PLANTS

By: Megan Stevens

Project Idea

Exploring plants. Finding out how they grow, what we use them for, and what they consist of.

Duration and grade level

- Preschool
- 3 Weeks

ESSENTIAL QUESTION

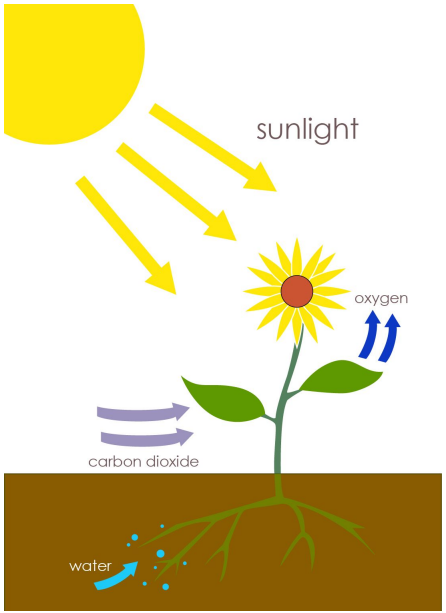
What are plants?

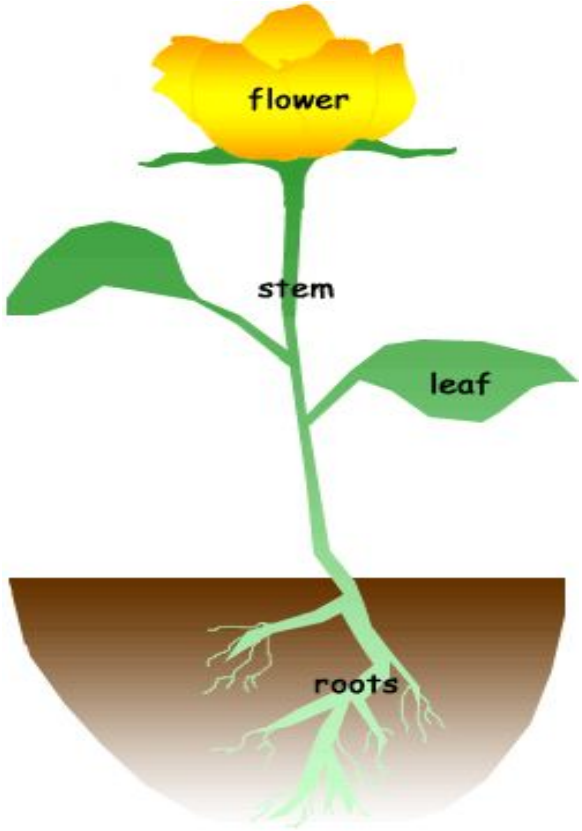
DRIVING QUESTIONS

1.What are the parts of a plant?

2. What do plants do?

3. How do plants grow?





standards: California Preschool Foundations

- **Language & Literacy- Vocabulary 2.1, 2.2, 2.3 Reading 1.1, 3.1 Alphabetic 3.2, 3.3 Writing 1.1, 1.2, 1.3, 1.4**
- **English Language Development Listening 1.1**
- **Mathematics Algebra & Functions 1.1, 2.1, 2.2 Geometry 1.1, 1.2, 2.1 Number Sense 1.3, 1.4, 1.5**
- **Science Inquiry 1.1, 1.2, 1.3 Life sciences 1.1, 1.2, 1.3, 1.4**
- **History Self & Society 3.1**
- **Civics Skills for Democratic Participation 1.1 Fairness and Respect 3.1 Conflict Resolution 4.1**
- **Sense of place 1.1**
- **Physical Balance 1.1, 1,2 Locomotor 2.2 Manipulative 3.1, 3.2 Direction Awareness 3.1, 3.2, 3.3, 3.4 Active participation 1.1, 3.1**
- **Health Nutrition 1.1**
- **Visual and Performing Arts Notice, Respond, Engage 1.1, 1.2, 1.3, 1.4 Develop Skills in Visual Arts 2.1, 2.6**

Next generation science standards

NGSS-Next Generation Science Standards

ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live. [Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.]

1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.* [Clarification Statement: Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.]

2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow. [Assessment Boundary: Assessment is limited to testing one variable at a time.]

