Chapit 4: Adaptasyon plant ak bèt	**Unit 4: Plant and animal adaptations**
Ide kle	**Key Ideas:**
4.1: Dekri kouman tout òganis vivan devlope, absòbe eleman nitritif, respire, repwodui ak elimine dechè.	4.1: Describe how all living things grow, take in nutrients, breathe, reproduce and eliminate waste
4.2 : Dekri kouman plant dwe adapte yo ak anviwònman yo pou yo ka siviv.	4.2: Describe how plants must be adapted to their environment in order to survive
4.3 : Dekri kouman bèt dwe adapte yo ak anviwònman yo pou yo ka siviv * Estrikti ak fonksyon yo (egzanp, zèl, pye, najwa, kal/ekay, plim, fouri, elatriye.) *Rive konprann, bèt reyaji dapre chanjman nan anviwònman yo (egzanp, batmankè, batman je, frison/latranblad) *Bèt chanje lè sezon yo chanje tou: - Ibènasyon - Migrasyon (sètadi, deplasman bèt oswa moun soti yon kote al on lòt kote, selon bezwen yo)	4.3: Describe how animals must be adapted to their environment in order to survive * Structures and their functions (e.g., wings, legs, fins, scales, feathers, fur, etc.) * Understand that animals respond to change in the environment (e.g., heart rate, eye blinking, shivering) * Animals change as seasons change - Hibernation - Migration (i.e., moving from place to place to meet needs) including human
4.4: Rekonèt karakteristik òganis vivan gendwa * Swa ereditè (koulè flè, koulè je). * Swa rezilta aprantisaj (konn naje, gen sikatris)	4.4: Recognize that traits of living things are both * Inherited (color of flowers, eye color). * Learned/acquired (being able to swim, having scars)
Rezime Chapit la	**Unit Overview**
Tout òganis vivan gen menm bezwen fondamantal yo, nouriti, dlo, lè, ak abri. Gen diferan fason òganis vivan debouye yo pou yo egziste. Li pa toujou fasil pou yo jwenn eleman fondamantal yo bezwen pou yo viv, men òganis vivan yo oblije degaje yo pou yo jwenn sa yo bezwen pou yo viv.	All livings things have the same basic needs. They are food, water, air, and shelter. Living things meet their needs in a variety of ways. Meeting basic needs isn't always easy, but living things must do it to survive.
Plants ak bèt gen adaptasyon ki ede yo	Plants and animals have adaptations that help them meet their needs. An adaptation

jwenn sa yo bezwen pou yo viv. Yon adaptasyon se on pati nan kò yo oswa on konpòtman òganis vivan eritye nan paran yo, ki pèmèt yo rive siviv. Lè òganis vivan repwodui, pitit yo gen karakteristik yo. Pifò karakteristik devlope apati on mariaj eredite ak devlopman pèsonèl. Devlopman pèsonèl se tout bagay nan lavi yon moun - kote ou rete, moun ou konnen, ak aktivite ou fè. Devlopman pèsonèl gen enfliyans sou anpil karakteristik.	is a body part or a behavior that a living thing gets from its parents, and that helps it to survive. When living things reproduce, the offspring will carry the parents' traits. Most traits develop through a combination of heredity and nurture. Nurture is everything in your life – where you live, the people you know, and the activities you do. Nurture influences many traits.

