

<p><b>Chapit 2: Enèji</b></p>	<p><b>Unit 2: Energy</b></p>
<p><b>Lide Kle:</b></p> <p>2.1 Obsève, idantifye, dekri diferan fòm enèji: son, mekanik, chalè, elektrik, chimik</p> <p>2.2 Bay on egzant transfòmasyon enèji ak ki jan moun sèvi ak transfòmasyon enèji sa yo: chalè nan limyè, chimik nan elektrik, elektrik nan son, elatriye.</p> <p>2.3 Obsève ak dekri koumam sikilasyon chalè fèt ak ki jan li transfere soti de on kote ale on lòt kote.</p> <p>2.4 Obsève, dekri diferan aktivite ki kapab pwodui chalè: boule yon bagay, friksyon, oswa konbine de sibstans.</p> <p>2.5 Entèraksyon yon matyè ak enèji (egzanp, ekleraj on anpoul elektrik, koulè fonse-nwasè atire limyè elatriye)</p> <p>2.6 Enèji sonò: wotè (frekans), vibrasyon, volim, ki jan son vwayaje nan solid, likid, gaz, polisyon bwi.</p>	<p><b>Key Ideas:</b></p> <p>2.1 Observe, identify, and describe a variety of forms of energy: sound, mechanical, heat, electrical, and chemical</p> <p>2.2 Identify the evidence for energy transformations and how humans use these energy transformations: heat to light, chemical to electrical, electrical to sound, etc.</p> <p>2.3 Observe and describe how heat is conducted and can be transferred from one place to another.</p> <p>2.4 Observe and describe different ways in which heat can be released: burning, rubbing (friction), or combining one substance with another.</p> <p>2.5 Interactions of matter and energy (e.g., electricity lighting a bulb, dark colors absorbing light, etc.)</p> <p>2.6 Sound energy: pitch (frequency), vibrations, volume, how sound travels through solids, liquids, gases, and noise pollution.</p>
<p><b>Rezime Chapit la</b></p>	<p><b>Unit Overview</b></p>
<p>Se pa tout tan nou ka wè enèji, men nou konnen li la. Ou bouyi dlo nan veso sou on fou. Ou fri ze nan on pwelon. Prepare manje mande anpil enèji, memn jan tou lè pou deplase oswa fè mouvman. Djèt ki vole soti nan on vil ale nan on lòt vil sèvi ak enèji. Nou ka di memn bagay pou zwazo k ap vole nan syèl la.</p> <p>Nenpòt ki lè yon bagay rechofe, refwadi, oswa deplase, enèji chanje fòm. Souvan nou ka wè oswa santi efè enèji k ap degaje. Egzanp, kò nou jwenn enèji nan manje. Enèji sa a kenbe nou vivan epi li pèmèt nou gen fòs nan tout sa nou fè. Se konsa enèji ki nan manje yo epapiye nan</p>	<p>We can't always see energy, but we know it's there. A pot of water boils on the stove. An egg fries in a pan. Cooking takes a lot of energy. So does moving around. Jet airplanes speeding between cities use energy. So do birds soaring through the sky.</p> <p>Anytime something gets warmer, gets cooler, or moves, energy is being changed from one form to another. Often we can see or feel the effects of released energy. For example, our bodies get energy from food. This energy keeps us alive and provides power for all we do. The energy stored in the food is released in our bodies. The</p>

tout kò nou. Gazolin ki nan tank machin se enèji tou. Lè gaz la boule li degaje enèji, se enèji sa a ki fè machin lan deplase.

gasoline used in a car also has stored energy. Burning the fuel releases the energy and the energy makes car move.

