **Key Idea 5.7:** Understand that their senses help animals survive. |
| **Tèm Syantifik:** 1. Noktin (dòmi lajounen, aktif lannwit) 2. Ekolokasyon 3. Tantakil | **Scientific Terms:** 1. Nocturnal (sleep during the day and are awake at night)<br>2. Echolocation 3. tentacles |
| **Enfòmasyon:**<br>Bèt enfòme sou chanjman nan anviwònman an avèk sans yo. Enfòmasyon sa a kapab avèti yo si gen danje oswa ede yo jwenn manje ak konpayèl.<br><br>Pifò nan espès chovsourit yo noktin. Yo pa bezwen gen bon je pou yo jwenn yon pwa. Chovsourit itilize ekolokasyon pou yo ka deplase nan fè nwa. Yo pwodui son pike ki vwayaje byen lwen nan lè a. Lè son sa yo al frape yon objè ki sou pakou chovsourit la, yo fè yon eko. Chovsourit la koute eko a byen, konsa li kapab detèmine si objè ki sou wout li a se yon pyebwa, yon wòch oswa yon lòt bèt.<br><br>Limyè pa vwayaje byen anba dlo, se sa k fè anpil bèt ki viv anba dlo pa kapab wè twò lwen. Dolfen fè lachas nan zòn ki gen on ti limyè fèb; yo sèvi avèk ekolokasyon.<br><br>Kèk bèt ki viv anba tè avèg, men sans touche yo byen devlope. Toutotou nen li, on top (on mamifè nen pwenti ki viv anba tè), gen antèn yo rele tantakil ki sansib anpil. Li sèvi ak tantakil yo pou l jwenn manje ak lòt bagay anba tè a.<br><br>Reken rive devlope yon sans nen fen. Adaptasyon sa a pèmèt yo pran sant nenpòt ti gout san menm si l byen lwen. Yo kapab suiv sant la pou ya l dekouvri pwochen repa yo.<br>Yon malfini kapab apèsi pwa li sou yon | **Content:**<br>Animals learn about environmental changes through their senses. This information can warn of danger or help find food and mates.<br><br>Most species of bats are nocturnal. They do not need good eyesight to find prey. Instead, bats find their way in the dark using echolocation. They make high-pitched sounds that travel long distances through the air. When these sounds hit an object in the bat's path, they echo. The bat listens to the echo and can tell by the sound whether the object ahead is a tree, rock, or another animal.<br><br>Light does not travel well underwater, so many water-dwelling animals cannot see long distances. Dolphins can hunt in dim light using echolocation.<br><br>Some animals that live underground are blind, but they have a well-developed sense of touch. The star-nosed mole has sensitive feelers, called tentacles, around it nose. It uses these tentacles to find food and objects in its underground home.<br><br>Sharks have developed an excellent sense of smell. This adaptation allows them to smell even the smallest amount of blood from far away. They can follow the scent right to their next meal. |

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| distans plis pase 5 mil. Èg wayal la kapab apèsi yon pwa sou yon distans plis pase 2 mil. | A peregrine falcon can spot its prey from more than 5 miles away. The golden eagle can spot its prey from over 2 miles away. |
| **Revizyon:**<br>1. Ak ki sa chovsourit sèvi pou yo sikile nan fè nwa?<br>2. Kouman reken fè pou yo jwenn manje? | **Review:**<br>1. What do bats use to find their way in the dark?<br>2. How do sharks find food? |