Chapit 4: Adaptasyon Plant ak Bèt	**Unit 4: Plant and Animal Adaptations**
Kesyon Esansyèl: Kijan plant ak bèt te fè egzakteman pou yo te viv nan anviwònman kote y ap viv la?	**Essential Question:** How are plants and animals well-suited to live in their environments?
Lide kle 4.1: Dekri kouman òganis vivan devlope, absòbe eleman nitritif, respire, repwodui epi elimine dechè.	**Key Idea 4.1:** Describe how all living things grow, take in nutrients, breathe, reproduce and eliminate waste.
Tèm syantifik: 1.ekzoeskèlèt 2. metamòfoz 3.jèminasyon 4. spò 5. fèy 6. gametofit 7. sporofit 8. chanjman po 9. lanmidon 10. masipyal 11. anbriyon 12. anfibi	**Scientific Terms:** 1. exoskeletons 2. metamorphoses 3. germination 4. spores 5. fronds 6. gametophyte 7. sporophyte 8. molt 9. starch 10. marsupials 11. embryo 12. amphibians
Enfòmasyon: *Karakteristik òganis vivan: - Yo devlope, - Yo bezwen eleman nitritif. (Eleman nitritif se sibstans òganis vivan bezwen pou enèji ak devlopman.) - Yo ka repwodui pou yo ogmante popilasyon yo (kidonk fè pitit osnon repwodiksyon plis nan yo menm). - Yo mouri nan fen sik lavi yo. *Óganis ki pa vivan: Yo pa p viv, kidonk yo pa bezwen eleman nitritif. Yo pa kapab fè repwodiksyon. *Kouman òganis vivan devlope? Plant ak bèt bezwen nouriti pou yo kapab devlope, pou yo kapab viv. Nouriti ba yo enèji ak lòt materyo ki nesesè pou yo kapab devlope. Pou plant yo devlope yo transfòme enèji solèy la an sik ak lanmidon yo pral itilize pou yo pouse fèy, flè, ak fwi. Plant transfòme kèk sik epi yo sere yo sou fòm lanmidon. Sik ak lanmidon plant yo itilize pou yo viv, pou yo devlope, yo konn fè rezèv nan rasin, tij, fèy, fwi osnon grenn yo. **Sik Lavi:** Plant apati de semans:	**Content:** * Characteristics of living things: - They grow during their lives, - They need nutrients. (Nutrients are substances a living thing needs for energy and growth.) - They can make more of their own kind through reproduction (producing young, or more of its own kind). - They die at the end of their life cycles. * Nonliving things: They are not alive, so they do not need nutrients. They cannot reproduce. * How do living things grow? Plants and animals need food in order to grow and to live. Food supplies the energy and the materials that are necessary for plants and animals to grow. Plants grow by turning the sun's energy into sugar and starches which they use to make leaves, flowers, and fruits. Plants change some sugars and store them as starches. The sugars and starches that plants use to live and grow might be stored in their roots, stems, leaves, fruits and seeds. **Life-Cycle:** Plants from seeds:

Semans rete nan tè jiskaske kondisyon yo bon pou jèminasyon. Apre sa yo koumanse boujonnen.	Seeds stay in the ground until conditions are right for germination. Then they grow into seedlings.
Flè pwodui nekta pou myèl. Myèl yo transpòte polèn yo nan lòt flè. Selil espèm ki nan polèn lan al kontre ak selil ze. Flè yo vin tounen fwi ki gen grenn andedan li. Bèt manje fwi yo epi yo rann grenn yo nan yon lòt zòn.	A flower provides nectar for bees. The bees carry pollen to another flower. Sperm cells in the pollen join with egg cells. Flowers turn into fruit with seeds inside. Animals eat the fruit and deposit the seeds in a new area.
Plant apati de spò: (pa egzanp, foujè)	Plants from spores (for example, fern):
Ti gwoup spò leve sou fèy foujè yo. Grenn spò ki soti nan gwoup yo tonbe sou tè a. Yo leve tankou ti plant ki gen fòm kè. Se sa yo rele jenerasyon gametofit la.	Clusters of spores grow on the fern fronds. Spores are released from the clusters. Spores land on damp ground. They grow into heart-shaped plants. This is the gametophyte generation.
Gametofit yo pwodui espèm ak ze. Espèm lan fètilize ze yo. Ze ki fin fètilize yo devlope an boujon; boujon ouvè kò yo, epi yo tounen fèy. Se sa yo rele jenerasyon sporofit la.	The gametophytes produce sperm and eggs. The sperm fertilize the eggs. The fertilized eggs develop into fiddleheads. The fiddleheads uncurl and grow into fern fronds. This is the sporophyte generation.
Bèt jwenn enèji yo bezwen nan nouriti yo konsome. Yo pa kapab fè pwòp nouriti yo. Se manje pou yo manje. Lè bèt manje kawòt ki se on rasin, tomat ki se fwi, oswa aspèj ki se tij, yo manje sik ak lanmidon ki an rezèv nan plant yo.	Animals get the energy they need from the food they eat. They cannot make their own food. They must eat. When animals eat carrots, which are roots, or tomatoes, which are fruits, or asparagus, which are stems, they are eating the sugars and starches that the plant stored.
Bèt devlope diferan fason.	Animals grow and develop in different ways.
Bèt ki gen eskèlèt entèn tankou poul ak chwal: Zo ki andedan kò yo devlope san yo pa chanje fòm, yo vin pi gwo tou senpleman. Bèt ekzoeskèlèt, kidonk ki gen eskèlèt ekstèn tankou arenyen ak kribich: Bèt sa yo chanje eskèlèt lè y ap devlope paske ekzoeskèlèt la pa devlope ansanm avèk yo, yo oblije chanje po. Chak fwa on bèt chanje po, li devlope on ti kras pi plis epi yon lò eskèlèt ki pi gwo parèt sou kò l.	Animals with internal skeletons, such as chickens and horses: The bones inside their bodies grow and they do not change form. They just grow bigger. Animals with exoskeletons, such as spiders and crayfish: These animals shed their hard outer covering when they grow. Because the exoskeletons do not grow as they grow, the animals must shed, or molt, their exoskeletons. Each time the animal molts, it grows a little bigger. Then it

