



# Teaching FOSS Next Generation—Considerations Throughout the School Year

The following document is designed for school districts who need to rotate their FOSS modules so that each teacher has a different module each trimester, for teachers who have concerns about inclement weather, and to highlight suggestions for how to deal with year-round observations. This document also focuses on areas that may be weather-dependent and provides suggestions about what teachers can do if they are teaching a module under these conditions.

## KINDERGARTEN

### Trees and Weather

Trees and Weather is the only FOSS module/course where there are dedicated parts that need to be addressed specifically throughout the year (each season). Please refer to your Investigations Guide to be prepared to teach this module all year long. Teachers should start teaching this module at the beginning of the school year no matter when the module is scheduled for them to teach.

INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/ CONSIDERATION
<b>1.1 Observing Schoolyard Trees</b>	A class chart is started to keep track of student observations of changes to the surroundings caused by plants and animals throughout the year.	Year-round*	The class chart should be started at the beginning of the school year and periodically added to over the course of the school year.
<b>1.5 Adopt Schoolyard Trees</b>	The class adopts several schoolyard trees and observes them throughout the school year. Students start a classroom scrapbook (including samples from their trees) to document their observations.	Year-round*	The change in seasons helps students see that tree growth changes over time. Set aside time during each season to observe your class trees and to record those observations in the class scrapbook, complete with samples from the trees. <i>See Getting Ready, Step 4.</i>
<b>2.1 Leaf Walk</b>	Students go outdoors to look for leaves. They should visit several trees to see a variety of leaves and note their similarities and differences. Students will gather leaves to press and keep.	Seasonal	
<b>2.3 Comparing Leaves</b>	Students go on a leaf hunt outdoors. They compare the leaves they find outdoors with a paper reference leaf to look for leaves that differ in size and shape.	Seasonal	The variety of leaves will be limited in the winter. Consider doing this part in the fall or spring when leaves are more plentiful.
<b>Investigation 4</b>	This 9-part investigation leads students to observe trees through the seasons (fall, winter, spring) with three parts devoted to each season.	Year-round* Additional Idea	Consult your Investigations Guide for each specific season and be prepared to lead your class outdoors at each particular time.



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## KINDERGARTEN

### Animals Two By Two

INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>1.5 Schoolyard Birds</b>	Students go outdoors to observe schoolyard birds. They compare their relative sizes as well as other characteristics of the birds.	Seasonal	Some birds are seasonal. If you would like to anticipate what kinds of birds students may see, conduct some research to find out which birds you may see in your area. Birds are often more active in the early morning hours. Keep that in mind when scheduling your outing.
<b>2.3 Land Snails</b>	Students go outdoors to collect land snails for observation.	Year-round*	If collecting your own local snails, you'll find that snails prefer certain conditions. They do not like very cold or very hot, dry environments and may estivate (hibernate) during these times, making them difficult to find. Snails are most active during the night and on foggy/cloudy days.  Look for snails in cool, moist environments such as on plants and in leaf litter.
<b>Investigation 4</b>	Students observe isopods (pill bugs and sow bugs) in the classroom.	Seasonal	Isopods prefer moist, dark environments and may be hard to find locally in hot, dry environments or very cold environments. If you plan to find and collect your own isopods, consider searching for them during the fall or spring. If you are provided your module equipment during the winter, consider purchasing your supply of isopods from Delta Education.

### Materials and Motion

<b>4.3 Rolling Outdoors</b>	Students roll balls outdoors to observe natural slopes and how balls interact with them.	Year-round* Additional Idea	If you live in a part of the country that gets very cold, icy winters, consider taking your class outdoors in non-winter conditions as well as during snowy or icy conditions and have students observe how balls roll on icy surfaces and compare them to when the surfaces are not icy.
<b>Investigation 4</b>	This 9-part investigation leads students to observe trees through the seasons (fall, winter, spring) with three parts devoted to each season.		Consult your Investigations Guide for each specific season and be prepared to lead your class outdoors at each particular time.