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<p><b>Lide kle2.1:</b> Obsève, idantifye,dekri diferan fòm enèji: son, mekanik, chalè/tèmik, elektrik, chimik</p>	<p><b>Key Idea 2.1:</b> Observe, identify, and describe a variety of forms of energy: sound, mechanical, heat, electrical, and chemical</p>
<p><b>Tèm Syantifik:</b> 1. travay 2. enèji 3. matyè 4. chalè/tèmik 5. chimik 6. sibstans 7. vibre 8. sikui</p>	<p><b>Scientific Terms:</b> 1. work 2. energy 3. matter 4. heat 5. chemical 6. substance 7. vibrate 8. circuit</p>
<p><b>Enfòmasyon:</b> Si ou pa gen enèji, ou pa kapab deplase. Nan syans, <b>enèji</b> se kapasite pou fè <b>travay</b> e travay la fèt lè ou rive deplase on bagay. Sa vle di, si ou li on liv, ou pa p fè okenn travay. Si ou ap kouri, ou ap fè travay. Enèji deplase tou. Enèji tèmik deplase soti nan on bagay cho pou li ale nan on bagay ki frèt. Lè ou kenbe yon gode ki gen chokola cho, chalè a deplase, li soti nan gode a pou ale nan men ou. Donk lè enèji deplase, gen travay ki fèt.</p> <p>Enèji egziste sou plizyè fòm. <b>Chalè</b> se enèji ki ogmante tanperati <b>matyè</b>. Enèji <b>chimik</b> se enèji ki nan <b>sibstans</b> tankou manje, gazolin, bwa, oswa nan pwent yon alimèt. Solèy la ak anpoul se sous enèji limyè. Son se enèji ki kreye lè on bagay <b>vibre</b>, se mouvman nan lè a.</p> <p>Se enèji mekanik ki pèmèt matyè deplase. Si on mab k ap woule teke on lòt, enèji mekanik la fè dezyèm mab la deplase.</p> <p>Enèji elektrik pèmèt aparèy menaje tankou radyo oswa yon anpoul fonksyone. Li deplase nan on <b>sikui</b> fèmen. Enèji elektrik ki kite on sous tankou on santral elektrik dwe retounen nan sous li apre li fin fè travay la. Pa egzanzp, si li soti nan on sous pou limem on anpoul, li dwe retounen nan sous sa a apre li fin limem anpoul</p>	<p><b>Content:</b> If you do not have energy, you would not be able to move. In science, <b>energy</b> is the ability to do <b>work</b> and work only happens when something moves. In other words, if you were reading a book, you would not be doing any work. If you were running, you would be doing work. Energy moves too. Heat energy moves from hot things to cold things. When you hold a cup of hot cocoa, the heat moves from the cup to your hands. So, when energy moves, work is being done too.</p> <p>Energy exists in several forms. <b>Heat</b> is the energy that raises the temperature of <b>matter</b>. <b>Chemical</b> energy is the energy stored in <b>substances</b> such as food, gasoline, wood, or the tip of a match. Light energy moves out from objects such as the Sun or a light bulb. Sound is energy created when objects <b>vibrate</b>, causing movement in the air.</p> <p>Mechanical energy is involved with moving matter. If a rolling marble strikes another, mechanical energy makes the second marble move.</p> <p>Electric energy powers appliances such as a radio or light bulb. It travels in a closed <b>circuit</b>. Electric energy that leaves a source, such as an electric plant, must come back to its source after doing work. For example, if it comes from a source and goes to a light bulb, it must go back</p>

lan, sinon anpoul la p ap limem.	to that source after it lights the bulb. Otherwise, it cannot light the bulb.
<p><b>Revizyon:</b></p> <ol style="list-style-type: none"> <li>1. Ki relasyon ki gen ant enèji ak travay?</li> <li>2. Kisa syantis yo vle di lè yo itilize on tèm tankou travay?</li> <li>3. Èske ou travay lè ou pouse yon miray?</li> <li>4. Ki fòm enèji yon bagay kreye lè li vibre?</li> <li>5. Ki kalite enèji solèy la bay?</li> </ol>	<p><b>Review:</b></p> <ol style="list-style-type: none"> <li>1. How are energy and work related?</li> <li>2. What do scientists mean when they use the term work?</li> <li>3. Are you working when you push a wall?</li> <li>4. What form of energy does an object create when it vibrates?</li> <li>5. What is one type of energy that reaches Earth from the Sun?</li> </ol>

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<p><b>Kesyon esansyèl:</b> Ki fason enèji kapab chanje?</p>	<p><b>Essential Question:</b> What are some ways that energy can be changed from one form to another?</p>
<p><b>Lide Kle 2.2:</b> Idantifye on prèv pou transfòmasyon enèji, ak ki jan moun sèvi ak transfòmasyon enèji sa yo: chalè limyè, chimik an elektrik, elektrik an son, elatriye.</p>	<p><b>Key Idea 2.2:</b> Identify the evidence for energy transformations and how humans use these energy transformations: heat to light, chemical to electrical, electrical to sound, etc.</p>