	grows a new and larger shell.
Lòt bèt, tankou papiyon, pase nan yon pwosesis yo rele metamòfoz. Sa vle di kò yo transfòme. Toudabò yo te kale soti nan ze sou fòm lav oswa cheni. Lav la oswa cheni an manje, li devlope epi li vin pouse yon krizalid oswa yon kokon. Lè cheni an andedan kokon an oswa krizalid la, yo rele li yon ensèk. Ensèkk sa a pral chanje epi l ap vin tounen yon papiyon.	Other animals, such as butterflies and moths, go through a process called metamorphoses. This means that their bodies change form. First they hatch from the egg as a larva or caterpillar. The larva or caterpillar then eats, grows and forms a chrysalis or cocoon. Inside the cocoon or chrysalis, the caterpillar is called a pupa. The pupa then changes form and an adult butterfly or moth will emerge.
Chak bèt devlope selon rit pa yo. Yon mouch pran nan zòn10 jou konsa pou l devlope. Yon chyen devlope apeprè sèt fwa pi vit pase kretyen vivan.	Animals grow at different rates. A fruit fly grows to be an adult in about 10 days. A dog develops about seven times faster than a human.
Respire:	**Breathe:**
Lè yon pwason ouvri bouch li, dlo rantre epi l pase sou branchi li. Branchi yo absòbe oksijèn ki nan dlo a, epi yo voye oksijèn lan nan kò pwason an. Dlo rejè ki soti nan kò pwason an pase nan ouvèti najwa yo.	When a fish opens its mouth water comes in and washes over the gills. They absorb oxygen from the water and pass it into the fish's body. Waste water goes out through the slits.
Elimine dechè:	**Eliminate waste:**
Bèt pwodwi dechè. Yo pwodui dechè tou lè yo respire. Yo lage gaz kabonik. Plants lage oksijèn kòm pwodui dechè	Animals release waste products. They also release waste products when they breathe. They release carbon dioxide as a waste product. Plants release oxygen as a waste product.
Repwodiksyon Plant: Flè nan plant yo pwodui fwi, epi fwi yo, yo menm, yo gen grenn ladan yo ki pral tounen nouvo plant. Bèt: Prèske tout bèt soti nan ze fètilize. Ze fètilize yo se ze ki te an kontak avèk selil espèm yo. Mamifè, tankou ti chat ak moun, kòmanse lavi yo andedan vant yon manman. Masipyal yo se mamifè ki pa fin devlope andedan vant manman an. Yo oblije rete nan you pòch espesyal ki nan kò manman	Reproduction Plants: Flowers of the plants produce fruit, and the fruit contains seeds. The seeds grow into new plants. Animals: Almost all animals come from fertilized eggs. Fertilized eggs are eggs that have joined with sperm cells. Mammals, such as kittens and humans, begin life inside a mother. Marsupials are mammals that don't develop fully inside the mother's bodies. They need to stay in the mother's pouch

an jiskaske yo vin pi gwo. Kangouwou se yon egzanp masipyal. Anpil zwazo ponn ze nan nich. Ze yo gen on po ki pwoteje anbriyon k ap devlope a. Anpil ti zwazo, lè yo kale, yo pa gen plim. Fò yo ba yo manje epi fò yo kenbe yo cho. Pifò reptil ponn ze tou. Men lè reptil kale yo pare pou yo siviv pou kont yo. Pwason ak anfibi yo ponn ze yo nan dlo. Lè ti pwason kale, yo sanble tèt koupe ak paran yo. Yo pare pou yo siviv pou kont yo.	until they get bigger. The kangaroo is an example of a marsupial. Many birds lay eggs in nests. The eggs have shells that protect the growing embryos inside. When many young birds hatch, they have no feathers. They need to be fed and kept warm. Most reptiles also lay eggs. But when reptiles hatch, they are ready to survive on their own. Fish and amphibians lay their eggs in water. When fish hatch, they look just like their parents. They are ready to survive on their own.
Revizyon: 1. Ki sa plant ak bèt bezwen pou yo devlope? 2. Kouman bèt ki gen ek zoeskèlèt devlope? 3. Kilès bèt ki gen eskèlèt entèn? 4. Kilès bèt ki pase metamòfoz? 5. Ki dechè ki soti nan plant? 6. Kilès bèt ki ka siviv pou kont yo apre yo fin kale?	**Review:** 1. What do plants and animals need in order to grow? 2. How do animals with exoskeletons grow? 3. What animals have internal skeletons? 4. What animals go through metamorphoses? 5. What is plants' waste product? 6. What animals can survive on their own when hatch?