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## GRADE 1

### Air and Weather

INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/ CONSIDERATION
<b>2.1 Weather Calendars</b>	Students record daily weather observations on a class calendar. Step 7 instructs teachers to have the class use the calendar to keep track of the different kinds of weather for a month or two.	Year-round*	Many primary classrooms already include weather observations as part of their daily routine. Have your class keep a record of their weather observations throughout the year. This will provide a wealth of data to graph when you get to Investigation 4, Part 3, Comparing Seasons and will provide students the opportunity to observe seasonal changes over the year in a much more engaging way.
<b>2.3 Watching Clouds</b>	Students go outdoors to observe clouds. They observe several types of clouds and discuss how they move across the sky. They discuss the kinds of clouds that bring rain or snow and use a rain gauge to measure rain or snowfall.	Year-round* and Seasonal	This part is easily modified for year-round observations. Bring students out at different times of the year to observe the clouds and see how they vary over the year.  It is best to measure rain or snowfall during the winter months when precipitation is expected. Consider what the sky looks like before it rains or snows.
<b>2.4 Observing the Moon</b>	Students will compare their observations of the day and night sky. They observe the Moon (starting with the third-quarter Moon, which can be seen during the day) for a month and note the changes they observe.	Seasonal	Be sure to carefully schedule your first Moon observation so that students are able to observe the Moon during the daytime (third-quarter Moon) at school. You may need to do this part during the fall or spring when sky cover is more typically clear.
<b>4.3 Comparing the Seasons</b>	Students collect weather data for 4 weeks during each season (e.g., October, January, and April).	Year-round* Additional Idea	If you are already including weather data as part of your daily class routine, you will have a lot of data to work with for this part. You will need to have a way to record this data as you collect it in addition to the class calendar that changes with each month. Taking pictures of the calendar at the end of each month is a good way to have a more permanent record of the data.  If you teach year-round school, include the month of July as well.



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## GRADE 1

### Plants and Animals

INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>1.4 Variation in Plants and Animals</b>	Students look for a variety of leaves on plants in the schoolyard.	Seasonal	In winter, plants may be buried by snowfall. If conducting this part in the winter, first graders will love to dig beneath the snow to find plants still green beneath the snow! If possible, bring your students out at different points in the seasons to compare the diversity of plant life from season to season. Consider doing this in conjunction with recess so that students only need to gear up one time.
<b>3.2 Animals in the Terrarium</b>	Students search for local plants and animals that can be added to their group terrariums.	Seasonal	If you teach this module during the winter, it may be difficult to find local plants and animals in snowy environments. Refer to Getting Ready, Step 4, for suggestions for winter instruction. Rainy environments may actually bring out different types of organisms than students might find during other seasons.  Consider repeating the search for organisms at different times of the year to compare how easy or difficult it was to find living things in each season and compare the different types of organisms found in each season.
<b>3.4 Squirrel Behavior</b>	Students engage in an outdoor simulation activity to investigate the food-storage strategies of two kinds of animals—red squirrels and gray squirrels	Seasonal	Winter conditions may help students in this simulation, as they need to find seeds buried or hidden in the snow in order to survive. Consider doing this in conjunction with recess so that students only need to gear up one time. Data collection can be analyzed inside so that less time is spent outside.
<b>4.3 Plant and Animal Growth</b>	Students adopt schoolyard plants to observe throughout the school year. Students will mark their plants with tongue depressors so they can be easily located during observation periods.	Year-round* Additional Idea	If possible, start this part at the beginning of the school year. Choose a location that will be undisturbed by other classes, perhaps a school garden. Students can compare plant growth and the numbers/types of animals that are present around their plants over time.

### Sound and Light

<b>1.3 Outdoor Sounds</b>	Students go outside and sit quietly to listen for sounds in the environment—both natural and human-made sounds. They attempt to determine the sound source for each environmental sound they identify.	Year-round* Additional Idea	Environmental sounds may vary from season to season. If possible, bring your students out at different times of the year and repeat this activity. Compare the sounds they hear from each outing and discuss why sounds may vary with the seasons.
<b>3.2 Sun and Shadows</b>	Students go outdoors to look for shadows and determine what objects are creating those shadows. They work as individuals and teams to meet shadow challenges. Students will also discover how shadows can change over the course of a day.	Year-round* Additional Idea	This part can be extended by taking your class out at different times of the year, but at similar times of the day, to compare how shadows change through the seasons. Take photos of your shadows so students can compare them to other times of the year.



