

Investigating shades of color in nature.

Project	Shades of Color
Mixing Paint	The three primary colors red, blue, and yellow are mixed to match the colors of the leaves collected. Children become aware of different shades of color in nature by mixing paint colors. For example, children create different shades of green and not just one shade of green for all green leaves.
Leaf Colors	An extension of the above activity is to have the children trace the shape of the leaves they have collected and then paint the leaves with the more authentic colors they have mixed. To the paper with the leaves they have painted, the children attach a real leaf. To make storage easier, press the leaf between newspapers weighted down with books.
Paint Palette	Collect green paint samples and any colors that leaves tend to change in your area, from the local paint store. Children match their leaves to these samples before and after the leaves change color.
Magazine Swatches	Children tear out swatches of color from magazines that approximate the colors of the leaves they collected. They use these swatches to create a color chart or a magazine color swatch collage to duplicate their leaves.
Natural Colors	Children rub leaves on a piece of white paper or cloth. This is done with green or colored leaves and flowers. Because some children are familiar with grass stains on clothes, they usually try grasses and weeds which tend to work well, especially dandelion leaves. Children make their own color chart with plant samples and the stains they get from rubbing with them.
Pigment Art	As long as there is significant variation in colors in the vegetation in your area, the children use plants to actually draw/rub a picture. The color key they made in the activity above can serve as a reference for choosing the colors they want to include.

Exploring patterns in data.

Project	Patterns in Data
Leaf Change Mobiles	To help children observe change overtime, have children collect a leaf from the same tree or plant every week. The leaves can be hung consecutively by date on a small branch to form a mobile. To minimize curling, press the leaves in a book. To make the leaves more durable laminate or press in wax paper.
Leaf Books	Create a book by folding pages in half and stapling them together. Cut the book into the shape of the leaves or the shape of the plant. Each successive two pages represent successive weeks. Each week the children collect a leaf from the plant they are observing and paste it into their book on the left page and write descriptive information including the date or sketch the whole plant on the right page. Make sure to always attach the leaf to the left page so on successive weeks when children are writing in the book they are not writing on pages with crunchy leaves below them. Store the books below heavy books so the leaves are pressed flat; this will make is easier to work in successive weeks.
Strip Charts	Strip charts are a long piece of paper folded accordion style into a book. Put the title of the chart on the first panel. Each successive panel is dated and represents one week. Each week, children sketch a picture of the plant they are observing. Deciduous plants change from green and full of leaves to branches with no leaves. Attach additional strips of accordion pages as necessary. By having children choose different plants and comparing their charts, they recognize that there is a great variation, but consistency among the patterns that plants follow.
Leaf Development	Leaves are similar on the same plant, though they might be different sizes. Have children find the smallest and largest leaf from the same plant. Using graph paper, they enlarge the smallest leaf to be the same size as the largest leaf or vice versa they reduce the largest leaf to the size of the smallest leaf. Then they compare the leaves to see if the small leaf is just a miniature version of the big leaf or they are different.
Leaf Variation Chart	Create a chart showing leaf variation in shape. Collect several leaves

	<p>from the same plant all about the same size. Attach the leaves along one side of the chart. On the other side label categories to compare the leaves. In particular have students compare anything they can count or measure such as how many points a leaf has or the angles of the points.</p>
--	---

Observing the structure of leaves.

Science Focus	Project	Description
Leaf Anatomy	Picture	To learn the parts of a leaf, draw a picture labeling the parts. Use textbooks or the Internet for examples.
Veins and Edges of Leaves	Leaf Rubbing	To explore vein patterns and the edges of leaves, place a leaf under a sheet of paper and rub with the side of a crayon on top of the paper. Children can use different kinds of leaves to illustrate characteristics such as alternating or opposite vein structures, or serrated or smooth edges.
Shapes of Leaves	Painting	To focus on the shapes of leaves, create silhouettes of leave by splatter painting. Arrange leaves on a piece of paper and then splatter them with paint by rapidly brushing a toothbrush with paint on a screen held above the leaves. This can be messy, so wear a smock. You are finished when sufficient paint has been spattered on the paper for a silhouette to appear when the leaf is removed. Carefully remove the leaves.
Leaf Information	Book	To express information or answer a question, create a book that has the cover and all of the pages in the shape of a leaf. The book can describe information about different types of plant leaves or answer a question such as “How do insects affect leaves?” or “What colors are leaves?”