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| **Chapit 5:** Bèt ak plant nan anviwònman yo. | **Unit 5 :** Animals and Plants in Their Environment |
| **Kesyon esansyèl:** Ki wòl plant ak bèt jwe nan aviwònman yo? | **Essential Question:** What roles do plants and animals play in their environments? |
| **Ide Kle: 5.8:** Obsève kouman lè anviwònman yo chanje, kèk plant ak bèt rive siviv epi repwodui, alòske gen lòt ki mouri oswa deplase al viv lòt kote. | **Key Idea 5.8**: Observe that when the environment changes, some plants and animals survive and reproduce, while others die or move to new locations. |
| **Tèm syantifik:** 1. adapte 2. evapore 3. migre-deplasman moun oswa bèt 4. ibène | **Scientific Terms:** 1. adapt 2. evaporate 3. migrate 4. hibernate |
| **Enfòmasyon:**<br>Depi tout tan òganis te toujou change epi adapte ak anviwònman yo.<br><br>Yon adaptasyon se yon pati nan kò oswa yon konpòtman ki pèmèt yon òganis vivan siviv.<br><br>Fèy, flè, tij ak rasin plant varye selon anviwònman kote yo ye. Estrikti sa yo kapab diferan nan gwosè, fòm, epesè, koulè ak sant. Pa egzanp, plant nan dezè, tankou rekèt, kenbe dlo an rezèv nan fèy ak twon yo. Yo gen fèy tankou ti egui, on jan pou dlo pa evapore fasil. Anpil plant nan dezè fè rezèv enèji solèy, men yo pa pwodui nouriti pandan lajounen lè fè cho, on jan pou yo pa pèdi dlo.<br><br>Semans bezwen espas, limyè, eleman nitritif, ak dlo pou yo devlope. Kidonk manman plant oblije gaye grenn yo byen lwen pou yo pa rete nan lonbray yo. Gen espès plant ki adapte fason yo gaye grenn yo. Plant ki depann de van pou transpòte grenn yo gen grenn ki tou piti e ki lejè, osnon ki bati<br>tankou zèl. Plant ki pouse bò dlo k ap kouri gendwa gen grenn oswa fwi ki ka flote. Gen plant ki depann de bèt pou gaye grenn yo. Plant sa yo dwe pwodui fwi ki gen bon gou, ki gen bèl koulè pou attire bèt yo. | **Content:**<br>Throughout time, organisms have changed and adapted to their environment.<br><br>An adaptation is a body part or a behavior that helps a living thing survive.<br><br>Plants in different environments have different leaves, flowers, stems, and roots. These structures may be different in size, shape, thickness, color, and scent. For example, plants of the desert, such as cactus, store water in their leaves and trunks. They have small needle-like leaves so water doesn't easily evaporate. Many desert plants store the sun's energy but don't make food during the hot daytime so that they do not lose water.<br><br>Seeds need space, light, nutrients, and water in order to grow. So parent plants need to spread their seeds far away from themselves. Species of plants have also adapted ways to spread their seeds. Plants that depend on wind to carry seeds have seeds that are tiny and light or have wing-like structures. Plants that live near moving water may have seeds or fruit that float. Some plants depend on animals to spread their seeds. These plants must make tasty, colorful fruit to attract animals. |

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| Espès bèt adapte konpòtman yo pou yo siviv chanjman sezon yo. Gen bèt ki migre nan klima ki pi cho oswa pi fre, tankou swa yo ki al nan nò oswa nan sid. Kò balèn gri yo pèmèt yo naje 16 a 23 mil kilomèt pa an. Yo pase sezon lete nan Aktik. Nan sezon otòn yo ale nan zòn ki pi cho, kote yo fè pitit.<br>Gen lòt bèt tankou tamya ak mamòt (èbivò ki viv anba tè) ki ibène pandan sezon ivè; yo siviv granmesi grès yo gen an rezèv nan kò yo. | Animal species have adapted their behaviors to survive seasonal changes. Some animals may migrate to warmer or cooler climates, like geese flying north or south. Gray whales' bodies allow them to swim 16,000 to 23,000 kilometers a year. They spend the summer in the Arctic. In the fall, they swim to warmer waters. There, they give birth to their young.<br>Other animals, such as chipmunks and woodchucks, hibernate during the winter by living on stored fat. |
| Migrasyon vle di "kite yon abita ete pou ou ale nan yon abita ivè, epi retounen ankò." | Migration means "moving from a summer home to a winter home and back again." |
| Pandan peryod ibènasyon an, kè bèt yo bat mwen fò, respirasyon yo ralanti kòmsi li ta vle rete. | During hibernation, an animal's heart and breathing rates slow almost to a stop. |
| Gen bèt koulè fouri yo chanje pou yo ka adapte ak sezon yo. Annete, lyèv pye blanch lan vin on koulè mawon rouye. Sa pèmèt li matche koulè atè a. Annivè, fouri lapen yo vin blan, sa pèmèt lapen yo matche koulè nèj la. Chanjman koulè a ede lapen yo kache pou lenènmi yo. | Some animals change their fur color in order to adapt. During the summer, the snowshoe hare is rusty brown. This helps it blend with the ground. In the winter, the rabbit's fur turns white, which helps it blend with the snow. The color change helps the rabbit hide from enemies. |
| Olye de fouri, pwason ak reptil gen kal ki anpeche yo pran chòk, ki anpeche yo deseche tou. Souvan, koulè ak aranjman kal yo konn ede bèt sa yo kache pou lenènmi. Kal yon koulèv pèmèt li glise sou vant pou l chache manje, dlo avèk abri. | Instead of fur, fish and reptiles have scales. Their scales help protect them from injury and from drying out. Often, the color and pattern of their scales help them hide from enemies. A snake's scales help it slide along the ground to find food, water, and shelter. |
| Nan lanati, òganis yon espès nan konpetisyon fewòs youn ak lòt pou manje, espas, limyè, dlo, ak konpayèl. Pa egzanp, yon pyebwa ki wo jwenn plis solèy pase yon pyebwa pi piti ka p viv nan lonbraj li. Pan ki gen pi bèl ke a gen plis chans pou l atire konpayèl pou l repwodui. | In nature, organisms of a species compete fiercely for food, space, light, water, and mates. For example, a tall tree gets more sun than the smaller trees that live in its shade. The peacock with the brightest tail has the best chance of attracting mates and reproducing. |