<p><b>Tèm syantifik:</b> 1.òganis vivan 2. transfòmasyon</p>	<p><b>Scientific Terms:</b> 1. living organism 2. transformation</p>
<p><b>Enfòmasyon:</b> Premye òganis vivan ki te sèvi ak enèji limyè ki se on enèji ki soti nan solèy se plant. Plant yo chanje enèji limyè ki soti nan solèy la an manje, ki gen enèji chimik. Lè bèt ak moun manje plant, yo chanje enèji chimik ki nan plant yo an chalè pou yo rete cho, enèji mekanik pou yo deplase. Lè yo boule pati nan on plant tankou bwa oswa fèy sèk, enèji chimik ki nan bagay sa yo chanje an enèji tèmik.</p> <p>Lè yo boule chabon, enèji chimik ki nan chabon an chanje an enèji tèmik. Lè sa a, enèji tèmik la chanje an enèji mekanik pou vire machin ki pwodui enèji elektrik. Enèji elektrik ka chanje an limyè, son, chalè, oswa enèji mekanik. Li ka limen on lanp, on sonèt, on recho elektrik, oswa on blendè. Enèji mekanik ka chanje an son. Lè ou touche nòt on pyano ou tande on son.</p> <p>Lòt prèv pou <b>transfòmasyon</b> enèji ak ki jan moun sèvi ak transfòmasyon enèji sa yo: Lè nou limem on alimèt, enèji chimik ki nan pwent alimèt la boule epi li transfòme an limyè ki se enèji tèmik. Lè nou sèvi ak yon blendè, enèji elektrik la transfòme an enèji mekanik. Lè solèy la klere, enèji a chanje de limyè an chalè.</p>	<p><b>Content:</b> The first living organisms to use light energy from the Sun were plants. Plants change light energy from the Sun to food, which is stored chemical energy. When animals and people eat a plant, they change its stored chemical energy to heat to stay warm and to mechanical energy to move. When plant parts such as wood or dry leaves are burned, their stored chemical energy is changed to heat energy.</p> <p>When coal is burned, its stored chemical energy is changed to heat energy. Then the heat energy may be changed to mechanical energy to turn a machine that makes electrical energy. Electrical energy can be changed into light, sound, heat, or mechanical energy. It may power a lamp, a doorbell, a hot plate, or a blender. Mechanical energy can be changed to sound. You push a piano key and hear a musical note.</p> <p>Other evidence for energy <b>transformations</b> and how humans use these energy transformations are: When we light a match, the chemical energy stored in the match burns and is transformed into light energy and heat energy. When we use a blender, the electrical energy is transformed into mechanical energy. When the Sun shines on us, the energy changes from light to heat.</p>
<p><b>Revizyon:</b></p>	<p><b>Review:</b></p>

<ol style="list-style-type: none"><li>1. Ki kalite transfòmasyon enèji ki fèt lè ou boule chabon?</li><li>2. Apre ou fin manje, ou ale monte bisiklèt. Ki fòm enèji manje a tounen?</li><li>3. Kijan enèji solè chanje lè li rive sou latè?</li><li>4. Dekri kijan enèji chanje lè nou sèvi ak on tostè.</li></ol>	<ol style="list-style-type: none"><li>1. What energy change takes place when coal is burned?</li><li>2. After you eat, you go out and ride your bike. Into which forms of energy was the food most likely transformed?</li><li>3. How does the Sun's light energy change when it reaches Earth?</li><li>4. Describe the change of energy when we use a toaster.</li></ol>
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<p><b>Lide KLe 2.3</b> Obsève, dekri kouman transmisyon chalè fèt ak kouman li transfere soti on kote ale on lòt kote.</p>	<p><b>Key Idea 2.3:</b> Observe and describe how heat is conducted and can be transferred from one place to another.</p>
<p><b>Tèm syantifik:</b> 1. fwotman 2. transfere 3. solid 4. likid 5. gaz</p>	<p><b>Scientific Terms:</b> 1. friction 2. transfer 3. solid 4. liquid 5. gas</p>
<p><b>Enfòmasyon:</b> Enèji mekanik degaje chalè. Fwotman ki fèt ant pyès machin yo lè l ap deplase degaje chalè. Lè materyèl fwote ansanm sa lakoz <b>Fwotman</b>. Lè ou fwote men ou ansanm, fwotman an fè men ou vin cho. Yon moso bwa vin cho lè ou sable l ak papyesable paske fwotman ki fèt ant bwa a ak papyesable a degaje chalè.</p> <p>Souvan enèji <b>transfere</b> oswa deplase nan on bagay pou ale nan yon lòt. Lè w griye pen, chalè ki soti nan tostè a ale nan pen an. Lè on kaswòl dlo ap bouyi sou on fou, enèji a transfere de fou a pou ale nan kaswòl la epi nan dlo a. Lè ou bwè chocola cho, enèji tèmik la ale nan selil ou yo. Enèji chimik ki nan lèt ka transfòme an enèji mekanik pou ede nou deplase oswa pou kenbe nou cho.