

Home » Activities » How Many Butterfly Eggs Can a Leaf Hold?

How Many Butterfly Eggs Can a Leaf Hold?

DeeDee Whitaker
Product Content Specialist

March 2017

Overview

This is an elementary level, hands-on activity for students to investigate the relationship between leaf shape and the number of butterfly eggs that can be laid on a leaf. Students will build on their knowledge of the painted lady butterfly life cycle to assess which leaf shape can hold the most eggs. The activity promotes spatial thinking, proportion and scale, and measurement and may be conducted individually or in a small group.

Essential question: Does the shape of a leaf change the number of eggs butterflies can lay on the leaf?

Objectives

1. Count the maximum number of "eggs" that can be laid on each leaf type.
2. Decide if leaf shape affects the number of eggs laid.



Next Generation Science Standards* (NGSS)

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Practice: Asking Questions and Defining Problems</p> <ul style="list-style-type: none"> 3-5 Ask questions about what would happen if a variable is changed. 	<p>DCI: Idea-LS1: From Molecules to Organisms: Structures and Processes</p> <ul style="list-style-type: none"> Students examine the life cycle of the painted lady butterfly from larvae through egg laying for the next generation of butterflies. 	<p>Concept: Scale, Proportion, and Quantity</p> <ul style="list-style-type: none"> 3-5: Students recognize natural objects and observable phenomena exist from the very small to the immensely large. Students use standard units to measure and describe physical quantities such as weight, time, temperature, and volume.

Additional background information

Butterflies undergo complete *metamorphosis*, which is a total change in their form. They have 4 life stages: egg, larva, pupa, and adult. In nature, female painted lady butterflies lay their eggs on leaves. Painted lady eggs are mint green and about the size of a pinhead. To see the eggs clearly, a magnifying glass must be used. Butterflies use hollyhocks, daisies, and asters to lay their eggs. The female attaches her eggs to the leaf with a liquid that hardens and protects them. Most of the eggs hatch in 3 to 5 days. Cooler temperatures may cause hatching to take longer.



Hollyhock



Daisy



Aster

Materials

- 100 "eggs" per student or group (hole punches from light green paper)
- Leaf outlines
- Metric ruler

Safety

If you ask students to cut out the leaf templates, remind them to be careful using scissors.

Procedure

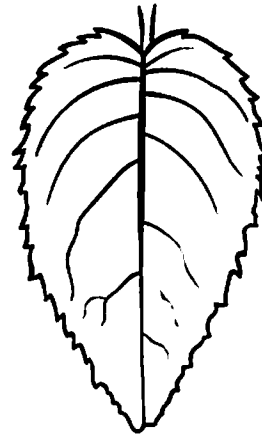
Which leaf do you think will hold the most eggs? _____

1. Measure the length of each leaf. Use the line in the center of leaf as a guide for the ruler.
2. Write your answer in the blank.
3. Cover each leaf with the green butterfly eggs (paper circles). The eggs should be close to each other but should not touch or overlap.
4. Count the number of eggs on each leaf.
5. Write down the number of eggs on each leaf.