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| **Revizyon:**<br>1. Espès plant yo adapte plizyè fason pou yo epapiye grenn yo. Bay de egzanp.<br>2. Kouman migrasyon pèmèt yon espès viv nan anviwònman an?<br>3. Site twa adaptasyon nan konpòtman kèk bèt fè pandan ivè. | **Review:**<br>1. Species of plants have adapted ways to spread their seeds. Give two examples.<br>2. How does migration help a species survive in the environment?<br>3. Name three adaptations in behavior that some animals show during the winter. |

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| **Chapit 5:** Bèt ak plant nan anviwònman yo. | **Unit 5 :** Animals and Plants in Their Environment |
| **Kesyon esansyèl:** Ki wòl plant ak bèt jwe nan anviwònman yo? | **Essential Question:** What roles do plants and animals play in their environments? |
| **Ide Kle 5.9:** Dekri fason kretyen vivan:<br>*depann de anviwònman natirèl ak aviwònman yo konstwi.<br>*Chanje anviwònman yo firanmezi tan ap pase. | **Key Idea 5.9:** Describe the way that humans:<br>* depend on their natural and constructed environment.<br>* have changed their environment over time. |
| **Tèm syantifik:** 1. fabrike 2. polisyon | **Scientific Terms:** 1. manufacture<br>2. pollution |
| **Enfòmasyon:**<br>Moun depann de anviwònman natirèl yo. Latè bay enèji, eleman nitritif, lè, manje ak chalè kretyen vivan bezwen.<br><br>Lè ou respire, ou itilize lè.<br><br>Lè ou monte yon otobis pou al lekòl ou sèvi ak kabiran. Kabiran ki fè bis la fonksyone soti nan lwil, yon resous natirèl ki soti anba tè.<br><br>Lè ou limen yon limyè, ou itilize resous natirèl. Pifò nan elektrisite ki egziste, se nan chabon k ap boule li soti. Chabon se yon resous natirèl ki soti anba tè tou.<br><br>Gen resous natirèl ki pa kapab ranplase resous tankou chabon, gaz ak lwil. Lè nou itilize tout rezèv ki antere anba tè a, resous yo ap fini.<br><br>Kretyen vivan sèvi ak resous natirèl plizyè fason. Moun itilize bwa pou yo bati kay epi fè mèb. Yo fè brik avèk ajil, yo fè vè avèk sab. Yo itilize fè pou yo fè asye, epi yo itilize asye pou yo fè machin avèk anpil lòt bagay.<br><br>Kretyen vivan depann de anviwònman yo fabrike tou. Paske yo kapab bati pati nan anviwònman yo epi deplase resous yo | **Content:**<br>Humans depend on their natural environments. Earth provides the energy, nutrients, air, food, water, and heat that humans need.<br><br>When you breathe, you use air.<br><br>When you ride a bus to school, you use fuel. The fuel that makes the bus run is made from oil. Oil is a natural resource that is taken from under the ground.<br><br>When you turn on a light, you use natural resources. Most electricity is produced by burning coal. Coal is a natural resource that is also taken from under the ground.<br><br>Some natural resources cannot be replaced. They include coal, gas, and oil. After the supplies buried underground are used, these resources will be gone.<br><br>Humans use natural resources in many ways. People build homes and furniture from wood. They make bricks from clay, and glass from sand. They use iron to make steel, which they then use to make cars and many other things.<br><br>Humans depend on the constructed environment also. Because they can build part of their environment and move |