</p> <p>Kèk materyèl transfere enèji pi byen pase lòt. Pa egzanp, metal transfere chalè trè byen. Si ou vle pou on pòm detè byen kwit ou ka foute on klou an metal nan mitan l. Konsa metal la transfere chalè fou a nan mitan pòm detè a. Si ou pa vle enèji a transfere ou ka itilize materyèl ki pa transfere enèji twò byen, egzanp, bwa oswa plastik. Se pou rezon sa yo fou ak chodyè fèt an metal. Si on chodyè metal gen yon manch metal, manch li vin trè cho lè l sou dife. Se poutèt sa manch kèk chodyè fèt an bwa oswa plastik.</p>	<p><b>Content:</b> Mechanical energy can release heat. The friction between moving machine parts releases heat. <b>Friction</b> is caused by materials rubbing together. When you rub your hands together, friction makes your hands feel warm. A piece of wood gets warm when you sand it with sandpaper because the friction between the wood and sandpaper releases heat.</p> <p>Energy is often <b>transferred</b> or moved from one object to another. When you make toast, you transfer heat from the toaster into the bread. When water is boiled in a pan on a stove, energy is transferred from the stove to the pan to the water. As you drink hot cocoa, the heat energy moves into your cells. Chemical energy in milk either turns into mechanical energy to help you move or heat energy to keep you warm.</p> <p>Some materials transfer energy better than others. For example, metals transfer heat very well. Therefore, if you want a potato to bake better, you can push a metal nail through its center. The metal nail transfers heat from the oven to the center of the potato. Sometimes you do not want energy to transfer, so you might want to use material that does not transfer energy well, for example, wood or plastic. That is why stoves and pots are made of metal. If a metal pot has a metal handle, the handle becomes very hot on the stove. Therefore, some pot handles are made out of wood or plastic.</p>

<p>Solid transfere chalè pi byen pase likid. Likid transfere chalè pi byen pase gaz. Pa egzanzp, dlo transfere enèji pi byen pase lè. Si ou mete on kib glas nan dlo ki gen menm tanperati ak chanm ou ye a, li fonn pi vit pase si ou kite li espoze a lè nan menm tanperati a. Menm si li pa pwoteje men li ak on bagay. On granmoun ka foure men li anndan on fou ki gen on tanperati 350 degre, men li pa ta dwe manyen gato a oswa moul gato a. Se akoz moul gato a ak gato a se solid e solid transfere chalè pi byen pase lè.</p>	<p>Solids transfer heat better than liquids. Liquids transfer heat better than gas. For example, water transfers energy better than air. If you put an ice cube into water that is at room temperature, it will melt faster than if you leave it exposed to air at the same temperature. You can put your bare hand in a 350 degree oven but you can't touch the cake pan or the cake. This happens because the cake pan and cake are solid, and solids transfer heat energy better than air.</p>
<p><b>Revizyon:</b></p> <ol style="list-style-type: none"> <li>1. Pou kisa boule chabon pwodwi plis enèji tèmik pase boule fèy papye?</li> <li>2. Pou kisa pòm detè kwit pi vit lè ou bouyi yo pase lè ou kwit yo andedan on fou?</li> <li>3. Kisa ki lakoz kò ou, lè w ap benyen nan pisin ka fè dlo ki nan pisin lan vin pi cho?</li> </ol>	<p><b>Review:</b></p> <ol style="list-style-type: none"> <li>1. Why does burning coal produce more heat energy than burning paper?</li> <li>2. Why do potatoes cook faster when you boil them than when you bake them?</li> <li>3. How does your body cause the water in a swimming pool to get warmer?</li> </ol>



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<p><b>Lide Kle: 2.4:</b> Obsève, dekri diferan fason chalè kapab degaje: boule, fwote (fwotman), oswa konbine on sibstans ak on lòt.</p>	<p><b>Key Idea 2.4:</b> Observe and describe different ways in which heat can be released: burning, rubbing (friction), or combining one substance with another.</p>
<p><b>Tèm syantifik:</b> 1. degaje, soti, lage 2. fwotman 3. konbine 4. sibstans 5. transfòmè</p>	<p><b>Scientific Terms:</b> 1. release 2. friction 3. combine 4. substance 5. transform</p>