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## GRADE 2

### Solids and Liquids

INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>1.5 Outdoor Solids</b>	Students search the schoolyard for solids.	Seasonal	If you are teaching this part in the winter, students may identify some solids they would not be able to observe at any other time of year (e.g., icicles, salt on sidewalks, snow, etc.). Discuss with students why this may be so.
<b>2.4 Puddles</b>	Students search the schoolyard for puddles. They also create puddles by bringing out water and pouring on places outside they think a puddle could form.	Seasonal	Creating puddles during the winter can provide students with interesting results. How do puddles freeze in cold weather? Can you make a puddle on snow?
<b>3.5 Spills</b>	Students go outdoors to search for particulate solid materials.	Seasonal	Solid material might freeze during the winter making collection a bit more difficult. Consider bringing small shovels to help break up material.
<b>4.5 Tea Time</b>	Students collect solid materials outdoors and mix them with water to see if they can make "tea."	Seasonal	Solid material might freeze during the winter making collection a bit more difficult. Consider bringing small shovels to help break up material.

### Pebbles, Sand, and Silt

<b>1.4 Start a Rock Collection</b>	Students collect and observe schoolyard rocks.	Seasonal	Rocks may be harder to find during the winter under the snow. Bring a small shovel with you to help dig below the snow. Consider washing rocks indoors if weather is cold.
<b>3.5 Making Bricks</b>	Students make adobe clay bricks with a mixture of clay soil, dry grass or weeds, and water	Seasonal	Consider doing this part in the fall or spring as you are more likely to find dry grasses in fall or spring. Bricks dry best when the weather is warm and dry.
<b>4.2 Local Soil</b>	Students collect soil samples from the schoolyard. They will compare their local soil to the homemade soil. They look for soil in as many places as possible.	Seasonal	If doing this part in the winter, bring a small shovel with you to help dig for soil under the snow.
<b>4.4 Land and Water</b>	Students explore the schoolyard for evidence of erosion.	Seasonal	Winter months can provide unique opportunities to observe erosion (e.g., water freezing in cracks, water running down drainspouts onto concrete, etc.).



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GRADE 2			
Insects and Plants			
INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>Investigation 4 Silkworms</b>	Students observe silkworm eggs and follow the organisms from hatchlings to adult.	Year-round*	While students will be observing the silkworms indoors, silkworms only eat mulberry leaves. Mulberry trees leaf in the spring, summer, and early fall. Providing your silkworms with fresh mulberry leaves is best if possible, to help them thrive.  If you are doing this investigation during late fall or winter, you'll need to plan on purchasing dry silkworm chow (dehydrated mulberry leaves) for the larvae to eat. If you purchased your silkworm eggs through Delta Education, the chow is included with your order. Other sources may or may not provide the chow with the silkworm eggs. Alternatively, you could try harvesting mulberry leaves locally when the leaves are available and keeping them in the refrigerator. Keep in mind that silkworms eat a lot of leaves, so plan for volume.
<b>4.4 Plant Eaters</b>	Students search the schoolyard for evidence that plants are being eaten by insects or other small animals.	Seasonal	Consider doing this part during the warmer months (fall or spring), as insects and many plants can be scarce in the winter.
<b>5.4 Flower Powder</b>	Students search the schoolyard for plants with pollen-rich flowers.	Seasonal	You will find flowering plants more abundantly in the spring and fall. Consider doing this part at those times of the year.



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## GRADE 3

### Motion and Matter

INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>2.3 Twirly Birds</b>	Students will fly their twirly birds outdoors to find out if they have similar patterns of motion as the other systems they've studied.	Weather Additional Idea	Choose a day with a slight to moderate breeze, so students can observe their twirly birds interact with the wind.

### Structures of Life

<b>1.4 Seed Dispersal</b>	Students go to the schoolyard to design and apply modifications to seeds and fruits for dispersal by various natural forces. They search for seeds in the schoolyard and consider how they are adapted for dispersal.	Seasonal	Seed availability is scarce during the winter months. Consider doing this part in the fall or spring. However, you may still find dried seed pods on plants in the winter.
<b>2.3 Roots and Shoots</b>	Students go to the schoolyard to investigate the roots and shoots of various plants.	Seasonal	It is recommended to do this part in the fall or spring as soil can be difficult to dig in when the ground is frozen or too muddy (and messy) in rainy areas.
<b>3.4 Comparing Animals</b>	Students find local schoolyard organisms to observe and compare to the class crayfish.	Seasonal	The variety and selection of organisms can change with the seasons. While it may be more difficult to find organisms in the winter, you may also find organisms you may not readily find during other seasons.
<b>3.5 Food Chains</b>	Students go outdoors to investigate food chains by assuming roles in a food chain simulation.	Seasonal Additional Idea	Students will be running outdoors in this simulation. Different seasons can add elements of realism to this part, such as it being harder to find their food in the winter. You might want to consider doing this part in different seasons for that reason.
<b>5.2 Water in Soil</b>	Students test local soils to find out how long it takes each soil to absorb equal amounts of water. Ideally, students should test both hard and soft soils.	Seasonal	Bring small trowels or spades to help dig through hard soils. If doing this part in the winter, be prepared to dig beneath the snow to find your soil samples. Water absorption during the winter can be very different than at other times of the year (e.g., soils may be saturated from rain or hard due to freezing). This provides a very interesting experience for students to observe.