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| diferan kote. Kretyen vivan viv nan prèske nenpòt anviwònman natirèl sou latè. | resources from place to place, humans can live in almost any natural environment on earth. |
| Moun bati abri, kiltive latè, fabrike pwodui pou vann, kreye chalè apati lòt sous enèji ki konsève oswa transpòte. Abri yo vin fè pati anviwònman yo, pwoteje yo kont predatè ak move tan. Manje yo pwodui epi sere pèmèt yo manje nan zòn kote ki pa gen okenn manje tou pre. Pwodui yo fabrike ede yo siviv kondisyon tankou fredi, tanpèt oswa sechrès. Yo devlope yon mwayen transpò ki pèmèt yo pote manje, dlo, enèji ak lòt pwodui kote yo bezwen yo. | Humans build shelters, grow food, manufacture goods, and create heat from stored or transported energy sources. The shelters become part of their environment, protecting them from harsh weather and predators. The food they produce and preserve allows them to eat in places with no foods nearby. The goods they make help them survive conditions such as cold, storms or dryness. By developing means of transportation, they can bring food, water, energy, and goods to where they need them. |
| Firanmezi tan ap pase, kretyen vivan chanje anviwonman natirèl yo epi kreye nouvo anviwònman. Bitasyon ak fèm vin ranplase forè avèk savann ki te etann yo sou plizyè kilomèt. Toupre Lòs Annjelès, nan Kalifòni, ou kapab kouri machin sou on distans prèske 100 mil, epi sèl bagay ou wè se vil ak bouk. Lè nou bati lojman, itilize enèji, fabrike pwodui, itilize transpò epi fè lòt aktivite, nou kreye polisyon nan lè, latè epi nan dlo. | Over time, humans have changed their natural environments and created new ones. Forests and grasslands that once stretched for miles have been replaced by miles of farms and ranches. Near Los Angeles, California, you can ride for almost one hundred miles without seeing anything but towns and cities. Building shelter, using energy, manufacturing goods, using transportation, and other human activities have created pollution in the air, land, and water. |
| Polisyon se sibstans danjere ki kontamine lè, dlo, tè oswa sa nou pral manje. | Pollution is harmful substances that damage the air, water, land, or food supply. |
| **Revisyon:**<br>1. Sa k fè kretyen vivan ka rive viv nan anviwònman ki difisil anpil?<br>2. Ki sa polisyon ye? | **Review:**<br>1. Why are humans able to live in very harsh environments?<br>2. What is pollution? |

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| **Chapit 5:** Bèt ak plant nan anviwònman yo. | **Unit 5 :** Animals and Plants in Their Environment |
| **Kesyon Ensansyèl:** Ki wòl bèt ak plant jwe nan anviwònman yo? | **Essential Question:** What roles do plants and animals play in their environments? |
| **Ide Kle 5.10:** Idantifye egzanp ki montre aktivite kretyen vivan ki gen bon oswa move efè sou lòt òganis (pa egzanp, debwazman). | **Key Idea 5.10:** Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g., deforestation). |
| **Tèm syantifik:** 1. pwodui chimik 2. resikle | **Scientific Terms:** 1. chemicals 2. recycle |
| **Enfòmasyon:**<br>Kretyen vivan fè anpil chanjman negatif nan anviwònman an.<br><br>Lè kretyen vivan ratibwaze yon zòn (debwaze) pou konstwi kay ak sant komèsyal, yo detwi anpil abita. Sa vin lakòz li enposib pou bèt ki rete kote sa yo jwenn mwayen pou satisfè tout bezwen debaz yo. Se swa y al nan lòt anviwònman oswa yo mouri.<br><br>Kiltivatè travay tè pou yo mete semans. Nan travay tè, tè a gaye. Sa vin fè li pi fasil pou lapli ak van bwote tè a ale.<br><br>Lè tanpèt pase, yo lave jaden kote ki te gen pwodui chimik, sa ka lakòz polisyon dlo. Pwodui chimik sa yo desann nan sous dlo ak rivyè. Fatra avèk dechè ki soti nan kay ak biznis yo kapab al tonbe nan rezèvwa dlo.<br><br>Anpil polisyon ki nan lè a soti nan gazolin k ap boule nan machin. Vapè ki soti nan motè machin ale ak pwodui chimik yo nan lè a. Chemine izin yo gaye plis pwodui chimik toujou. Kèk nan pwodui chimik sa yo fòme lapli asid. Lapli asid kapab boule pyebwa ak lòt plant. Li kapab anpwazonnen lak ak rivyè.<br><br>Polisyon tè kapab soti nan angè ak fatra. Dechè tankou vye penti ak pwodui pou netwaye egou kapab anpwazonnen tè a. Polisyon ki soti nan aktivite kretyen vivan fè tè a, dlo ak lè a mwens vivab pou tout | **Content:**<br>Humans make many negative changes in the environment.<br><br>When people clear land (deforest) for houses and shopping malls, they destroy habitats. As a result, the animals that lived there can no longer meet all their basic needs. They must move or die.<br><br>Farmers plow land to plant crops. Plowing loosens soil. That makes it easier for rain and wind to carry away the soil.<br><br>Storms washing chemicals off fields can cause water pollution. These chemicals flow into streams and rivers. Trash and waster from homes and businesses can also enter the water supply.<br><br>Much air pollution comes from burning gasoline. Fumes from car engines carry chemicals into the air. Factory smokestacks release more chemicals. Some of these chemicals form acid rain. Acid rain can burn trees and other plants. It can poison lakes and rivers.<br><br>Soil pollution can come from fertilizers and trash. Wastes, such as old paint and drain cleaners, can poison the soil.<br>Pollution from human activity makes the land, water, and air less healthy for all organisms. |