<p><b>Enfòmasyon:</b> Premye òganis vivan ki te sèvi ak enèji limyè ki soti nan solèy se plant. Plant yo chanje enèji limyè ki soti nan solèy la an manje, ki gen enèji chimik. Lè bèt ak moun manje plant, yo chanje enèji chimik ki nan plant yo an chalè pou yo rete cho ak enèji mekanik pou yo deplase. Lè yo boule pati nan on plant tankou bwa oswa fèy sèch, enèji chimik ki nan bagay sa yo chanje an enèji tèmik.</p> <p>Enèji mekanik <b>degaje</b> chalè. <b>Fwotman</b> ki fèt ant pyès on machin k ap deplase degaje chalè. Lè ou fwote men ou ansanm, fwotman an fè men ou vin cho.</p> <p>Pafwa lè nou <b>konbine</b> de <b>sibstans</b> (likid ak solid, vinèg ak poud elevasyon) pou fè on nouvo sibstans (gaz), nou <b>transfòmè</b> enèji a de enèji chimik a chalè.</p>	<p><b>Content:</b> The first living organisms to use light energy from the Sun were plants. Plants change light energy from the Sun to food, which is stored as chemical energy. When animals and people eat a plant, they change its stored chemical energy to heat to stay warm and to mechanical energy to move. When plant parts such as wood or dry leaves are burned, their stored chemical energy is changed to heat energy.</p> <p>Mechanical energy can also <b>release</b> heat. The <b>friction</b> between moving machine parts releases heat. When you rub your hands together, friction makes your hands feel warm.</p> <p>Sometimes when we <b>combine</b> two <b>substances</b> (a liquid vinegar and solid baking powder) to make a new substance (a gas), we <b>transform</b> the energy from chemical to heat.</p>
<p><b>Revizyon:</b> 1. Lè nou fin kondui on machin pou kisa</p>	<p><b>Review:</b></p>

<p>kawòtchou yo cho?</p> <ol style="list-style-type: none"><li>2. Ki chanjman enèji ki fèt lè nou sèvi ak chabon?</li><li>3. Ki chanjman enèji ki fèt lè balèn ap boule?</li><li>4. Eske gen enèji tèmik ki degaje lè nou konbine plizyè sibstans pou nou pwodui on nouvo sibstans ? Pou ki sa oswa pou ki pa?</li></ol>	<ol style="list-style-type: none"><li>1. After a car is driven, why are its tires warm?</li><li>2. What energy changes takes place when coal is burned?</li><li>3. When a candle burns, what energy change is taking place?</li><li>4. Will heat energy be released every time we combine substances to get a new substance? Why or why not?</li></ol>
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<p><b>Like Kle 2.5:</b> Entèraksyon matyè ak enèji (egzanp, elekrisite limen on anpoul, koulè nwa absòbe limyè, elatriye.)</p>	<p><b>Key Idea 2.5:</b> Interactions of matter and energy (e.g., electricity lighting a bulb, dark colors absorbing light, etc.)</p>
<p><b>Thèm syantifik:</b> 1. gen entèraksyon 2. evapore 3. absòbe 4. reflete 5. solè</p>	<p><b>Scientific Terms:</b> 1. interact 2. evaporate 3. absorb 4. reflect 5. solar</p>
<p><b>Enfòfasyon:</b> <b>Gen entèraksyon</b> ant enèji ak matyè. Enèji pwodui chanjman nan matyè. Pa egzanp, limyè solèy la ogmante tanperati dlo ki lakoz li <b>evapore</b>. Nou itilize matyè tou nan pwosesis pou transfòme enèji. Lè ou sèvi ak enèji mekanik pou jwe yon enstriman mizikal, matyè nan enstriman an pwodui son; menm bagay la rive lè ou bat bravo ou fè on son (men ou se matyè).</p> <p>Yon diferans toupiti nan matyè ka lakòz diferan entèraksyon ak enèji. Egzanp, koulè nwa <b>absòbe</b> plis limyè, koulè klè <b>reflete</b> plis limyè. Ou kapab remake moun mete koulè pi klè nan sezon lete. Gen moun ki pentire anba on pisin ak koulè trè fonse, konsa koulè fonse a absòbe enèji chalè pou li transfere l nan dlo a.</p> <p>Moun sèvi ak entèraksyon ant matyè ak enèji. Enèji elektrik ka lakòz on anpoul limen oswa on tostè chofe. Enèji elektrik ka fè on sonèt sonnen. Pafwa enèji elektrik estoke nan matyè. Egzanp, gen kèk kalkilatri, radyo, ak mont ki mache ak enèji ki estoke nan batri yo. Batri <b>solè</b> estoke enèji ki soti nan solèy.</p>	<p><b>Content:</b> Energy and matter <b>interact</b>. Energy produces changes in matter. For example, sunlight raises the temperature of water and causes it to <b>evaporate</b>. Matter is also used in processes that change the form of energy. When you use mechanical energy to play a musical instrument, the matter in the instrument produces sound. The same thing happens when you clap your hands to make sound (hands are matter).</p> <p>Small differences in matter may cause different interactions with energy. For example, dark colors may <b>absorb</b> more light, while light colors may <b>reflect</b> more light. You may have noticed that people often wear lighter colors in the summer. Some people paint the bottom of a swimming pool very dark. The dark bottom absorbs heat energy and transfers it to the water.</p> <p>Humans utilize interactions between matter and energy. Electrical energy may cause a bulb to light up or a toaster to heat up. Electrical energy can also make the doorbell buzz. Electrical energy is sometimes stored in matter. For example, some calculators, radios, and watches run on the energy stored in batteries. Some <b>solar</b> batteries store energy from the Sun.</p>