Chapit 4: Adadtasyon plant ak bèt	Unit 4： Plant and Animal Adaptations
Kesyon Esansyèl: Kisa k fè plant ak bèt fèt pou yo viv nan anviwònman kote yo ye a?	**Essential question:** How are plants and animals well-suited to live in their environments?
Lide kle 4.2: Dekri kouman plant dwe byen adapte nan anviwònman kote yo ye a pou yo siviv.	**Key Idea 4.2:** Describe how plants must be adapted to their environment in order to survive.
Tèm Syantifik: 1. evapore	**Scientific Terms: 1. evaporate**
Enfòmasyon: Pou yo siviv nan anviwònman kote yo ye a, plant dwe adapte yo ak anviwonman an. Plant ki viv nan diferan anviwònman, fèy yo, flè yo, tij yo ak rasin yo diferan. Estrikti sa yo gendwa gen diferan dimansyon, fòm, epesè, koulè osnon sant. Óganis vivan gen estrikti diferan paske yo viv nan anviwònman diferan, epi tou paske yo se espès diferan. Pa egzanp, plant ki nan dezè tankou rakèt, sere dlo nan fèy yo ak nan twon yo. Fèy yo tou piti an fòm egui on jan pou dlo pa evapore fasil. Anpil plant dezè kòn sere enèji solèy, men yo pa pwodui nouriti lajounen lè fè cho, konsa yo pa pèdi dlo. Semans bezwen espas, limyè, eleman nitritif ak dlo pou yo ka devlope. Konsa on plant oblije gaye semans li byen lwen l. Diferan espès plant adapte fason yo gaye semans yo tou. Plant ki depann de van pou gaye semans yo, ti grenn yo toupiti, yo lejè, osnon estrikti yo tankou zèl. Plant ki viv bò dlo k ap kouri gendwa gen grenn osnon fwi ki ka flote. Gen plant ki depann de bèt pou gaye semans yo. Plant sa yo dwe pwodui fwi ki gen bon gou ak bèl koulè pou atire bèt. Lè kondisyon anviwònman an chanje, òganis vivan yo adapte yo. Pa egzanp, fèy nan kèk plant vèt chanje pozisyon lè direksyon limyè a chanje. Gen pati nan kèk plant ki chanje lè sezon chanje. Fwi ak semans kite plant yo; fèy yo gendwa chanje koulè epi yo tonbe. Apre sa, lòt fèy ak lòt flè parèt. Nan lanati, òganis ki manm yon espès nan konpetisyon fawouch youn ak lòt pou	**Content:** In order to survive in their environment, plants must adapt to that environment. Plants in different environments have different leaves, flowers, stems, and roots. These structures may be different in size, shape, thickness, color, and scent. Structures of living things are different to fit their environment and the needs of the species. 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. 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. When environmental conditions change, living things respond or also change. For example, the leaves of some green plants change position as the direction of light changes. Parts of some plants change with the seasons. Fruit and seeds leave the plants; leaves may change color and drop. Later new leaves and flowers grow. In nature, organisms of a species compete fiercely for food, space, light, water and

nouriti, espas, limyè, dlo ak konpayèl. Diferans endividyèl fè kèk manm yon espès gen meyè chans pou yo siviv epi pou yo repwodwi. Pa egzanp, yon pyebwa ki wo resevwa plis solèy pase ti pyebwa k ap viv nan lonbraj li.	mates. Individual differences give some members of a species a better chance of surviving and reproducing. For example, a tall tree gets more sun than the smaller trees that live in its shade.
Revizyon: 1. Ki jan yon pye rakèt adapte l ak anviwònman li? 2. Ki jan plant reyaji lè gen chanjman nan anviwònman yo?	**Review:** 1. How is a cactus adapted to its environment? 2. How do plants respond to changes in the environment?

