

# NGSS Unit Planning with UbD

**Teacher Name:** 2<sup>nd</sup> grade team

**Date:** \_\_\_\_\_

**School Site:** E. Hale Curran

**Unit:** Growing a Garden- Lesson 1 (Illustration)

**Note:** 1<sup>st</sup> lesson in the Plant unit (Defined STEM) for 2<sup>nd</sup> Grade- Illustration. This lesson should take about 5 to 7 days.

## **NGSS Covered:**

LS. 2-LS2-1: Plan and conduct an investigation to determine if plants need sunlight and water to grow.

## **CCSS ELA Covered:**

2. RL.2.9 Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.

2. RI. 2.9 Compare and contrast the most important points presented by two texts on the same topic

2. W.2.2 Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

2. SL.2.5 - Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences, when appropriate, to clarify ideas, thoughts, and feelings.

## **CCSS Mathematics Covered:**

MD.10 Draw a picture graph and a bar graph (with single- unit scale) to represent a data set with up to four categories. Solve simple put together, take apart, and compare problems using information presented in a bar graph.

# Understanding by Design NGSS Unit Plan

## Stage 1: Desired Results

### Understand

- Living things depend on their habitat to meet their basic needs.

### Essential Question(s)

1. What do plants need to grow?

## Stage 2: Evidence/Assess

### Know

Students will know that sunlight and water directly affect the growth of a plant and what the effect would be if a plant does not get these things.

Suggested Vocabulary:

Nutrients  
Vegetables  
Vitamins  
Soil

### Do

Students will make an illustration of their favorite vegetable. They will need to label and give their illustration a title.

Students will conduct an investigation to examine what plants need to grow.

Students will read books about plants and compare and contrast the important points

Students will make a poster to document the process and add a picture or bar graph.

### Stage 3: Learning Plan

#### How

**Engage:** Students will watch the Defined STEM video on making an illustration. They will then make their illustration of their favorite vegetable. They need to label and title their illustration.

**Explore:** In their science journals, have students write down the essential question; What do plants need to grow? Have teams discuss the essential question. In teams students will be given three potted plants. One plant will be given no water but will have sun. One will be kept in the cupboard and given water, and one will be given sunlight and water. Students need to make a prediction and discuss with their teammates what they think will happen to each plant. This then gets documented in their notebooks. They will then conduct their experiment over the next three to four days, checking daily and documenting in chart form their effect

Days (effect)	No sunlight (cause)	No water (cause)	Sunlight and water (cause)
Day 1			
Day 2			
Day 3			
Day 4			

findings. This directly relates to cause and and can be noted on their chart.

During the four days read various books about plants, non fiction as well as fiction. Have students do a double bubble comparing and contrasting the different stories and/or most important points. Do a whole class double bubble and then they can do one together in teams and present to other groups.

**Explain:** After day four teams will examine their plants and state their claim and evidence for their claim. The claim will answer the essential question, What do plants need to grow? The evidence should be documented in the chart. Have students write an explanation of their findings using a topic sentence and support their findings with evidence from the experiment. This would be their reasoning.

**Elaborate:** Have teams draw a poster depicting the process of their investigation and showing their findings. Posters should be labeled and in sequential steps. They should include a picture or bar graph of their findings from their chart.

**Evaluate:** When posters are done have teams switch posters and evaluate each other's. They can use stickies and write down questions they have, things they don't agree with, and things they like. Then the posters are given back and teams may revise their posters according to the suggestions or not. These posters can then be displayed and you can use it as a way of evaluating their understanding.

<b>Stage 4: Transfer</b>
<b>Knowledge Transfer</b>
<b>Cross cutting concept: Cause and Effect:</b> Events have causes that generate observable patterns.
Students should recognize the cause and effect of sunlight and water on the growth of plants and how that applies to other living things, as well as recognize cause and effect in other curricular areas.
Resources:
Schoolwide.com Zing! (ebooks)
Science and Reading A to Z- Plants (Science A to Z), Harold the Hungry Plant (Reading A to Z), Strange Plants (Reading A to Z),
Plants Investigation Packs (Science A to Z)
Videos: STEMscopes (Acceleratelearning.com), Discovery Education