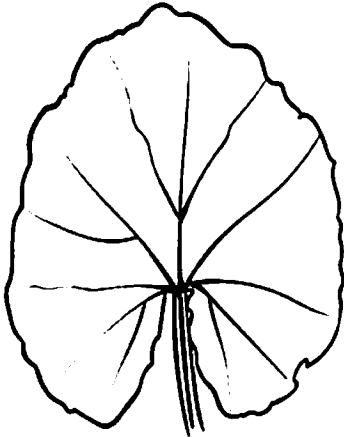
Leaves



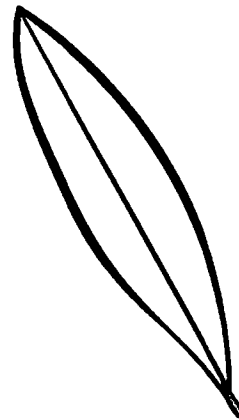
Daisy length _____ cm
Eggs _____



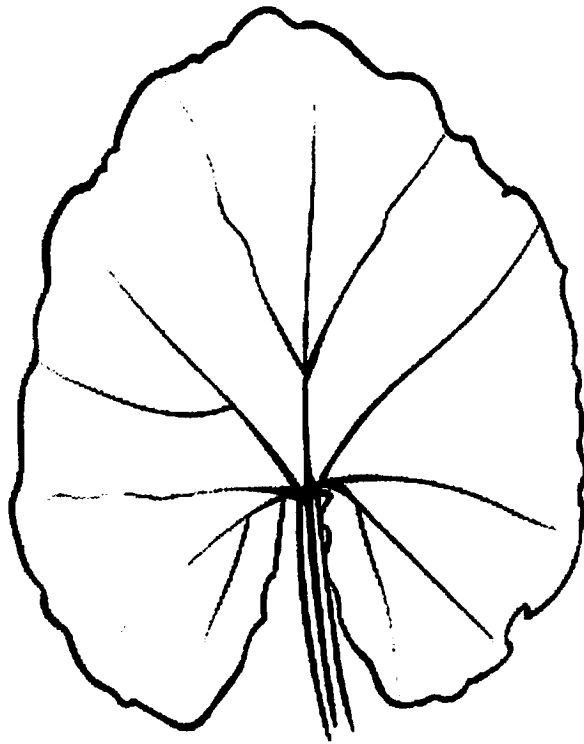
Aster length _____ cm
Eggs _____



Hollyhock length _____ cm
Eggs _____