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| òganis yo.<br><br>Gende fwa kretyen vivan chanje enviwonman an yon fason ki kapab itil.<br>Yo bwote dlo al nan tè sèch pou plant yo ka pousse.<br>Pafwa yo nouri bèt sovaj yo lè gen rate manje.<br>Gen kretyen vivan ki plante pyebwa pou ranplase sa k mouri pa kòz natirèl.<br><br>Kretyen vivan fè mwens polisyon konnye a. Pa egzanp, machin kounye a gen aparèy espesyal nan mòflè yo ki diminye gaz danjere ki pati al nan lè a.<br><br>Sèjousi, faktori yo degaje mwens pwodui chimik. Yo pa al jete dechè nan rivyè ak sous yo ankò.<br><br>Kounye a, gen anpil kretyen vivan ki itilize fason natirèl pou elimine raje ak ensèk. Yo flite mwens pwodui chimik sou zèp ak jaden yo.<br><br>Kretyen vivan resikle papye, vè, metal ak plastic tou. Resiklaj itilize mwens enèji pase kantite yo t ap itilize pou yo fabrike yon nouvo pwodui. Sa vle di mwens chabon boule, e boule mwens chabon vle di mwens polisyon. | Humans sometimes change environments in helpful ways.<br>Humans have brought water to dry lands so that plants can grow.<br>They sometimes feed wild animals when food is scarce.<br>Some humans plant trees to replace those that have died from natural causes.<br><br>People are also polluting less. For example, cars now have special devices on their tailpipes. These devices reduce the harmful gases that escape into the air.<br><br>Factories now release fewer chemicals. They don't dump wastes into rivers and streams.<br><br>Many people now use natural ways to get rid of weeds and insects. They spread fewer chemicals on fields and lawns.<br><br>People also recycle paper, glass, metal, and plastic. Recycling uses less energy than making new products. This means less coal is burned. Burning less coal means less pollution. |
| **Revizyon:**<br>1. Bay yon egzanp ki montre kouman aktivite kretyen vivan gen yon efè pozitif sou lòt òganis.<br>2. Bay yon egzanp ki montre kouman aktivite kretyen vivan gen yon efè negatif sou lòt òganis.<br>3. Pou ki sa resiklaj gen yon efè pozitif sou anviwònman an? | **Review:**<br>1. Give one example where human activity has a positive effect on other organisms.<br>2. Give one example where human activity has a negative effect on other organisms.<br>3. Why does recycling have a positive effect on the environment? |

| **Repons Kle:** | **Answer Key:** |
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| **Chapit 5:**<br><br>**5.1**<br>1. Yo rele plant vèt yo pwodiktè paske yo pwodwi nouriti debaz pout tèt yo ak pou tout lòt bèt.<br>2. Yon pwodiktè se yon òganis vivan tankou yon plant, ki kapab fè pwòp nouriti li. Yon mous (ki tou piti) ak yon gwo pye mapou se pwodiktè yo ye toulede. Yon konsomatè se yon òganis vivan ki pa kapab pwodui pwòp nouriti li e ki oblije manje lòt òganis vivan. Yon sèf se yon konsomatè ki manje plant; yon lyon se yon konsomatè ki manje lòt bèt.<br>3. Yon dekonpozè se yon òganis vivan ki manje dechè ak kakas plant ak bèt mouri. Dekonpzè yo depatya kadav lòt òganis yo. San yo, òganis ki mouri yo t ap anpile ret la. Enèji ak eleman nitritif yo gen an rezèv nan yo a t ap gaspiye. Lè dekonpozè yo depatya kadav òganis yo, yo retounen enèji an ak nitriyan ki te ladan yo a nan tè a pou plant yo itilize.<br>4. Yon chèn alimantè se sekans mouvman enèji alimantè ki nan òganis vivan yo. Yon chèn alimantè kòmanse avèk yon pwodiktè, pa egzanp, yon pye tomat ki itilize enèji solèy la pou pwodui manje. Apresa, yon vètè gendwa manje fèy tomat la pou l pran enèji ki te an rezèv ladan li. Epi konsa yon krapo vin manje vètè a pou l pran enèji a, anvan krapo a li menm al fini nan vant yon koulèv.<br><br>**5.2**<br>1. Plant vaskilè yo gen twa system – rasin, tij ak fèy.<br>2. Klowòplas sevi ak gaz kabonik, dlo, | **Unit 5:**<br><br>**5.1**<br>1. Green plants are called producers because they produce the basic food supply for themselves and for all animals.<br>2. A producer is a living thing, such as a plant, that can make its own food. A moss (very small) and a huge redwood tree are all producers. A consumer is a living thing that cannot make its own food and must eat other living things. A deer is a consumer that eats plants; a lion is a consumer that eats other animals.<br>3. A decomposer is a living thing that feeds on wastes and on the remains of dead plants and animals. Decomposers break down the dead bodies of other organisms. Without them, dead organisms would pile up. Their stored energy and nutrients would be wasted. When decomposers break down the bodies of dead organisms, they return energy and nutrients to the soil for plants to use.<br>4. A food chain is the movement of food energy in a sequence of living things. A food chain begins with a producer, such as a tomato plant that makes food from the sun's energy. Next, a tomato worm might eat the tomato leaf and get energy from the food stored in the leaf. A toad might eat the food stored in the tomato worm's body. Then the toad might become a meal for a hungry snake.<br><br>**5.2**<br>1. Vascular plants are made up of three systems – roots, stems, and leaves.<br>2. Chloroplasts use carbon dioxide, |