<p><b>Revisyon:</b></p> <ol style="list-style-type: none"> <li>1. Ki entèraksyon ki fèt ant enèji matyè lè n ap kondwi on machin?</li> <li>2. Ki entèraksyon ki fèt ant enèji ak matyè</li> </ol>	<p><b>Review:</b></p> <ol style="list-style-type: none"> <li>1. How is energy interacting with matter when we drive a car?</li> <li>2. How is energy interacting with matter</li> </ol>

<p>lè on televizyon limen?</p> <ol style="list-style-type: none"><li>3. Eksplike ki parasol ki pi bon pou nou itilize jou ki fè cho, nwa oswa blan.</li><li>4. Ki kalite enèji ki fè entèraksyon ak plant k ap grandi?</li><li>5. Bay twa fason moun sèvi ak entèraksyon ki genyen ant matyè ak enèji.</li></ol>	<p>when the TV is on?</p> <ol style="list-style-type: none"><li>3. Explain whether a black or a white sun umbrella would be better to use on a hot day.</li><li>4. What kind of energy interacts with growing plants?</li><li>5. List three ways in which humans use the interactions between matter and energy.</li></ol>
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<p><b>Chapit 2: Enèji</b></p>	<p><b>Unit 2: Energy</b></p>
<p><b>Kesyon esansyèl:</b> Ki fason enèji ka chanje?</p>	<p><b>Essential Question:</b> What are some ways that energy can be changed from one form to another?</p>
<p><b>Lide Kle 2.6:</b> Enèji sonò: wotè (frekans), vibrasyon, volim, kouman son vwayaje nan solid, likid, gaz ak polisyon bwi.</p>	<p><b>Key Idea 2.6:</b> Sound energy: pitch (frequency), vibrations, volume, how sound travels through solids, liquids, gases, and noise pollution.</p>
<p><b>Tèm syantifik:</b> 1. wòtè 2. vibrasyon 3. onn sonò 4. volim 5. patikil 6. eko 7. polisyon/kontaminasyon 8. bwi 9. soud/pa tande byen</p>	<p><b>Scientific Terms:</b> 1. pitch 2. vibration 3. sound waves 4. volume 5. particle 6. echo 7. pollution 8. noise 9. hearing loss</p>
<p><b>Enfèmasyon:</b> <b>Wotè</b> on son se dapre wotè son an, si li wò oswa si li ba. Si ou fè myaw tankou yon ti chat, ou fè on son ki wò. Men, si ou eseye gwonde tankou on lyon, ou fè yon son ki pi ba. <b>Vibrasyon</b> fè wotè on son diferan. Si yon bagay vibre dousman, li fè on son ki ba, paske ònn sonò yo separe plis yon ak lòt. Si yon bagay vibre vit, li fè on son ki wo paske onn sonò yo pi pre youn ak lòt.</p> <p>Sa ki fè <b>volim</b> nan kèk son pi fò pase lòt, se fason bagay yo frape youn ak lòt. Egzanp, si nou frape on biwo toupiti, son an ap trè fèb, si nou frape biwo an ak fòs, son an pi fò. Li pran plis enèji pou nou frape yon biwo ak tout fòs nou, konsa onn sonò yo gen plis enèji, sa ki fè son an pi fò.</p> <p><b>Patikil</b> ki nan dlo elwaye youn ak lòt, sa pèmèt yo deplase pi fasilman pase patikil ki nan bwa. Patikil ki nan lè pi elwaye pase patikil nan likid oswa nan solid. Onn sonò vwayaje nan matyè se paske yo fè patikil nan matyè a vibre. Lè yon patikil kòmanse vibre li frape ak on lòt patikil, epi patikil sa a al frape ak on lòt patikil, eksetera era. Lè patikil yo pi pre yo frape pi vit yon ak lòt. Lè patikil yo frape youn ak lòt enèji ki nan onn sòno yo deplase de patikil an patikil. Konsa,</p>	<p><b>Content:</b> The <b>pitch</b> of a sound is how high or how low the sound is. If you were pretending to meow like the kitten, you might make a sound with a high pitch. However, if you were trying to sound like a roaring lion, you might make a sound with a low pitch. <b>Vibration</b> makes the pitch of sounds different. If an object vibrates slowly, it will make a low sound. The <b>sound waves</b> are farther apart. If an object vibrates quickly, it will make a high sound. The sound waves are closer together.</p> <p>What makes the <b>volume</b> of some sounds louder than others is how hard an object hits another object. For example, if we tap our desk lightly, the sound we make is a soft sound. If we tap the desk harder, the sound we make is louder. It takes more energy for us to tap the desk hard, so the sound waves we make have more energy, and the sound is louder.</p> <p>The <b>particles</b> in water are farther apart and move more freely than the particles in wood. The particles in air are the farthest apart of all. Sound waves travel through matter by causing the particles in matter to vibrate. When a particle begins to vibrate, it bumps into another particle. Then that particle bumps into another — and so on. The closer together the particles are, the faster they bump into one another. The energy of the sound waves moves from one</p>