Exploring trees.

Science Focus	Project	Description
Tree Parts and Uses	Science bag or box	In a paper bag or box, place objects from a tree such as samples of leaves, branches, bark, flowers, seedpods, and products made from the tree. Children decorate and write on the sides of the box or bag. The projects are shared in class.
Root Anatomy	Picture	Draw a picture showing the anatomy of a root. Use textbooks or the Internet for examples.
Above and Below Ground	Picture	Draw a picture of a tree from the side showing the tree above and belowground.
Tree Anatomy or Life Cycle	Flip Book	Create a tree flip book by equally offsetting several pages and folding them in half to form tabs. The pages are secured by stapling along the fold. Position the book so that the pages open up and then draw a picture of a tree across the cover of the book and the tabs. Open the book and write about the part of the tree that is on each tab such as leaves or roots. Alternatively, create a book showing the life cycle of a tree from a seed to a tree to lumber.
Tree Shape	Pencil Sketch	Using a pencil, have children sketch the same tree but from different positions around the tree. Sketches are then compared to see whether the tree has the same general shape from all angles.
Tree Shape and Structure	Charcoal Sketch	Charcoal from a fire or commercially purchased is used for drawing the shape and structure of trees. Have children sketch different types of trees with no leaves and compare them for different shapes and branch structures.
Tree Color, Shape, and Texture	Sponge Painting	Using a small piece of sponge instead of a paintbrush, paint a picture of a tree by repeatedly dipping the sponge into paint and pressing or dragging it on a piece of paper. This can create different textures.

Tree Shape and Color	Collage	Using a paper cutter, cut strips of different colors of paper. Children rip the strips into small pieces to represent leaves and bark. These are pasted onto a sheet of paper to create the shape and coloring of a tree.
Tree Shape	Mobile	To create a tree mobile, fold a square of green construction paper diagonally and then make one cut from a corner along the fold to the center. To form a tree shape, the cut edges are overlapped and fastened together. For the trunk, a piece of brown paper is rolled to form a cylinder. Roots are made from string and branches are cut and curled from the trunk cylinder. Attach the trunk to the inside of the tree. Large trees have space to write a description of a tree.
Tree Shape and Information	Book	Create a book in the shape of a tree. The children can show their creativity by writing and illustrating a fiction or nonfiction story that includes many science facts and concepts.

Exploring forests.

Science Focus	Project	Description
Forest Information	Report	Create illustrated reports to answer questions asked by scientists about life in a forest. Augment research with Clip Art and pictures from the Internet. Children can ask questions such as, “What is the life cycle of a forest?” or “How healthy is this forest?”
Forest Information	Story	Create fictional storybooks about life in a forest. Children can be very creative and ask questions such as “Where is my house?” Even if the book is fiction, children should demonstrate their understanding of science in the book.
Forest Shapes and Color	Collage	Create a forest of leaves in which each large leaf represents a tree with the stem being the trunk and small leaves being bushes. To prevent curling and facilitate storing the pictures, press leaves or the whole picture by placing them between newspapers and putting some heavy books on top. Alternatively, students can be given the task to figure out how to make the leaves flat.
Forest Shapes and Color	Scene	Create a scratch art picture of a forest. Children using fall or spring colors randomly color with crayons on a piece of paper. For a striking visual effect, the entire piece of paper needs to be filled in with crayon. Then, paint the paper completely with thick black tempera paint and let it dry completely. To create a fall or spring scene, use a paperclip that has been straightened to lightly scratch away the paint to expose the crayon colors. The finished picture will be mostly black with colors from the forest scene showing through.