2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.*

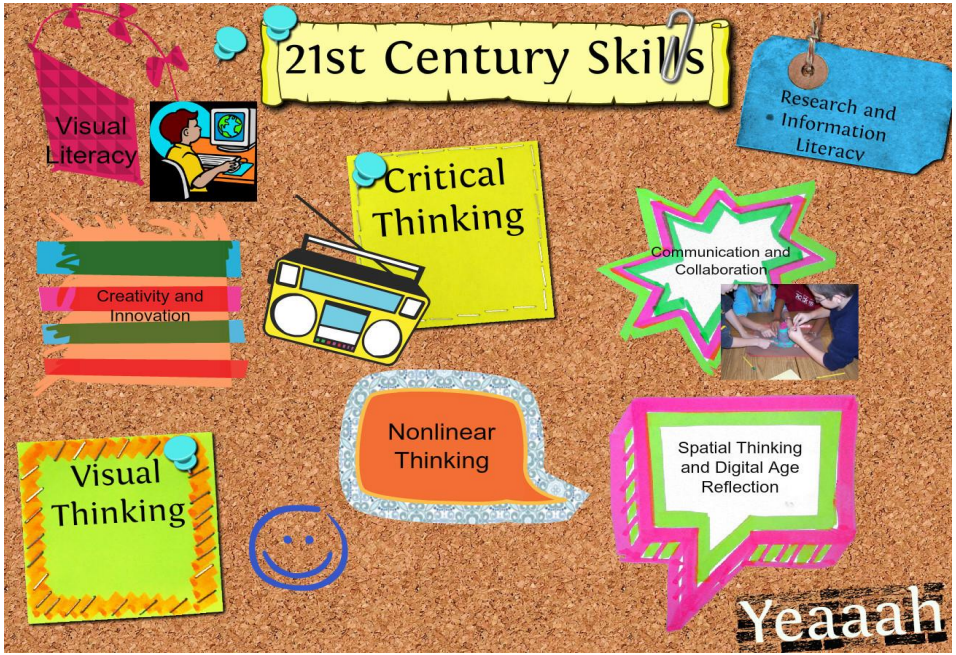
CTE Standards

- Agriculture and Natural Resources Pathways Sectors
- G3.0 Understand plant physiology and growth principles.
- G3.1 Investigate plant systems, nutrient transportation, and energy storage.
- G3.3 Discern how primary, secondary, and trace elements are used in plant growth.
- G3.4 Research the factors that influence plant growth, including water, nutrients, light, soil, air, and climate.
- G3.5 Identify the tissues seen in a cross section of woody and herbaceous plants.