Chapit 4: Adaptation plant ak bèt	Unit 4: Plant and Animal Adaptations
Kesyon esansyèl: Ki sa k fè plant ak bèt byen adapte yo pou yo viv nan anviwònman kote yo ye a?	**Essential Question:** How are plants and animals well-suited to live in their environments?
Lide Kle 4.3: Dekri kouman bèt dwe adapte yo ak anviwònman an pou yo siviv. * Estrikti yo ak fonksyon yo (egzanp., zèl, janm, najwa, kal, plim, fouri, elatriye…) * Rive konprann bèt reyaji lè gen chanjman nan anviwònman yo (egzanp, batman kè, batman je, frisonnen) * Bèt chanje lè sezon yo chanje - Ibènasyon - Migrasyon (sètadi, deplase al lòt kote ki pi bon pou yo) Sa valab pou kretyen vivan tou.	**Key Idea 4.3:** Describe how animals must be adapted to their environment in order to survive. * Structures and their functions (e.g., wings, legs, fins, scales, feathers, fur, etc.) * Understand that animals respond to change in the environment (e.g., heart rate, eye blinking, shivering) * Animals change as seasons change - Hibernation - Migration (i.e., moving from place to place to meet needs) including human
Tèm syantifik: 1. deplase/migre 2. Ibène 3.swe	**Scientific Terms:** 1. migrate 2. hibernate 3. perspire
Enfòfasyon: Bèt dwe adapte ak anviwònman yo pou yo ka siviv. Souvan yon bèt konn fèt ak chanjman nan kò li ki pèmèt li gen plis chans pou l siviv pase lòt bèt ki nan menm espès la. Chanjman tankou janm ki pi long oswa je ki pi gwo, pèmèt yon bèt jwenn plis nouriti, viv pi lontan pase lòt bèt ki pa gen chanjman sa yo. Lè bèt ki gen chanjman sa yo fè pitit, pitit yo eritye menm chanjman sa yo tou. Konsa, bèt sa yo gen plis chans pou se yo menm ki siviv nan espès yo a. Pa egzanp, chovsourit se sèl mamifè ki konn vole. Zansèt yo se te ti mamifè ki te viv nan pyebwa. Pandan plizyè milyon lane, mamifè sa yo pouse zèl, epi yo kòmanse voltije soti nan yon pyebwa al nan yon lòt pou yo chache nouriti. Kòm rezilta, zo nan pye devan yo vin pi long, dwèt long yo vin kouvri ak yon po fen, ki vin fòme zèl chovsourit yo. Bèt tankou lenks pouse plis fouri pou sezon livè. Fouri a pwoteje yo kont fredi. Li ede yo kenbe chalè kò yo, li bare fredi pou yo.	**Content:** Animals must be adapted to their environment in order to survive. Often an animal is born with changes to its body that give it a better chance of survival than other animals of its species. Changes such as longer legs or larger eyes allow an animal to find more food and live longer than those that have not changed. When animals with these body changes have babies, the changes are passed on to their young. Eventually, the animals with these characteristics become the most common members of the species. For example, bats are the only mammals that fly. Their ancestors were small mammals that lived in trees. Over millions of years, these mammals grew flaps of skin on their bodies. They began to glide from one tree to another to find food. Eventually, the bones of their front feet lengthened. The long fingers were covered with thin skin, which formed the bat‘s wings. Animals such as lynxes grow more fur for the cold winter. This fur insulates the animals. It keeps their body heat in and the

	cold out.
Fòk, balèn, ak mòs viv nan abita dlo frèt. Yo gen yon gwo kouch grès anba po yo ki pèmèt yo rete cho.	Seals, whales, and walruses all live in cold-water habitats. They have a thick layer of blubber, or fat, under their skin that helps keep their body warm.
Bèt pèdi pifò nan chalè kò yo apati zòrèy yo. Zòrèy rena polè piti konpare ak zòrèy kouzen li, rena wouj la. Paske zòrèy rena polè a piti, sa pèmèt li konsève plis chalè nan kò li.	Animals lose much of their body heat through their ears. The arctic fox has tiny ears compared to those of its cousin, the red fox. The arctic fox's smaller ears help it keep more heat in its body.
Plim pengwen pèmèt pengwen kenbe kò yo cho nan dlo frèt. Plim sou deyò yo enpèmeyab, konsa dlo pa mouye po pengwen an. On seri ti plim swa kenbe lè cho ant po pengwen yo ak plim ki sou deyò yo.	A penguin's feathers help keep it warm in cold water. The outer feathers are waterproof to keep water away from the penguin's skin. Fluffy feathers called down trap warm air between its skin and its outer feathers.
Janm long ak bèk long ibis pèmèt li mache nan rivyè pou l chache pwason anba dlo a.	The long legs and beak of the ibis allow it to walk into shallow rivers and find food in the riverbed.
Je krapo anlè tèt li. Pozisyon je yo pèmèt krapo a kontwole danje san li pa oblije soti tout rès kò li nan dlo a.	A bullfrog's eyes are on the top of its head. This positioning allows the frog to look out for danger without bringing the rest of its body out of the water.
Pye kabrit lan mòn kouvri ak yon gwo po di yo rele zago. Chak zago yo fann epi anba yo tankou yon kawotchou ki pèmèt kabrit la gen priz menm lè kote l ap mache a pa nivo, tankou sou dan wòch.	A mountain goat's foot has a hard covering called a hoof. Each hoof is split and has a rubbery bottom to give the goat a secure grip on uneven, rocky ground.
Bèt reyaji lè gen chanjman nan anviwònman yo tou.	Animals respond to changes in the environment too.
Lè tanperati a cho bèt yo swe, lè fè frèt yo tranble. Gen lòt chanjman ki lakòz je yo bat, oswa ki fè kè yo bat pifò, ki fè souf yo pi kout. Se sans bèt yo ki pèmèt yo konprann chanjman ki rive nan anviwonman yo. Enfòmasyon sa yo gendwa ba yo avètisman sou danje, osnon ede yo jwenn nouriti ak konpayèl.	When the weather warms, they perspire. When it cools, they shiver. Other changes cause their eyes to blink, or speed up their hearts and breathing. Animals learn about environmental changes through their senses. This information can warn of danger or help find food and mates.