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GRADE 3			
Water and Climate			
INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>1.4</b> <b>Water in Nature</b>	Students go outdoors to collect small samples of natural materials, including living and dead plant material and earth materials. They put drops of water on the materials to simulate rain and observe what happens.	Seasonal	In winter, plan to remove snow to reveal natural materials underneath. Be aware that on very cold days, the water drops could freeze. This can provide some interesting observations for students.
<b>2.5</b> <b>Ice Outdoors</b>	Students place one ice cube in the sunshine, a second ice cube in the shade, and bury a third ice cube. They monitor the ice cubes and, by extension, determine the best place for an animal to go to stay warm or cool.	Seasonal	See Getting Ready, Step 6, for an alternative objective if doing this part in the winter and the temperature is below freezing.
<b>5.2</b> <b>Water in Soil</b>	Students test local soils to find out how long it takes each soil to absorb equal amounts of water. Ideally, students should test both hard and soft soils.	Seasonal	Bring small trowels or spades to help dig through hard soils. If doing this part in the winter, be prepared to dig beneath the snow to find your soil samples. Water absorption during the winter can be very different than at other times of the year (e.g., soils may be saturated from rain or hard due to freezing). This provides a very interesting experience for students to observe.



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## GRADE 4

### Environments

INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>1.3 Leaf-Litter Critters</b>	Students go to the schoolyard to collect, observe, and sort small animals living in natural ground litter.	Seasonal	This part is best conducted in the fall or spring. In the winter, animals will hide deeper in the leaf litter and will move more slowly. In snowy areas, leaf litter may be difficult to find or buried under the snow. Consider collecting leaf litter in basins, bringing it indoors and see if organisms can be found alive in it.
<b>2.3 Population Simulation</b>	Students go to the schoolyard to simulate a population of deer foraging for food in its home range.	Seasonal Additional Idea	Conducting this simulation can add some realism for students. Winter months can mimic the difficulty deer experience in finding food, whereas in the spring, it is easier to find food. Consider doing this activity at different times of the year and have students discuss/compare their experiences.
<b>3.4 Variations in a Population</b>	Students go to the schoolyard in two teams, to place a population of imaginary animals in a suitable habitat based on a description of the population's natural history.	Seasonal Additional Idea	In the winter, it may be more difficult for these animals to be camouflaged due to the lack of foliage. Consider doing this activity at different times of the year and have students discuss/compare their experiences.

### Energy

<b>5.3 Engineering with Solar Cells</b>	Students design series and parallel solar-cell circuits and observe the effect on the speed of a motor using the Sun's energy.	Additional Idea	While this is best conducted on a bright, sunny day, consider also bringing students out on a cloudy day with breaks in the clouds. Have students compare the efficiency of their circuits from the sunny day to the partly cloudy day. Does the motor run as fast under cloud cover?
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### Solis, Rocks, and Landforms

<b>1.4 Schoolyard Soils</b>	Students collect and observe different soils from several locations in the schoolyard. They analyze the soil samples to determine how much humus and rock material are in local soils.	Seasonal	If collecting soil samples in the winter and the ground is really wet (rain) or hard (snow), allow time for some water to evaporate from the soil or for the soil to thaw a bit before students observe them more closely.
<b>2.3 Schoolyard Erosion and Deposition</b>	Students consider whether erosion or deposition is happening in their own schoolyard. They look for evidence of erosion and for locations where deposition is in evidence.	Seasonal	Erosional evidence can be observed at any time of year. However, during the winter, students may be able to observe first-hand how physical weathering (e.g., water freezing in cracks, etc.) impacts an area. Following rivulets of water after a rainstorm leads students on a trail of deposition.