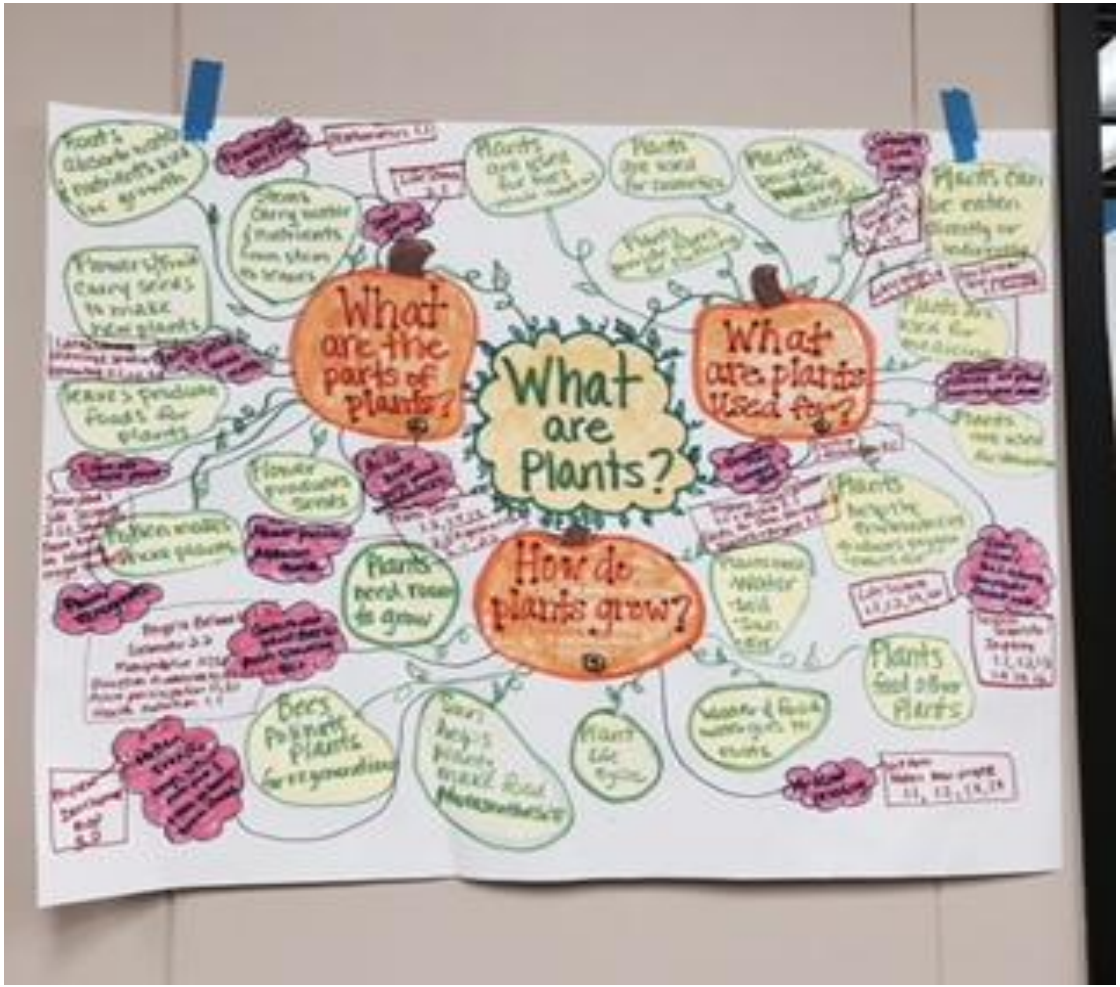
Habits of mind & 21st Century skills

Rigor
Relevance
Relationships
Reflection

- Focus on what others say as opposed to what we want to hear/reply
- Acknowledging the feelings and ideas of others
- Know your knowing
- Being aware of one's own thoughts, strategies, feelings, and actions and their effects on others.
- Questions and posing problems
- Apply past knowledge to new situation
- Thinking and communicating with clearly and precision
- Creating, imaging, innovation
- Continuously learning
- Finding humor



CONTEXTUAL FLOW



RESOURCES NEEDED

Materials:

- soil
- seeds
- beans
- pots
- water
- books
- wheelbarrow
- shovel
- pom poms
- glue
- puzzles
- flower petals
- markers
- paper
- celery
- food coloring
- leaves
- paint
- blocks
- pictures
- various plants