Swe se fenomèn dlo k ap soti anba po pou pèmèt chalè ki twòp kite kò a.	To perspire is to release extra heat by letting water escape through the skin.
Gen espès bèt ki adapte konpòtman yo pou siviv chanjman nan sezon yo. Gen bèt ki deplase ale kote klima a pi cho oswa pi frèt. Ou ka remake gen sèten zwazo ou wè sèlman nan prentan ak ete. Petèt ou konn wè zwa vole nan direksyon nò oswa sid. Lòt bèt, tankou ekirèy ak lous ibène; yo pase ivè a ap dòmi; kò yo siviv granmesi grès yo gen an rezèv.	Animal species have adapted their behaviors to survive seasonal changes. Some animals may migrate to warmer or cooler climates. You may have noticed that you see certain birds only in the spring and summer. Perhaps you have seen geese flying north or south. Other animals, such as chipmunks and bears, hibernate during the winter by living on stored fat.
Migre se deplase soti yon kote al on lòt kote, anjeneral akòz chanjman sezon.	To migrate is to move from one place to another, usually with the change of seasons.
Ibène se fè tout ivè a ap dòmi, pandan kò a ap siviv granmesi rezèv grès.	To hibernate is to go to sleep for the winter and live on stored fat.
Nan lanati, bèt nan gwo konpetisyon fawouch pou nouriti, espas, limyè dlo, ak konpayèl. Pa egzanp, pan ki gen pi bèl ke a gen plis chans pou l attire konpayèl pou yo ka pwodui.	In nature, animals compete fiercely for food, space, light, water and mates. For example, the peacock with the brightest tail has the best chance of attracting mates and reproducing.
Kondisyon anviwònman an afekte konpòtman kèk bèt. Zwazo ak lòt bèt fè nich lè sezon yo ak lòt kondisyon favorab pou ze yo osnon pitit yo.	Some animal behaviors are influenced by environmental conditions. Birds and other animals build nests when the seasons and the conditions are right for the eggs and the young.
Anplis konpòtman yo, kondisyon anviwònman an afekte karakteristik sèten bèt. Pa egzanp, bèt gendwa mete grès an rezèv oswa pouse kouch fouri pi epè pou prepare pou livè. Yo gendwa chanje koulè fouri yo tou, fè l vin blan on jan pou yo kapab sèvi ak nèj la kòm kamouflaj. Lè tanperati ap vin cho, yo pèdi fouri ak grès yo te pran pandan ivè a epi yo chanje koulè ankò.	Besides behavior, certain animal characteristics are influenced by changing environmental conditions. For example, animals may store fat or grow thick coats to prepare for winter. They might also change fur color to white for camouflage in the snow. When the weather warms, they shed their winter fur and fat, and change color again.
Bèt gwosè yo ye a pou on rezon. Gwosè on	Animals are the sizes they are for a reason.

bèt ede l siviv. Jiraf ka manje kote lòt bèt pa ka rive. Yo kapab tou wè lènmi yo pi vit. Kou long yo a pèmèt yo wè pa lòtbò touf raje ak pyebwa. Gen makak ki kapab deplase ak anpil vitès akòz yo tèlman piti. Vitès yo ede yo jwenn nouriti, epi evite lènmi.	Their size helps them survive. Giraffes can eat food that other animals cannot reach. They can also spot their enemies quickly. With their long necks, they can see over bushes and trees. Some monkeys can move quickly because they are so small. Their speed helps them get food and avoid enemies.
Gen diferans pami manm yon popilasyon. Diferans sa yo rele varyasyon. Varyasyon pami òganis kapab fèt sou baz koulè, fòm, oswa gwosè. Varyasyon kapab afekte sivi yon popilasyon. Bèt ki siviv kapab repwodui epi varyasyon ki pèmèt yo siviv la yo pase yo bay pitit yo. Pa egzanp, sou yon zile pa te gen ase nouriti pou tout elefan yo. Elefan ki te pi piti yo te bezwen mwens nouriti pase pi gwo elefan yo. Elefan ki te pi piti yo te rive siviv epi repwodui pi fasil. Rive on lè se ras elefan sa yo ki te sou zile a.	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. 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.
Koulè ka afekte sivi tou. Sipoze ta gen de koulè ensèk nan yon popilasyon, vèt ak wouj. Ensèk vèt yo gen plis chans pou yo siviv nan yon anviwònman ki kouvri ak zèb. Yo pa fasil pou ou wè yo tankou ensèk wouj yo.	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.
Revizyon: 1. Ki sa bèt fè lè yo swe? 2. Bay yon egzanp kouman bèt reyaji ak chanjman sezon yo. 3. Bay yon egzanp kouman karakteristik sèten bèt se rezila enfliyans chanjman nan kondisyon anviwònman an? 4. Kouman koulè afekte sivi?	**Review:** 1. What do animals do when they perspire? 2. Give one example of how an animal responds to changes in the seasons. 3. Give one example of how certain animal characteristics are influenced by changing environmental conditions? 4. How does color affect survival?