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| ak solèy la pou fè sik ki sèvi nouriti pou plant la.<br>3. Pwosesis sa a rele fotosentèz.<br>4. Yo absòbe dlo direkteman, tankou yon eponj. Yo tou piti. Yo pouse a tè a, kote yo kapab absòbe dlo avèk eleman nittritif ki nan anviwònman yo. Yo pa gen rasin toutbon nonplis. Sa yo genyen, se on seri pati ki sanble rasin ki fikse nan tè a. Pati yo ki sanble fèy pwodui nouriti ki deplase de selil an selil. | water, and light energy from the sun to make sugar. The sugar is food for the plant.<br>3. This process is called photosynthesis.<br>4. They absorb water directly, like a sponge. They are very small. They grow close to the ground, where they can absorb water and nutrients from their surroundings. They don't have real roots either. Instead, they have rootlike parts that anchor them to the ground. Their leaflike parts make food, which moves from cell to cell. |
| **5.3**<br>1. Yon piramid enèji montre kantite enèji ki pase de yon òganis vivan a on lòt atravè yon chèn alimantè. Pwodiktè (plant) fòme baz piramid la. Yo itilize anviwon 90 pousan enèji yo pran ki nan solèy la pou yo devlope. Yo sere lòt 10 pousan an nan tij, fèy ak lòt pati kò yo. Konsomatè (sèf) manje pwodiktè yo (plant). Yo jwenn sèlman 10 pousan nan enèji plant yo te gen an rezèv. Sèf itilize anviwon 90 pousan nan enèji yo jwenn nan plant yo pou yo devlope epi yo konsève lòt 10 pousan an nan kò yo. Se sa k fè konsomatè yo (sèf) dwe manje plant tout lajounen pou yo kapab siviv.<br>2. Cheval, jiraf, ekirèy ak lapen.<br>3. Lou ak krapo.<br>4. Lous ak yèn. | **5.3**<br>1. An energy pyramid shows how much energy is passed from one living thing to another along a food chain. Producers (plants) form the base of the pyramid. They use about 90 percent of the energy they get from the sun to grow. They store the other 10 percent in their stems, leaves, and other parts. Next, consumers (deer) eat the producers (plants). They get only the 10 percent of energy that the plants stored. The deer use about 90 percent of the energy they get from the plants to grow and then store the other 10 percent in their bodies. That's why consumers (deer) must eat plants all day in order to live.<br>2. Horses, giraffes, squirrels, and rabbits.<br>3. Wolves and frogs.<br>4. Bears and hyenas. |
| **5.4**<br>1. Yon plant oswa yon bèt se yon endividi. Ou menm, ou se yon endividi. Yon nenifa se yon endividi. Yon gwoup ki gen menm kalite endividi yo ka p viv nan menm ekosistèm lan, se yon popilasyon. Tout moun ki abite nan | **5.4**<br>1. One plant or animal is an individual. You are an individual, one waterlily is an individual. A group made up of the same kind of individuals living in the same ecosystem is a population. All the people living in one city is a population, a group of waterlilies is a |