ASSESSMENTS

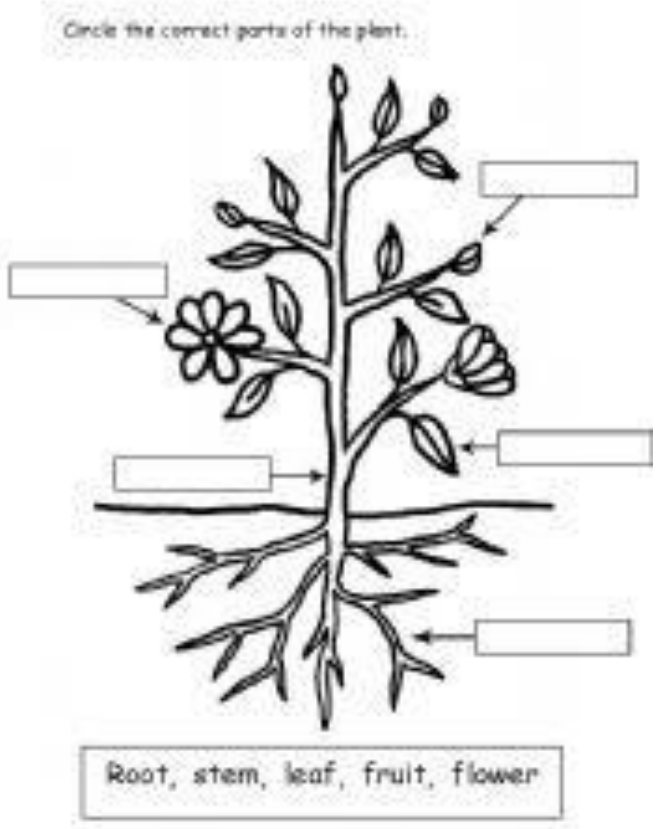
Formative Assessment

-Journal/learning log

Summative Assessment

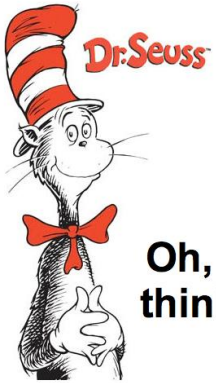
-Observation

-Oral questions



REFLECTION METHOD

- Whole class discussion during circle time.
- Journal log



**Think left and
think right and
think low and
think high.
Oh, the things you can
think up if only you try!**

KNOWLEDGE AND SKILLS NEEDED

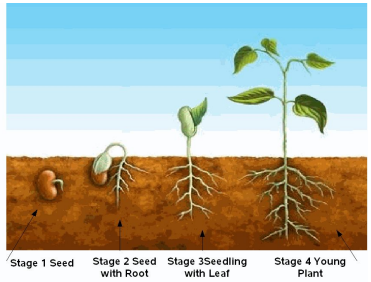
Students will be able to:

Name the main parts of a plant and their functions: stems, roots, flowers/fruits, leaves, pollen.

Identify what plants are use for: Cosmetics, fuel, building materials.

Participate in journal log activity and be able to count.

Describe how a plant grows: Plant life cycle, plants need water, bees pollinate, Sun give plants energy, plant feed other plants



Imitate a picture of plants by drawing.

Tolerate sensory input: dirt, seeds, water

QUESTIONS PROVIDED BY TEACHER

Teacher asks questions to recall facts, make observations, or demonstrate understanding:

What do you know about plants?
Where do plants grow?
Where can we find water?
How many parts are there and name the parts of the plant?

Teacher asks questions to summarize, analyze, organize, or evaluate:

Can you draw how a plant grows?
Why do plants need water?
Why is sunlight so important?
Why is bee important to plants?
How do you know plants grow in soil?

Teacher asks questions to apply or relate:

Do you have plants at home?
Do you water your plants?
Where can we find plants?

Teacher asks questions to predict, design, or create:

What is going to happen if you do not water the plants?
What if the plant does not have sunlight?
Do you think we can eat all the plants?

Week 1 Activity: What are the Parts of Plants?

Circle Time:
-Bring different plants into the class. Allow children explore them freely.
Ask children what they know about plants.
-Intro plant types & parts of plants.
Matching pictures
Music videos
about plants

Literacy:
Matching words
Eric Carle “The Tiny Seed”
Flower Puzzle ABC match

Math:
Flower petal counting
Flower Tanagram
Seed sorting

Science:
Celery in colored water
Fine/Gross Motor:Imitate drawing a picture of a plant

Art: Sunflower seed art

Dramatic Play: Farmer

EL Strategies:
3-d & 2-d visuals for vocabulary words and instruction

Intervention Lesson focus:
check in and review main points from previous lesson

WEEK 1 RUBRIC

*

Creating a Painting : Imitation of a Plant

Teacher Name: **CrystalAnn Oldham, Anna Dolce, Lynelle Madsen, Lisa Vang**

Student Name: _____

CATEGORY	4	3	2	1	Score
Drawing	Student includes all 5 parts of the plant. Student places the parts of the plants in the correct location.	Student includes 4 parts of the plant. Student places the parts of the plants in a somewhat correct location.	Student includes 3 parts of the plant. Student places the parts of the plants in the somewhat correct location.	Student includes 2-3 parts of the plant. Student places the parts of the plants on the paper.	

Date Created: **Dec 10, 2015 07:54 pm (CST)**

Week 2 Activity: What are plants used for?