Chapit 4: Adaptasyon plant ak bèt	Unit 4: Plant and Animal Adaptations
Kesyon esansyèl: kouman plant ak bèt byen adapte yo pou viv nan aviwònnman yo?	**Essential Question:** How are plants and animals well-suited to live in their environments?
Lide: 4.4: Rekonèt karakteristik òganis vivan se alafwa * eritaj (koulè flè, koulè je). * aprantisaj/akizisyon (konn naje, pote mak)	**Key Idea 4.4:** Recognize that traits of living things are both * inherited (color of flowers, eye color). * learned/acquired (being able to swim, having scars)
Tèm syantifik: 1. trè -karakteristik 2. ereditè-eritaj 3.pitit-pwojeniti	**Scientific Terms:** 1.trait 2. inherited 3. offspring
Enfòmasyon: Trè se kalite oswa karakteristik yon òganis vivan oswa yon espès. Pifò pwason gen yon sèl je nan chak bò tèt yo. Pye pwa gen fèy vèt, zwazo gen de zèl. Yon espès se yon gwoup òganis vivan ki pataje menm karakteristik yo. Tout kretyen vivan fè pati menm espès la. Tout chen fè pati menm espès la tou. Syantis yo gwoupe òganis vivan dapre karakteristik yo pataje ansanm. Óganis vivan repwodui manm pwòp espès pa yo. Pifò òganis vivan sanble anpil lòt manm yo. Pa gen de tig ki gen rè yo nan menm plas, men on sèl koudèy ap fè ou remake tou le de se tig yo ye. Tout tig fè pati menm espès la. Paran transmèt trè ereditè yo bay pitit yo. Pitit se òganis vivan paran pwodui, oswa ti plant ak ti bèt. Gen trè ou kapab eritye, kon sa tou gen lòt ou kapab aprann. Paran transmèt trè ereditè yo bay pitit yo. Pa egzanp, krapo konn naje depi yo fèt.	**Content:** Traits are qualities or characteristics of a living thing or a species. Most fish have one eye on each side of their head. Bean plants have green leaves, and birds have two wings. A species is a group of living things that share characteristics. All human beings belong to the same species. All dogs belong to the same species too. Scientists group living things according to their shared characteristics. Living things reproduce members of their own species. Most living things look very much like other members of their species. No two tigers have stripes in exactly the same place, but you can tell at a glance that each one is a tiger. Tigers belong to the same species. Inherited traits are passed down from parents to offspring. Offspring are new living things that parents produce, or the young of plants and animals. Some traits can be inherited and some can be learned. Inherited traits are passed from parents to their young. For example, frogs are able to swim when they are born. A parent frog

Yon manman/papa krapo pase aptitid naje a bay ti krapo yo. Si de chen nwa fè pitit, pifò nan ti chen yo gen anpil chans pou yo soti nwa. Flè solèy pwodui grenn ki devlope kòm flè solèy. Yon òganis vivan kapab devlope yon nouvo karakteristik apre li fin fèt. Karakteristik sa yo pa ereditè kidonk pa kapab transmèt. Pa egzanp, ou kapab devlope mis ou nan fè espò, leve fè. Ou ka tenn cheve ou blonn. Yon jako ka aprann di kèk mo nan langaj kretyen vivan. Men karakteristik sa yo kapab transmèt. Kapasite pou naje se yon trè moun dwe aprann, se pa yon trè ereditè. Menm si yon manman ak yon papa ta chanpyon nan naje, pitit yo ap konn naje sèlman si yo aprann yo kouman pou yo naje.	will pass on the ability to swim to its young. If two black dogs have puppies, most of their puppies will probably be black. Sunflowers produce seeds that grow into new sunflowers. A living thing can develop a new characteristic after it is born. These characteristics cannot be inherited or passed on. For example, you can build large muscles by lifting weights. You can dye your hair blond. A parrot can learn to say human words. But these traits cannot be passed on to offspring. The ability to swim is a trait that must be learned by humans. It is not an inherited trait. Even if a mother and father are champion swimmers, their children can swim only if they are taught.
Revizyon: 1. Ki sa ki pwojeniti-pitit? 2. Bay egzanp yon trè. 3. Bay egzanp yon trè ki ereditè. 4. Bay egzanp yon trè moun aprann.	**Review:** 1. What are offspring? 2. Give an example of a trait. 3. Give an example of a trait that you inherited. 4. Give an example of a characteristic you learned.

