

Study Summary

The following table briefly summarizes the studies in the Early Science Explorations Unit and highlights some things to consider when planning for each study. The studies can be pursued in any combination or order, depending on your interests and those of your class, as well as the expectations of your school, district, or state. It is not necessary for you to do every study every year. You can also combine and balance the studies in the Early Science Explorations Unit with topics of scientific study that emerge from the interests of the children in your class.

| | Growing and Changing | Class Pet | Collections from Nature |
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| Overview | Children celebrate and document their own growth and development through several rituals which can be conducted on their birthdays, as part of student-of-the-week activities, or at another designated time. They create a timeline of their lives, mark their birth height and weight and subsequent growth, and conduct a “walk around the sun” to symbolize their age. | Children’s ongoing interactions with a class pet provide an ideal opportunity for introducing the concept of scientific inquiry. Through living with, caring for, closely observing, and documenting observations of the pet over time, children learn a great deal about the characteristics and needs of a single animal. In addition, activities that extend this learning help children make connections and comparisons with other animals. Safe handling and humane treatment of animals are emphasized. | Children build a class collection of a particular group of natural objects and conduct an in-depth investigation of the items. Children weigh and measure objects, closely observe form and texture, and make simple classifications through sorting activities. The children also learn various ways of acquiring information about their collection, including observation, experimentation, research, and communication with an “expert.” |
| Key Notes | <ul style="list-style-type: none"> The three growing and changing activities—“Timeline,” “Walk Around the Sun,” and “Height and Weight Landmarks”—should be ongoing throughout the year, with individual children doing them at different times. Review pages 23 and 29 for suggestions about how to schedule these activities. You can find the activities on pages 30-35. | <ul style="list-style-type: none"> The activities in this study revolve around a class pet. If you don’t already have a class pet, see page 39 for suggestions about choosing a pet that suits your situation, as well as tips for maintaining the pet in the classroom. Since your class pet will be a long-term resident of your classroom, this study can span the entire school year, if desired. Try to arrange for a visit with a veterinarian or knowledgeable pet store employee (either in the classroom or at the office or pet store) in conjunction with the study. | <ul style="list-style-type: none"> Prior to this study, you will need to decide what type of natural object to collect and study. Rocks, shells, leaves, seeds, flowers, and feathers are just a few of the most obvious examples. See page 65 for suggestions and things to consider as you choose a collection. You may want to repeat this study more than once during the school year, using different collections. Some collections lend themselves well to particular seasons. For example, fall leaves make an interesting collection in many regions, and children often have an abundance of shells to share after summer vacations. |

| Constructions | Dirt, Sand, and Water | My Body | |
|---|--|---|-------------------------|
| <p>Children explore some of the scientific concepts involved in design, architecture, construction, and simple tool use. Pre-K and Kindergarten builders are scientists in their own right, acquiring knowledge through experience as they use trial and error to construct and improve their structures. They have opportunities to build with many materials, to visit a construction site, and to make their own building sites in the sand, block, and dramatic play areas. They also seek information from adults involved in the building trades.</p> | <p>This study builds on the sand and water table activities that are part of many classrooms. As children pack and pour and dig and squirt, they explore the properties of dirt, sand, and water and investigate states of matter. Activities such as “Adding Water,” “Mud Pies,” and “Mixing and Unmixing” validate and build on children’s urge to cook and concoct, while leading them to discoveries about interactions between materials and the nature of change. A close examination of dirt, sand, and water increases children’s awareness of the complexity of the natural world and the science in their own backyards.</p> | <p>Children investigate the inner workings of their bodies through multi-sensory observation, experimentation, modeling, and other scientific methods of inquiry. They learn about their brain and five senses, and they make a simple model of their circulatory, respiratory, skeletal, and muscular systems inside a life-size body outline. They also focus on growth and development and on healthy habits. Children explore the topics presented in the context of their own bodies, with a focus on concrete activities and experiences.</p> | <p>Overview</p> |
| <ul style="list-style-type: none"> • Ideally, you should find a construction site that your class can monitor for the duration of this study. • You may also want to arrange to borrow an assortment of building materials and manipulatives for the children to use during this study. | <ul style="list-style-type: none"> • If possible, set up areas for dirt, sand, and water play and exploration during this study. You can find some suggestions for managing this, even if you don’t have a sand or water table in your classroom, on pages 123-124. • Many of the activities in this study would work well outdoors, so it would be best to schedule it during the spring or fall, if possible. | <ul style="list-style-type: none"> • This study is more structured and complicated than the others, so you may want to conduct it later in the year, when children’s skills and comfort level are more firmly established. • Begin thinking about arranging for a visit from a doctor or other health-care professional, and/or scheduling a field trip to a doctor’s office or hospital in conjunction with this study. | <p>Key Notes</p> |