

Trees



SUMMARY

This project involves students in planting a tree. The Future Garden challenges us to set up systems. Adding trees to the garden has many long-term effects. Young trees grow into shading elements. Trees prevent soil erosion, release oxygen, provide food and cover for animals and some produce fruit people eat. Some trees are harvested, but we are growing trees for their products while living.

Cognitive Skills Grades K-5

Observation
Comparison
Research skills
Technology
Making decisions
Weighing options

The Future Garden story:

Pear trees of different varieties took root in our soil. We hope in several years to compare their fruits. Kids helped dig with small shovels. They also carried water and used a hose.

We also considered pecans which drop in October and November.

Two are needed to grow fruits, and they need 5 to 7 years of growth.

Consider a balled and burlap larger tree. Look for an area that is away from buildings. Be sure there is adequate, but not too much, drainage. Be sure to loosen the root ball. Dig the hole deep and wide according to instructions. Place the tree in its optimum habitat. (Ask your local nursery or ask "Tree Guy".) Plan for a late fall planting.

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FOCUS QUESTION

How might a tree help our garden now and into the future?

OBJECTIVES

- See vegetation providing natural ground cover to prevent erosion.
- Recognize trees as shade, habitat and/or sources of food.
- Learn the characteristics of trees

SPECIFIC OUTCOMES

- Students research the usefulness of trees
- Students observe and compare eroded areas noting vegetation.
- Students stand in the shade of a tree and recognize qualitative (or quantitative, if they use a thermometer) temperature differences.

MATERIALS

- Shovels
- Tree
- Resources on trees

MAKING CONNECTIONS

Understanding trees, tree food products, old trees, wood properties, and adopting a trees.

PROCEDURE

ENGAGE (5 Minutes) Ask: "How might a tree help our garden now and into the future?" Gather answers. Record in journal.

EXPLORE (15 Minutes) Look at other trees (see grade level objectives).

EXPLAIN (10 Minutes) Discuss how trees help us. Introduce new tree.

EXPAND (20 Minutes) Point out a pre-determined site and ask students to discover why you chose this site, or choose a site together and dig!

EVALUATE (10 Minutes) Journal about the tree and site.

Extension: Research the uses of different varieties of trees.

Extension: Use field guides to identify trees on campus.

Extension: Tree and leaf rubbings.

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RELEVANT NORTH CAROLINA SCIENCE STANDARDS



Kindergarten Competency Goal 1

The learner will build an understanding of similarities and differences in plants and animals.

Objectives

1.01 Identify the similarities and differences in plants: Appearance. Growth. Change. Uses.

Study the tree compared to other trees. How old is it? Are there others of this variety that are older? How can this tree help us? (oxygen, shade, fruit) What will this tree look like when it grows up? How will it change? (More branches, thicker bark).

Grade One Competency Goal 1

The learner will build an understanding of the needs of living organisms.

Objectives

1.01 Determine the needs of plants: Air. Water. Nutrients. Light.

What does this tree need? How will it get these things? (Plant it in the sun? Watering schedule in the summers.)

Grade Two Competency Goal 1

The learner will build an understanding of plant and animal life cycles.

Objectives

1.01 Analyze the life cycle of plants: Reproducing. Developing into an adult. Eventually dying.

How old is this tree/ How long will it live? Draw the tree at 1, 5, 10, 25, 50 and 100 years old. Will it die? What will happen to it then? Can it help anyone then? (Old snags make great homes for woodpeckers, owls, bugs and others. See any snags on campus? A snag is a dead, standing trunk.)

Grade Three Competency Goal 1

The learner will build an understanding of plant growth and adaptations.

Objectives

1.01 Determine that the quantities and qualities of nutrients, light, and water in the environment affect plant growth. (See Grade 2)

1.02 Observe how environmental conditions can determine how well plants grow and survive in a particular environment.

(Do some trees on campus seem to be doing better than others? Can you think of why some have a harder time? Dense or sandy soil, steep slope, lack of water, compression of roots, lawn mower damage, too much sun or shade)

1.03 Analyze plant structures for specific functions: Growth. Survival. Reproduction. (Leaves, seeds, drupes, trunk, roots, branches.)

1.04 Determine that new plants can be generated from: Seeds. Tubers. Bulbs. Cuttings. (Trees often start as seeds. Study variety.)

Grade Four Competency Goal 1

The learner will build an understanding of animal growth and adaptation.

Objectives

1.03 Evaluate living and nonliving things that affect animal life: Other animals. Plants. Climate. Water. Air. Location.

(Which animals might live in or use our tree? Bugs to eat or hide or build webs, cocoons or galls. Birds to hide, nest, perch, hunt.)

Grade Five Competency Goal 1

The learner will build an understanding of the interdependence of plants and animals.

Objectives

1.02 Determine the function of organisms within the population of the ecosystem: producers, consumers, and decomposers.

1.05 Evaluate the major source of energy for ecosystems (sunlight) and how it is passed from organism to organism in foodwebs.

(Trees are considered producers since they utilize light, CO₂ and water to photosynthesize and create food for animals.)

Competency Goal 2

The learner will build an understanding of forms and sources of energy.

Objectives

2.01 Assess the sources and forms of energy (heat, light, electricity, mechanical motion, and sound). (Sunlight. Food - plants)