<p>onn sonò vwayaje pi rapid nan matyè kote patikil yo pi pre ansanm. Son vwayaje pi dousman nan likid pase nan solid, paske patikil nan likid pi elwaye. Son vwayaje dousman nan lè paske patikil yo elwaye anpil.</p> <p>Yon <b>eko</b> se yon son k al rebondi nan on bagay. Nou tande on eko lè nou on kote ki nan mòn oswa falèz. Bèt sèvi ak eko pou yo jwenn manje. Lè on dofen ap naje anba dlo li fè on son e lè onn sonò sa a frape on bagay tankou on pwason, son an rebondi tounen jwenn dofen a, konsa li konnen kote pwason an ye.</p> <p>Nou pwobableman panse <b>polisyon</b> se on bagay ki fè dlo, latè, oswa lè sal. <b>Bwi</b> ka polisyon tou. Bwi ki twò fò oswa ki twò egi oswa ki dire twò lontan, ka lakoz nou de movèzimè, yo ka deranje somèy nou. Sa ka menm lakòz nou vin <b>pa tande byen</b> ankò. Nou pa kapab kontwòle tout bwi ozalantou nou. Nou pa ka anpeche on anbilans sonnen sirèn li. Konsa tou gen bwi nou kapab kontwòle. Egzanp, nou ka desann volim televizyon, radyo, aparyèy mizik, kasèt oswa ekoutè pou pwoteje zòrèy nou.</p>	<p>particle to another as the particles bump into one another. So sound waves travel fastest in matter in which the particles are closest together. Sound travels slower in a liquid than in a solid because the particles of the liquid are farther apart. Sound travels slowly through air because the particles of air are so far apart.</p> <p>An <b>echo</b> is a sound bouncing back from an object. We might hear an echo in a place surrounded by hills or cliffs. Animals find their food by using echoes. As a dolphin swims through the water, it makes sound. When the sound waves hit an object, such as a fish, they bounce back to the dolphin. Then the dolphin knows where the fish is.</p> <p>We probably think of <b>pollution</b> as something that makes the water, land, or air dirty. <b>Noise</b> can be pollution, too. Noises that are too loud or high pitched, or go on too long, can harm us. They can make us cranky and disturb our sleep. They can even cause <b>hearing loss</b>. We can't control all the noises we hear around us. We can't make an ambulance not sound its siren. However, there are noises that we do have control over. For example, we can turn the sound down on TVs, radios, or music players. We can lower the volume of earphone to protect our ears.</p>
<p><b>Revizyon:</b></p> <ol style="list-style-type: none"> <li>1. Ki jan son fèt ?</li> <li>2. Kouman ou ka lakòz on bagay fè yon son ki fò?</li> <li>3. Pou ki sa yon ti klòch fè yon son ki pi wo pase on gwo klòch?</li> <li>4. Poukisa son vwayaje pi vit nan bwa pase nan lè?</li> <li>5. Kisa nou ka fè pou diminye polisyon bwi?</li> </ol>	<p><b>Review:</b></p> <ol style="list-style-type: none"> <li>1. How is sound made?</li> <li>2. How can you cause an object to make a loud sound?</li> <li>3. Why does a small bell make a higher pitched sound than a large bell makes?</li> <li>4. Why does sound travel faster through wood than through air?</li> <li>5. What can we do to reduce noise pollution?</li> </ol>

<b>Repons:</b>	<b>Answer Key:</b>
<p><b>2.1</b></p> <ol style="list-style-type: none"> <li>1. San enèji travay pa kapab fèt.</li> <li>2. Travay fèt lè nou itilize fòs pou n deplase yon bagay epi gen transfè enèji.</li> <li>3. Non, mwen pa fè travay paske miray la pa deplase?</li> <li>4. Lè on bagay vibre, li kreye enèji sonò ak enèji tèmik.</li> <li>5. Enèji solè ki soti nan solèy la rive sou latè.</li> </ol>	<p><b>2.1</b></p> <ol style="list-style-type: none"> <li>1. Without energy work cannot be done.</li> <li>2. Work is done when a force makes something move and energy is transferred.</li> <li>3. No, I am not working because the wall doesn't move.</li> <li>4. When an object vibrates, it creates sound energy and heat energy.</li> <li>5. Light energy from the Sun reaches Earth.</li> </ol>
<p><b>2.2</b></p> <ol style="list-style-type: none"> <li>1. Lè nou boule chabon enèji chimik chabon an chanje an enèji tèmik.</li> <li>2. Manje chanje an enèji tèmik ak enèji mekanik.</li> <li>3. Enèji solè chanje an enèji tèmik lè li rive sou latè.</li> <li>4. Lè nou sèvi ak on tostè, enèji elektrik la chanje an enèji tèmik.</li> </ol>	<p><b>2.2</b></p> <ol style="list-style-type: none"> <li>1. When coal is burned, its chemical energy changes to heat energy.</li> <li>2. The food most likely changes into heat energy and mechanical energy.</li> <li>3. The Sun's light energy changes to heat energy when it reaches Earth.</li> <li>4. When we use a toaster, the electrical energy changes to heat energy.</li> </ol>