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| yon vil fòme yon popilasyon; yon gwoup nenifa se yon popilasyon. Yon kominote se tout popilasyon k ap viv menm kote an.<br>2. Predatès yo limite kantite pwa ki nan yon abita.<br>3. Yon abita se yon anviwònman ki satisfè bezwen yon òganis vivan. | population. A community is all the populations that live in the same place.<br>2. Predators limit the number of prey animals in a habitat.<br>3. A habitat is an environment that meets the needs of a living thing. |
| **5.5**<br>1. Sou yon zile pa t gen ase manje pou tout elefan ki te gen la. Elefan ki te pi piti yo te bezwen mwens manje pase gwo elefan yo. Yo te rive viv epi repwodui pi fasil. Apre yon tan, se sèlman ti elefan yo ki t ap viv sou zile a. Yon lòt egzanp; koule kapab afekte sivi. Sipoze gen de koule ensèk nan yon popilasyon. De koulè yo se vèt ak wouj. Ensèk vèt yo gen plis chans siviv yon kote ki gen zèb. Li pa fasil pou ou wè yo tankou ou kapab wè ensèk wouj yo. | **5.5**<br>1. An island had too little food for all the elephants. The small elephants needed much less food than the large elephants. They were better able to live and reproduce. After a time, there were only small elephants living on the island. Another example is, color can also affect survival. Suppose there are two colors of insects in a population. The two colors are green and red. The green insects are more likely to survive in a grassy place. They are not as easy to find as the red insects. |
| 2. Yon lòt egzanp se yon papiyon de nui ann Angletè. Papiyon sa yo repoze yo lajounen sou twon pyebwa. Papiyon sa yo sèvi nouriti pou zwazo. Anvan yo te konstui faktori nan ane 1850 yo, pifò twon pyebwa yo te gen koulè klè. Zwazo yo te wè papiyon koulè fonse yo pi fasilman pase papiyon koulè klè yo. Kidonk pifò papiyon koulè fonse yo te disparèt nan vant zwazo. Sa te lakòz papiyon klè yo siviv epi repwodui. Men lè faktori yo koumanse lage sann nan lè a, sann lan vin kole sou kòs pyebwa yo. Anpil nan twon pyebwa yo vin nwa. Avan lontan kantite papiyon nwa yo ogmante. Zwazo yo manje plis nan papiyon klè yo kon sa papiyon nwa yo siviv. | 2. One example is the peppered moths in England. Peppered moths rest on tree trunks during the day. Birds feed on the peppered moths. Before factories were built in the 1850's, most tree trunks were light in color. Birds could see the dark-colored moths more easily than the light-colored moths. More of the dark moths were eaten. So more light-colored moths survived and reproduced. But when the factories put black soot into the air, the soot settled on the bark of the trees. Many of the tree trunks became black. Soon, the number of dark moths increased. The birds did not see them. They blended in with the dark tree trunks. The birds ate more light-colored moths. The dark moths survived. Changes in environment affect the number of a population. |

**5.6**

1. Fatra ki soti nan kay oswa nan faktori yo kapab al tonbe nan rivyè; dlo nan rivyè a vin kontamine, li pa bon pou bwè, li touye plant ak bèt tou. Lè dlo kontamine rivyè a rive nan lagon, l ap on danje pou manm kominote a. L ap gen efè negatif tou sou chèn ak rezo alimantè yo.
2. Faktori ak machin degaje gaz ki danjere nan lè a. Pwazon pou ensèk kiltivatè yo flite nan jaden yo polye lè a tou. Kèk nan pwazon sa yo touye bèt ak ensèk inosan.
3. Espas afekte òganis. Sipoze ou gen yon bokal plen mouch. Ou mete manje nan bokal la. Paske gen manje, popilasyon mouch yo ogmante. Men, ki sa ki pral pase popilasyon mouch sa a apre yon bon bout tan? Gen anpil manje toujou, men popilasyon an diminye. Anpil nan mouch yo mouri paske twòp dechè akimile nan bokal la. Vin pa gen ase espas pou mouch yo.

**5.7**

1. Chovsourit itilize ekolokasyon pou yo ka deplase nan fènwa. Yo pwodui son pike ki vwayaje byen lwen nan lè a. Lè son sa yo al frape yon objè ki sou pakou chovsourit la, yo fè yon eko. Chovsourit la koute eko a byen, kon sa li kapab determine si objè ki sou wout li a se yon pyebwa, yon wòch oswa yon lòt bèt.
2. Reken rive devlope yon sans nen fen. Adaptasyon sa a pèmèt yo pran sant nenpòt ti gout san menm si l te byen lwen.Yo kapab suiv sant lan pou y al dekouvri pwochen repa yo.