Repons	Answer Key
Chapit: 4	**Unit: 4**
4.1 1. Plant ak bèt bezwen nouriti pou yo ka devlope, pou yo ka viv. Nouriti gen enèji ak materyo ki nesesè pou plant ak bèt devlope. 2. Bèt ki gen ekzoeskèlèt tankou areyen ak kribich jete gwo po ekstèn lan lè y ap devlope paske ekzoeskèlèt la pa devlope li menm, kidonk bèt sa yo dwe jete oswa chanje ekzoeskèlèt yo. Chak fwa on bèt chanje po, li devlope on ti kras pi plis. Konsa li vin pouse yon lot po ki pi gwo. 3. Poul, cheval. 4. Papiyon. 5. Oksijèn. 6. Pwason.	**4.1** 1. Plants and animals need food in order to grow and to live. Food supplies the energy and the materials that are necessary for plants and animals to grow. 2. Animals with exoskeletons, such as spiders and crayfish, shed their hard outer covering when they grow because the exoskeletons do not grow as they grow, so the animals must shed, or molt, their exoskeletons. Each time it molts, the animal grows a little bigger. Then it grows a new and larger shell. 3. Chicken, horses. 4. Butterflies and moths. 5. Oxygen. 6. Fish.
4.2 1. Rakèt konsève dlo nan fèy yo ak nan twon yo. Yo gen fèy ki an fòm ti egui pou anpeche dlo evapore twò fasil. Anpil plant dezè konsève enèji solèy, men yo pa pwodui nouriti lajounen lè fè cho, konsa yo pa pèdi dlo. 2 Fèy kèk plant vèt chanje pozisyon lè direksyon limyè a chanje. Gen pati nan kèk plant ki chanje lè sezon chanje. Fwi ak semans kite plant yo; fèy gendwa chanje koulè anvan yo tonbe. Apre sa lòt fèy ak flè parèt.	**4.2** 1. 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. 2. The leaves of some green plants change position as the direction of light changes. Parts of some plants change with the seasons. Fruit and seeds leave the plants; leaves may change color and drop. Later, new leaves and flowers grow.
4.3 1. Swe se fenomèn dlo k ap soti anba po pou pèmèt chalè ki twòp kite kò a. 2. Espès bèt adapte konpòtman yo pou yo kapab siviv chanjman sezon yo. Gen bèt ki migre al	**4.3** 1. To perspire is to release extra heat by letting water escape through the skin. 2. Animal species have adapted their behaviors to survive seasonal changes. Some animals may migrate

kote klima a pi cho oswa pi frèt. Ou dwe remake gen sèten swazo ou wè sèlman nan prentan ak ete. Byen pètèt ou konn wè zwa ki vole nan direksyon nò oswa sid.	to warmer or cooler climates. You may have noticed that you see certain birds only in the spring and summer. Perhaps you have seen geese flying north or south.
3. Bèt gendwa mete grès an rezèv oswa pouse kouch fouri pi epè pou prepare pou livè. Yo kapab chanje koulè fouri yo an blan ki sèvi kòm kamouflaj nan lanèj. Lè tan a vin pi cho, yo pèdi fouri ak tout grès yo, epi yo chanje koulè ankò.	3. Animals may store fat or grow thick coats to prepare for winter. They might also change fur color to white for camouflage in the snow. When the weather warms, they shed their winter fur and fat, and change color again.
4. Sipoze gen de koulè ensèk nan yon popilasyon, vèt at wouj. Ensèk vèt yo gen plis chans pou yo siviv yon kote ki kouvri ak zèb, paske li pa fasil pou ou rekonèt yo menm jan ou ta wè ensèk wouj yo.	4. 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.
4.4	**4.4**
1. Pitit se òganis vivan paran pwodui, oswa ti plant ak ti bèt .	1. Offspring are new living things that parents produce, or the young of plants and animals.
2. Trè se kalite oswa karakteristik yon òganis vivan oswa yon espès. Pifò pwason gen yon sèl je nan chak bò tèt yo. Pye pwa gen fèy vèt epi zwazo gen de zèl.	2. Traits are qualities or characteristics of a living thing or a species. Most fish have one eye on each side of their head. Bean plants have green leaves, and birds have two wings.
3. Paran mwen gen je ble; mwen menm tou. Paran mwen wo anpil; mwen menm tou.	3. My parents have blue eyes and so do I. My parents are very tall and so am I.
4. Paran m yo fèt e yo grandi an Chin, kidonk yo pa pale angle. M 'rive Etazini lè mwen te nan twazyèm ane. Mwen pale angle lekòl, lakay mwen pale Chinwa avèk paran m. Mwen bileng. Sa se karakteristik mwen.	4. My parents were born and raised in China so they don't speak English. I came to America when I was in third grade. I speak English in school and speak Chinese at home to my parents. I am bilingual. That's my characteristic.