<p><b>2.3</b></p> <ol style="list-style-type: none"> <li>1. Lè nou boule chabon li pwodui plis enèji tèmik pase lè nou boule papye, paske chabon an gen plis enèji chimik. Se poutèt sa chabon degaje plis enèji tèmik.</li> <li>2. Pòm detè kuit pi vit nan dlo pase anndan fou, paske likid transfere chalè pi byen pase gaz.</li> <li>3. Naje (enèji mekanik) kreye fwotman e fwotman lakòz chalè ki transfere nan dlo a.</li> </ol>	<p><b>2.3</b></p> <ol style="list-style-type: none"> <li>1. Burning coal produces more heat energy than burning paper because there is more chemical energy stored in the coal. Therefore, the coal can release more heat energy.</li> <li>2. Potatoes cook faster in water than in the oven because liquids transfer heat better than gases.</li> <li>3. Swimming (mechanical energy) creates friction and friction causes heat, which gets transferred into the water.</li> </ol>
<p><b>2.4</b></p> <ol style="list-style-type: none"> <li>1. Kawoutchou ki woule sou wout yo kreye fwotman, e fwotman lakòz chalè.</li> <li>2. Enèji chimik ki nan chabon chanje an chalè.</li> <li>3. Enèji chimik nan on balèn chanje an chalè ak limyè.</li> <li>4. Enèji tèmik pa degaje chak fwa de sibstans konbine pou fè on lòt sibstans.</li> </ol>	<p><b>2.4</b></p> <ol style="list-style-type: none"> <li>1. The tires rub on the road, creating friction, and friction causes heat.</li> <li>2. Coal's stored chemical energy is converted to heat</li> <li>3. The candle's chemical energy changes to heat and light.</li> <li>4. Heat energy is not released heat every</li> </ol>

<p>Se pou gen enèji nan chak pwodui chimik yo pou chalè tèmik kapab degaje. Egzanp, si nou konbine dlo avèk poud bikabonnat, nou pa gen okenn reyaksyon.</p> <p><b>2.5</b></p> <ol style="list-style-type: none"> <li>1. Enèji chimik ki nan gazolin pèmèt machin deplase.</li> <li>2. Enèji elektrik fè on televizyon travay.</li> <li>3. Li ta preferab nou sèvi ak on parasòl blan jou li fè cho paske koulè klè reflète limyè solèy tandiske koulè nwa absòbe limyè.</li> <li>4. Gen entèraksyon ant enèji solè ak plant k ap pouse, se sa ki pèmèt yo grandi.</li> <li>5. Repons ki posib: Nou sèvi ak limyè solèy pou seche rad sou on liy; tostè pou grye pen; batri pou limen on flach.</li> </ol>	<p>time two substances are combined to make a new substance. There has to be energy in each of the chemicals for heat energy to be released. For example, if we combine water and baking soda, there would be no reaction.</p> <p><b>2.5</b></p> <ol style="list-style-type: none"> <li>1. The chemical energy from the gasoline makes car move.</li> <li>2. The electrical energy makes televisions work.</li> <li>3. A white sun umbrella would be better to use on a hot day because light color will reflect the sunlight, whereas the black one would absorb it.</li> <li>4. Light energy interacts with growing plants to make them grow.</li> <li>5. Possible answers: Humans use sunlight to dry clothes on a line; using a toaster to toast bread; and, using batteries to run a flashlight.</li> </ol>
<p><b>2.6</b></p> <ol style="list-style-type: none"> <li>1. Tout sa ki lakoz matyè vibre pwodui son.</li> <li>2. Frappe on objè avek fòs fè on gwo bwi.</li> <li>3. Onn sonò ki soti nan on ti klòch pi rapwoche, yo vibre pi vit. Si on bagay vibre vit li fè on son egi.</li> <li>4. Son vwayaje pi vit nan bwa pase nan lè paske patikil nan bwa pi rapwoche pase patikil ki nan lè. Lè se bwa, enèji sonò a deplase de on patikil a on lòt ak on vitès ki lakòz patikil yo frappe pi vit youn a lòt.</li> <li>5. Nou kapab diminye polisyon bri si nou bese volim radyo, televizyon ak ekoutè.</li> </ol>	<p><b>2.6</b></p> <ol style="list-style-type: none"> <li>1. All sounds are made by something that causes matter to vibrate.</li> <li>2. Hitting the object harder will make a louder sound.</li> <li>3. The sound waves moving out from a small bell are closer together and vibrate quickly. If an object vibrates quickly, it will make a high-pitched sound.</li> <li>4. Sound travels faster through wood than through air because the particles in wood are closer than the particles in air. In wood, the rate at which the energy of sound waves moves from one particle to another as the particles bump into one another will be faster.</li> <li>5. We can reduce noise pollution by turning down the volume of radios, TVs, and earphones.</li> </ol>