**5.6**

1. Wastes from homes and factories may enter a river. The water in the polluted rivers is unfit to drink. It also kills plant and animal life. When the polluted river water reaches a pond, it will harm its community members. It will also harm the food chains and food webs.
2. Factories and cars give off harmful gases into the air. Insect poisons that farmers spray on their crops also pollute the air. Some of these poisons kill harmless animals as well as insects.
3. Space affects organisms. Suppose you have a jar of flies. You put food in the jar. Because there is food, the population of flies grows. But what will happen to the population of flies after a longer time? There is still plenty of food, but the population has decreased. Many of the flies have died because of the buildup of wastes in the jar. There is not enough space for the flies.

**5.7**

1. Bats find their way in the dark using echolocation. They make high-pitched sounds that travel long distances through the air. When these sounds hit an object in the bat's path, they echo. The bat listens to the echo and can tell by the sound whether the object ahead is a tree, rock, or another animal.
2. Sharks have developed an excellent sense of smell. This adaptation allows them to smell even the smallest amount of blood from far away. They can follow the scent right to their next meal.

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| **5.8**<br>1. Plant ki depannn de van pou transpòte grenn yo gen grenn ki tou piti e ki lejè, osnon ki fèt tankou zèl. Plant ki pouse bò dlo k ap kouri gendwa gen grenn oswa fwi ki ka flote.<br>2. Kò balèn gri yo pèmèt yo naje 16 a 23 mil kimomèt pa ane. Yo pase sezon ete nan Aktik. Nan sezon otòn, yo ale nan zòn ki pi cho, kote yo fè pitit.<br>3. Zwa deplase ale nan nò oswa nan sid pou yo ka siviv chanjman sezon yo. Balèn gri naje ale nan dlo ki pi cho pou yo fè pitit, epi yo naje tounnen nan zòn Aktik nan sezon ete. Tamya ibène pandan sezon ivè; yo siviv granmesi ak grès yo gen an rezèv nan kò yo. | **5.8**<br>1. Plants that depend on wind to carry seeds have seeds that are tiny and light or have wing-like structures. Plants that live near moving water may have seeds or fruit that float.<br>2. Gray whales' bodies allow them to swim 16,000 to 23,000 kilometers a year. They spend the summer in the Arctic. In the fall, they swim to warmer waters. There, they give birth to their young.<br>3. Geese flying north or south to survive seasonal changes. Gray whales swim to warmer waters to give birth to their young and then swim back to the Arctic in the summer. Chipmunks hibernate during the winter by living on stored fat. |
| **5.9**<br>1. Kretyen vivan kapab bati kèk pati nan anviwonman yo epi deplase resous yo soti yon kote al on lòt kote, on jan pou yo ka rive viv nan prèske tout anviwonman natirèl ki egzizte sou latè.<br>2. Polisyon se sibstans danjere ki kapab kontamine lè, dlo, tè oswa pwovizyon alimantè. | **5.9**<br>1. Humans can build part of their environment and move resources from place to place, so humans can live in almost any natural environment on earth.<br>2. Pollution is harmful substances that damage the air, water, land, or food supply. |
| **5.10**<br>1. Gendefwa kretyen vivan chanje anviwònman an nan fason ki kapab itil. Yo bwote dlo al nan tè sèch pou plant yo ka pouse. Pafwa yo nouri bèt sovaj yo lè gen rate manje. Gen kretyen vivan ki plante pyebwa pou ranplase sa k mouri pa kòz natirèl.<br>2. Anpil polisyon ki nan lè a soti nan gazolin k ap boule nan machin. Vapè ki soti nan motè machin ale | **5.10**<br>1. Humans sometimes change environments in helpful ways. Humans have brought water to dry lands so that plants can grow. They sometimes feed wild animals when food is scarce. Some humans plant trees to replace those that have died from natural causes.<br>2. Much air pollution comes from burning gasoline. Fumes from car engines carry chemicals into the air. |

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| ak pwodui chimik yo nan lè a. Chemine izin yo gaye plis pwodui chimik toujou. Kèk nan pwodui chimik sa yo fòme lapli asid. Lapli asid kapab boule pyebwa ak lòt plant. Li kapab anpwazonnen lak ak rivyè yo.<br>3. Resiklaj itilize mwens enèji pase kantite yo t ap itilize pou yo fè yon nouvo pwodui. Sa vle di mwens chabon boule. E boule mwens chabon vle di mwens polisyon. | Factory smokestacks release more chemicals. Some of these chemicals form acid rain. Acid rain can burn trees and other plants. It can poison lakes and rivers.<br>3. Recycling uses less energy than making new products. This means less coal is burned. Burning less coal means less pollution. |