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## GRADE 5

### Living Systems

INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>3.1 Plant Vascular Systems</b>	Students need a variety of different leaves for observation. Students also go outside to discover what happens when some foliage of a growing plant is constrained in a plastic bag.	Weather	You can collect leaves ahead of time on your own or conduct a trip outdoors for students to collect leaves. Be aware that the variety of leaves may be limited in the winter. See Getting Ready, Step 3, for more information on the kinds of leaves to collect.  Try to conduct the part where a growing plant is constrained in a plastic bag on a sunny day. Accumulation of condensation will take longer on a cool/cold day.
<b>4.2 Attention</b>	Students choose attention-getting colors, patterns, and a habitat for an action card. The area of the schoolyard you choose should have a variety of habitats, such as grass, bushes and trees, and arid, rocky soil (which could be pavement).	Seasonal	The variety of these habitats may be limited in the winter. If possible, conduct in fall or spring.

### Mixtures and Solutions

<b>1.4 Outdoor Solutions</b>	Students are challenged to discover if natural materials in the schoolyard will make solutions when mixed with water.	Seasonal	While students typically find dry materials outdoors to do this part, finding materials after a rain or under the snow is fine.
<b>4.4 What's in Your Water?</b>	Students collect water samples around the school (both inside and outside sources) and use observation and evaporation to determine what's in each sample.	Seasonal Additional Idea	Collecting water on a rainy or snowy day can provide some interesting results. Find locations where there is water run-off or icicles dripping water off the roof. If you live in an industrial area, you may also find particulates have accumulated in rainwater.



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GRADE 5			
Earth and Sun			
INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>1.1 Shadow Shifting</b>	Students trace their shadows in the morning and afternoon and compare the tracing. They use this information to determine the position of the Sun as it appears to move throughout the day. They also conduct “Shadow Challenges” outdoors.	Seasonal Additional Idea	Consider doing this activity in different seasons so students can compare how their shadows change from season to season.
<b>2.1 Night-Sky Observations</b>	Students look for the Moon during the school day and make additional observations at home at night.	Weather	This part takes some pre-planning, so be sure to start just before the Moon is in the first-quarter phase. See Getting Ready, Step 3, or “The Lunar Calendar” multimedia on FOSSweb for assistance in determining when the new Moon occurs.  You’ll also need clear night skies for student observations at home. If possible, schedule this part during expected clear-sky periods.
<b>3.3 Local Weather</b>	Students will be collecting local weather data over 8 days using a digital weather station (included with your equipment) and some simple weather tools.	Year-round Additional Idea	Consider making the weather-data gathering a routine in your classroom and collect data throughout the school year. Students can compare how weather changes over the seasons.
<b>4.1 Heating Earth Materials</b>	Students set up an investigation to monitor temperature changes when solar energy is transferred to two earth materials: water and dry soil. Students record the temperature of the two materials in sunshine and in shade.	Weather Additional Idea	See Getting Ready, Step 12, for alternatives using heat lamps (not included in the kit) if you are conducting this part and you have many days of inclement weather, heavy clouds, or very cold weather.  Consider comparing the results of this part when done on a hot day vs. on a cooler day.
<b>4.4 Color and Energy Transfer</b>	Students set up solar water heaters using black and white collectors to see if color affects temperature change in water. They also set up open and covered solar water heaters to find out if exposure to air affects temperature change in water.	Seasonal Weather	A nice, sunny day is ideal to do this part . If you conduct this part during a time of year when the Sun is low in the sky, it may be necessary to extend the amount of time the water heaters are exposed to sunlight. See Getting Ready, Step 3, for more information. Getting Ready, Step 5, advocates waiting until you have a good, sunny day as students will get the best results by using more intense solar energy. However, if you live in an area where there are long ranges of no sunny days in the winter, you can use heat lamps as a substitute.



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## MIDDLE SCHOOL

### Planetary Science

INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>1.3 Moon Watch</b>	Students go outdoors, turn their gaze away from Earth, and discover the Moon. After observing the shape, tilt, color, size, and location of the Moon, students share what they know about how the Moon changes over time.	Weather	Best to have clear skies to observe the Moon. See the Getting Ready sections for Inv. 1.1 and 1.3 for more information about scheduling the Moon observations.

