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## Classes Offered at PMEC

Schools are welcomed to visit PMEC for classroom or outdoor field trips. Below are lessons offered to students in grades K-12 who have visited the Center. PMEC provides all materials for the lessons. Our educators and naturalists can also customize any science lesson to meet your local standards, grades, and curricula. We encourage classes to bring their lunch and enjoy the natural surrounding at our picnic tables. In the event of inclement weather, we can accommodate an indoor lunch time.

Typically, Pre K and K lessons are approximately 30 minutes long, grades 1-6 approximately 45 minutes, and grades 7-12 are at least 1 hour. Note that suggested grade levels are provided. However, lessons can be adjusted to accommodate various ages and grades.

### KEY:

*Italics*      **Demonstrations**  
**Boldface**   **Hands-on**

#### What's Beneath Your Feet?

Grade PreK – Up

We play in it and we eat things that grow in it. What is it? It's soil. **Children will go to an area off one of the nature trails and gather some topsoil. Using magnifiers, children will identify what makes up topsoil including things that live in it. Children will then plant seeds in containers of topsoil and take their plantings back to their classroom.**

#### Animal Homes

Grade 1 – Up

Children will explore different animal habitats and learn to identify different homes made by the animals. **Using the same materials gathered by the animals, children will construct one of the homes.**

#### In My Backyard

Grade 1 - Up

Taking a walk in the woods can be exciting. Children will use their sense of curiosity and explore one of PMEC's nature trails. Plant and tree identification will be included. **Children can collect plants, leaves, etc. and bring them back to one of PMEC's classrooms. They will make posters with their samples to take back to their classroom.**

#### All About Bugs

Grade 2 – Up

Children will explore the world of insects and arachnids. They will learn about those that "bug" them, scare them, and the importance these creatures have in their lives. **Possible arachnids and insects to observe can include spiders, millipedes, and cockroaches.**

### **What Do Animals Wear?**

**Grade 2 – Up**

Children will be provided with several different animal skins and discuss why the skins are unique. Camouflage and animal adaptations will also be discussed.

### **Tree Detective**

**Grade 3 - Up**

Children will discuss why trees are important to life on Earth. **While walking a nature trail, children will learn how to identify trees by their leaves, needles, bark, trunk, and habitat. Leaves, needles, and bark will be gathered. Children will return to one of PMEC's classrooms and make posters identifying their samples to take back to their classroom.**

### **Native Americans in New Hampshire**

**Grade 3 - Up**

Children will discuss the many tribes that lived in the New Hampshire area. They will be shown how Native Americans lived off the land for food, medicine, and clothing. **On one of PMEC's nature trails, children will observe plants used for both medicine and food. Children will take part in an archeological dig and look for various Native American artifacts.**

### **Junior Naturalist**

**Grade 3 – Up**

Children will discuss how a naturalist directly observes animals and plants in their environment. Children will be taught how to use observation skills and scientific collecting methods. **They will be taught how to use the tools of a naturalist including magnifiers, nets, tweezers, and collecting containers. Application of these skills and methods will then be used on the nature trail and at a pond environment.**

### **Spring Birding**

**Grade 3 - Up**

Inside PMEC, children will examine preserved birds and learn how different beaks, feet and feathers help birds survive in their habitats. **Outside each child will be supplied with a pair of binoculars and bird identifying information and observe birds around the PMEC grounds. Nesting and migration will also be discussed.**

### **Winter Ecology (Snow Permitting)**

**Grade 4 - Up**

The days may be shorter and colder, but it can be a great time to explore the winter woods. Appropriately dressed for snow conditions, children will use snowshoes (provided by PMEC) while they observe how animals and plants adapt to cold weather. **Children will be given a clipboard, paper, and a pencil, and encouraged to record their observations. These observations can then be discussed back in their classroom.**

### **Animal Tracking (Snow Permitting)**

**Grade 4 - Up**

Winter is a great time to track animals. *Before venturing into the woods, children will be shown how to differentiate between a waddler, trotter, and bounder.* **Children will be provided with tracking cards made available by the NH Fish and Game, snowshoes, clipboard, paper, and pencil. While in the woods, children will be encouraged to both identify and diagram observable animal tracks.**

### **Survival Skills**

**Grade 5 - Up**

*Survivorman* is a television program where a person uses his survival skills to survive in different habitats for up to seven days with little or no food. Discuss with the students how they would survive like *Survivorman*. **Students will learn how to start a fire without matches. They will build a debris shelter. They will then learn how to safely distinguish between edible and non-edible plants.**

### **Forest Study**

**Grade 6 - Up**

The forest is a great and wonderful place with lots to teach us. In this field study, the students will have the opportunity to collect data from a designated, roped-off area. **Groups of students will collect data on trees, other plants, and the soil. Back in their classroom, students can compare their observations and make inferences regarding the health of PMEC's surrounding woods.** Ideally, other students at later times, can return to the same forest plot and collect data. This will allow PMEC to record changes over time.

### **Geology Study/Quest**

**Grade 6 - Up**

The Earth is estimated to be about 4.5 billion years old. Students will discuss both the many changes that have occurred and the fossil record. **Students will make partial use of the 600 wooded acres surrounding PMEC and set out on a "quest" to observe rocks and minerals, the effects of glacial carvings, weathering, erosion, and deposition. Rocks and minerals can be collected and brought back to their classroom. Students will be provided with clipboards, paper, and pencils and encourages recording their observations.**

### **Orienteering**

**Grade 7 - Up**

The great outdoors is a wonderful place but what happens if you were to take a wrong turn? Would you be able to successfully read a map? What about using a compass? It looks easy enough but would you be able to get home or to safety? **Students will learn how to read a map and use a compass. Students will then head out, bushwhacking through the woods, where they will combine their map and compass skills to find hidden "treasures."**

### **Aquatic Study**

**Grade 7 - Up**

Students will discuss the importance of water to life on Earth. They will then explore the different aquatic habitats surrounding PMEC-ponds, rivers, and streams. **Chemical tests will include pH, dissolved oxygen, and nutrient levels. Additionally, students will test for transparency and temperature. Biological analysis will also be taught. Students will collect and identify living macroinvertebrates.** All this analysis will be combined to determine the quality of the aquatic areas.

### **Soil Study (Pedology)**

**Grade 7 - Up**

Students might think that soil is dirty and gross. However, it is a very important part of life on Earth. **Students will have the opportunity to test the soil using observations through physical and chemical testing. Some tests will include soil texture, pH, nitrate, phosphate, and potassium.** Students will then determine if the soil is nutrient rich or poor and what plants and animals would benefit from their findings.

### **Tree Study**

**Grade 7 - Up**

Students will discuss the importance of trees to life on Earth. **Students will then learn how to identify trees by their leaves, trunk and bark. Students will then be taught how to do transects. They will count and catalog trees in a measured area and end up with a tree inventory.**