Circle Time:
Introduce what plants are used for fuel, building materials, cosmetics, clothing, medicine, decoration

Literacy:
“From Seed to Plant” by Gayle Gibbons

Math:
Counting Lima Beans

Science:
Growing Lima Beans

Fine/Gross Motor:
Sorting Lima beans

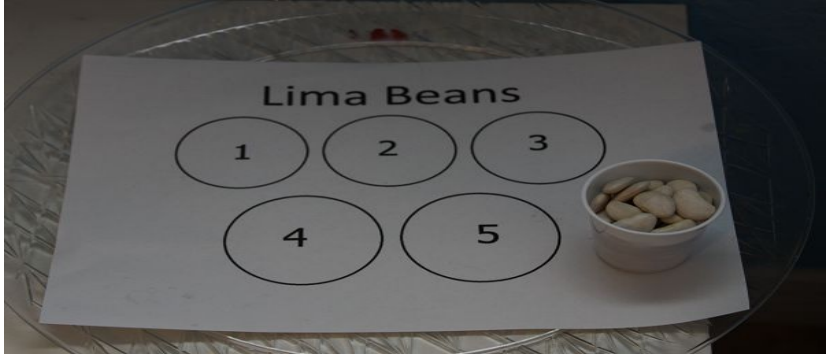
Art:
Glue Lima beans

Dramatic Play:
Growing like a Lima Bean

EL Strategies:
Visuals Notebooks Collaboration Peer teaching

Intervention Lesson focus:
check in and review main points from previous lesson

WEEK 2 RUBRIC



Math - Problem Solving : One-to-one correspondence:Counting Lima Beans

Teacher Name: **CrystalAnn Oldham, Anna Dolce, Lynelle Madsen, Lisa Vang, Megan Stevens**

Student Name: _____

CATEGORY	4	3	2	1
New Rubric Row	Counts 5 Lima Beans with one-to-one correspondence correctly.	Counts 4 Lima Beans with one-to-one correspondence correctly.	Counts 2-3 Lima Beans with one-to-one correspondence somewhat	Counts 1 Lima Beans while trying to use one-to-one correspondence.

WEEK 3 ACTIVITY

Circle Time:
Introduce what plants need to grow: soil, water, air, sunlight, & space.

Literacy:
“Oh, Say Do You Seed:
By: Bonnie Worth

Math:
Students use ruler to measure how far apart seed/plants should be planted.

Science:
Observing Lima bean growth.

Fine/Gross Motor:
Wheel-barrow push and shovelling dirt.

Art:
Leaf painting.

Dramatic Play:
I am a Plant, What do I Need?

EL Strategies:
Visual aides & PECS (Picture Exchange Communication System)

Intervention Lesson focus:
check in and review main points from previous lesson

WEEK 3 RUBRIC

Collaborative Work Skills : Gardening

Teacher Name: **CrystalAnn Oldham, Anna Dolce, Lynelle Madsen, Lisa Vang, Megan Stevens**

Student Name: _____

CATEGORY	4	3	2	1
Working with Others	Almost always listens to, shares with, and supports the efforts of others. Tries to	Usually listens to, shares, with, and supports the efforts of others. Does not cause \"waves\" in	Often listens to, shares with, and supports the efforts of others, but sometimes is not a	Rarely listens to, shares with, and supports the efforts of others. Often is not a good team

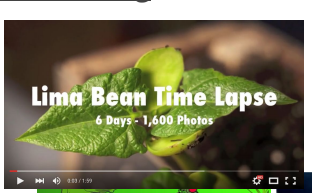
VIDEO LINKS

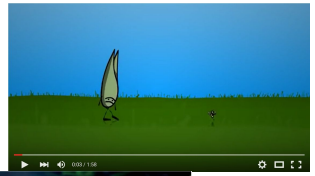
Week 1

Parts of the Plants | Parts of the Plant Dr Bionics | Plant Parts Song

Pollen | The Pollination Song

Lima Bean Sprouting | Timelapse Pea Sprout

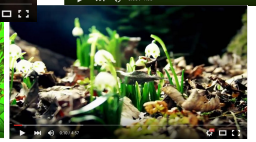




Week 2

Amazing Nature HD | Tiny Seed

Living vs Nonliving | The Needs of Plants | 5 Needs of Plants Song



Week 3

Uses for plants | Learn about Plants Uses

Where Paper Comes From | Paper Process

Photosynthesis | Photosynthesis 50 cent | The Photosynthesis Song

Cotton to Denim | Building a Fire | Medicinal Plants

EXTENTION

Grow classroom garden

Have an agriculturist visit the classroom

Trip to the library for more plant books.