### Weather and Water

<b>1.1 Into the Weather</b>	Students gather local weather data to address the question, "What is weather?"	Year-round Additional Idea	While most of the weather data is compiled using online weather services, consider taking your students outdoors to compare what they experience with what is collected online. Consider also making weather-data collection a routine in your class and keep records throughout the year for students to compare.
<b>4.3 Heating Earth</b>	Students are introduced to energy transfer by radiation. They investigate what happens to different earth materials when placed in sunshine and then in shade.	Weather	While it would be optimal to conduct this part on a nice, sunny day, if that is not possible, refer to Getting Ready, Step H, for an alternative on cloudy, rainy, or snowy days.
<b>5.3 Home Design</b>	Students test their insulated home designs outdoors.	Weather	Groups will test their designs in sunlight. If the forecast calls for inclement weather, plan to use the indoor option described in Investigation 4, Part 3. See Getting Ready, Step A, for more information.

### Earth History

<b>2.3 Soils</b>	Students collect soil from their local environment and perform a simple test to determine which earth materials are found in the soil.	Seasonal	In cold, snowy climates, the soil may be hard and difficult to collect. Be prepared to bring some small spades or trowels with you to help break up the soil.
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## MIDDLE SCHOOL

### Diversity of Life

INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>1.1 Living or Nonliving</b>	Students go outdoors to collect materials to use when preparing the microorganism cultures in minihabitats in Steps 18–20.	Seasonal	See Getting Ready, Step F, for information on collecting culture materials in advance. Frigid temperatures may limit the cultures you're able to collect.
<b>5.2 Looking at Plant Structures</b> <b>5.3 Transpiration and Photosynthesis</b>	Students set up a plastic bag to capture water as it exits a plant growing in the schoolyard (Inv. 5.2) and observe the results (Inv. 5.3) to find evidence that water escapes from the plant.	Weather	See Getting Ready, Step C, in Investigation 5, Part 2 for information on conducting this part with little or no sunshine. It may take a little longer to collect moisture but will still be fruitful.
<b>9.1 Bioblitz</b>	Students explore their own locale to collect plants and animals and discover the unexpected diversity of life.	Seasonal	There may be less diversity in the winter than at other seasons of the year. However, there could also be plant and animal differences throughout the seasons. Consider doing this part in the winter and again in the spring to compare and discuss seasonal population fluctuations.

### Populations and Ecosystems

<b>4.1 The Physical Environment</b>	Students can go outdoors to collect nonliving items to contribute to the minihabitat.	Year-round	These materials should be collectible throughout the year, though may be challenging to find in heavy snow.
<b>6.2 Food-Chain Game</b>	Students act out the roles in a food chain from Mono Lake and develop a model for a sustainable food chain.	Seasonal Additional Idea	Conducting this part during the winter can add a touch of realism to the game, as students will discover that finding food in the winter is harder than in the spring or fall. Consider conducting the game at different parts of the year so students can experience this firsthand, or at least discuss how seasons affect animals.
<b>8.1 Biodiversity</b>	Students learn about the concept of biodiversity and how it relates to the health of an ecosystem. They conduct a biodiversity study of their schoolyard to determine the health of the schoolyard ecosystem.	Seasonal	There may be less diversity in the winter than at other seasons of the year. However, there will also be plant and animal differences throughout the seasons. Consider doing this part in the winter and again in the spring to compare and discuss seasonal population fluctuations.



# Teaching FOSS Next Generation—Considerations Throughout the School Year

The following document is designed for school districts who need to rotate their FOSS modules so that each teacher has a different module each trimester, for teachers who have concerns about inclement weather, and to highlight suggestions for how to deal with year-round observations. This document also focuses on areas that may be weather-dependent and provides suggestions about what teachers can do if they are teaching a module under these conditions.

<b>MIDDLE SCHOOL</b>			
<b>Electromagnetic Force</b>			
INV/PART	PART DESCRIPTION	TYPE	TEACHING SUGGESTION/CONSIDERATION
<b>4.2 Energy Transfer</b>	Students go outdoors and use solar cells to power an electric motor.	Weather	<p>This is best conducted on a clear, sunny day. However, conducting this part on a partly cloudy day can provide some interesting results. Have students compare what they observe on a clear, sunny day to what they observe on a cloudy day.</p> <p>If the weather is completely cloudy or stormy, consider setting up an incandescent bulb so that groups can take turns holding their solar cells under it. See Getting Ready, Step B, for information.</p>
<b>Gravity and Kinetic Energy</b>			
<b>1.1 What is Speed? 1.2 What is Acceleration?</b>	Students walk along two interval tracks to collect data about speed (Inv. 1.1) and discover that the speed required is not constant (Inv. 1.2).	Weather	Due to the amount of room these activities take, it is ideal to set up the track outdoors. If you must conduct this part indoors due to weather, try to find a large indoor space, such as the school auditorium or cafeteria.