

Name: _____

Date: _____

Focus of the lesson: Growing a Butterfly Garden

Standards:

Science: Obtain, evaluate, and communicate information about the life cycle of different living organisms.

Math: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

ELA: Participate in collaborative conversations about 2nd grade topics with peers and adults in small and larger groups.

Vocabulary:

predator	herbicides
herbivore	habitat
nectivore	proboscis
pollination	nectar

Lesson Essential Question:

How does a plant develop from a small seed?

How do seasons affect the life cycles of living things?

How does a living thing go through a life cycle?

STEM Challenge:

Milkweeds and nectar sources are declining due to development and the widespread use of herbicides in croplands, pastures and roadsides. Mrs. Rosalynn Carter needs us to plant a butterfly garden at Liberty Elementary School to help promote a higher butterfly population. How can we use our Alternative Gardens to grow plants for a school butterfly garden?

Name _____

Butterfly Garden STEM Challenge

2nd Grade

Challenge: Milkweeds and nectar sources are declining due to development and the widespread use of herbicides in croplands, pastures and roadsides. Mrs. Rosalynn Carter needs us to plant a butterfly garden at Liberty Elementary School to help promote a higher butterfly population. How can we use our Alternative Gardens to grow plants for a school butterfly garden?

Criteria/ Constraints:

You must choose only one Alternative Garden to plant your seeds in.

You must choose one type of seed to plant: Zinnias, Marigolds, Milkweed, Lettuce

You must choose one type of media to use: Foam, Rockwool or Grow Plugs

Materials:

Emily's Garden, Aquaponic Garden, Butterfly Hydroponic System, Hydroponic Chamber, Zinnia Seeds, Marigold Seeds, Milkweed Seeds, Lettuce Seeds, Foam, Rockwool, Grow Plugs,

1. **ASK / ENGAGE:** What is the problem you are being asked to solve?

Materials List

2. **IMAGINE/BRAINSTORM:** What are some possible solutions to the problem that you are trying to solve? After you brainstorm, draw and label your ideas below.

<p>Idea #1</p>	<p>Idea #2</p>
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3. **PLAN/DESIGN:** Share your ideas with your group and collaborate to decide on a final design plan. Draw your team's design below and make a list of the materials that you will need to complete your design.

<p>Team Design Plan</p>	<p>Materials List</p>
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4. CREATE/TEST: Use your Final Design Plan to create and build your solution. Test your design. Did it work? Why or Why not?

5. EVALUATE/IMPROVE: How well did your design work? Did your solution solve the problem within the given constraints?

How can you improve your design? How can you make it better? Draw and label your improved design below.

Improved Design Plan