Lily length _____ cm
Eggs _____

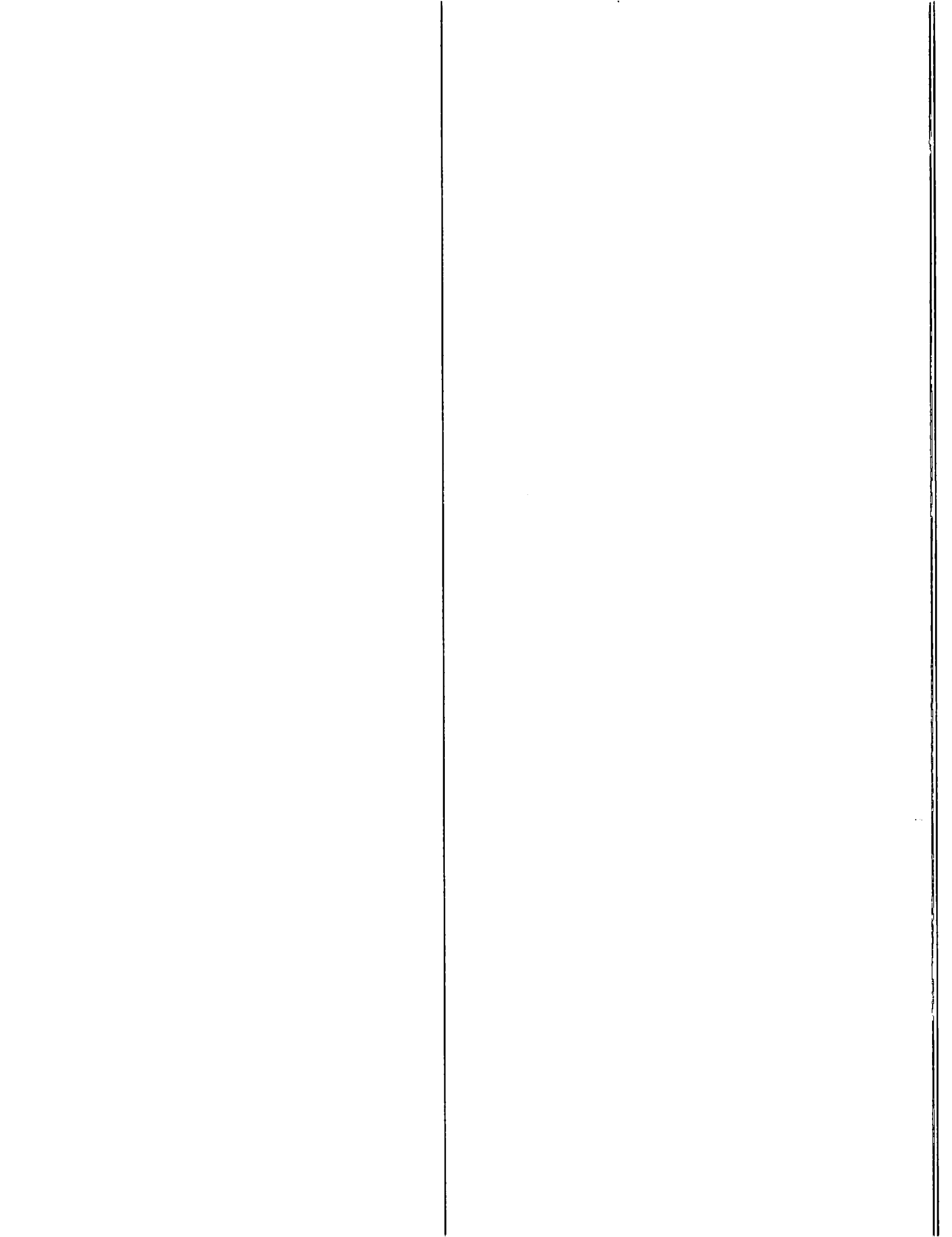


Hollyhock length _____ cm

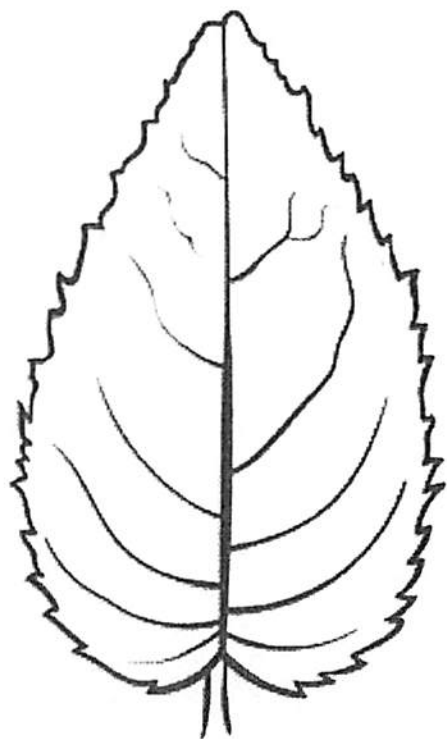
Eggs _____



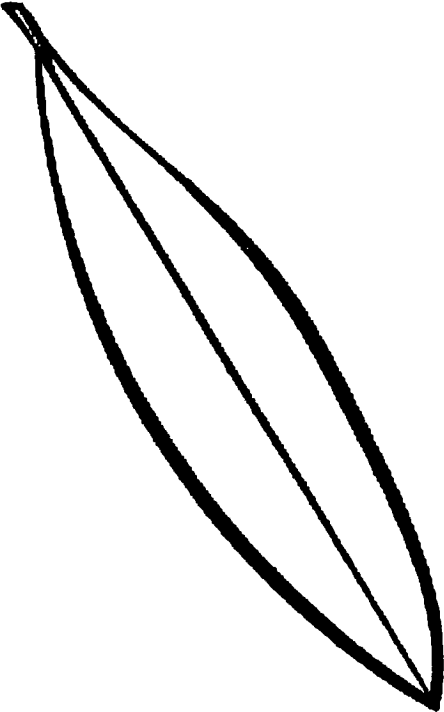
Daisy length _____ cm
Eggs _____

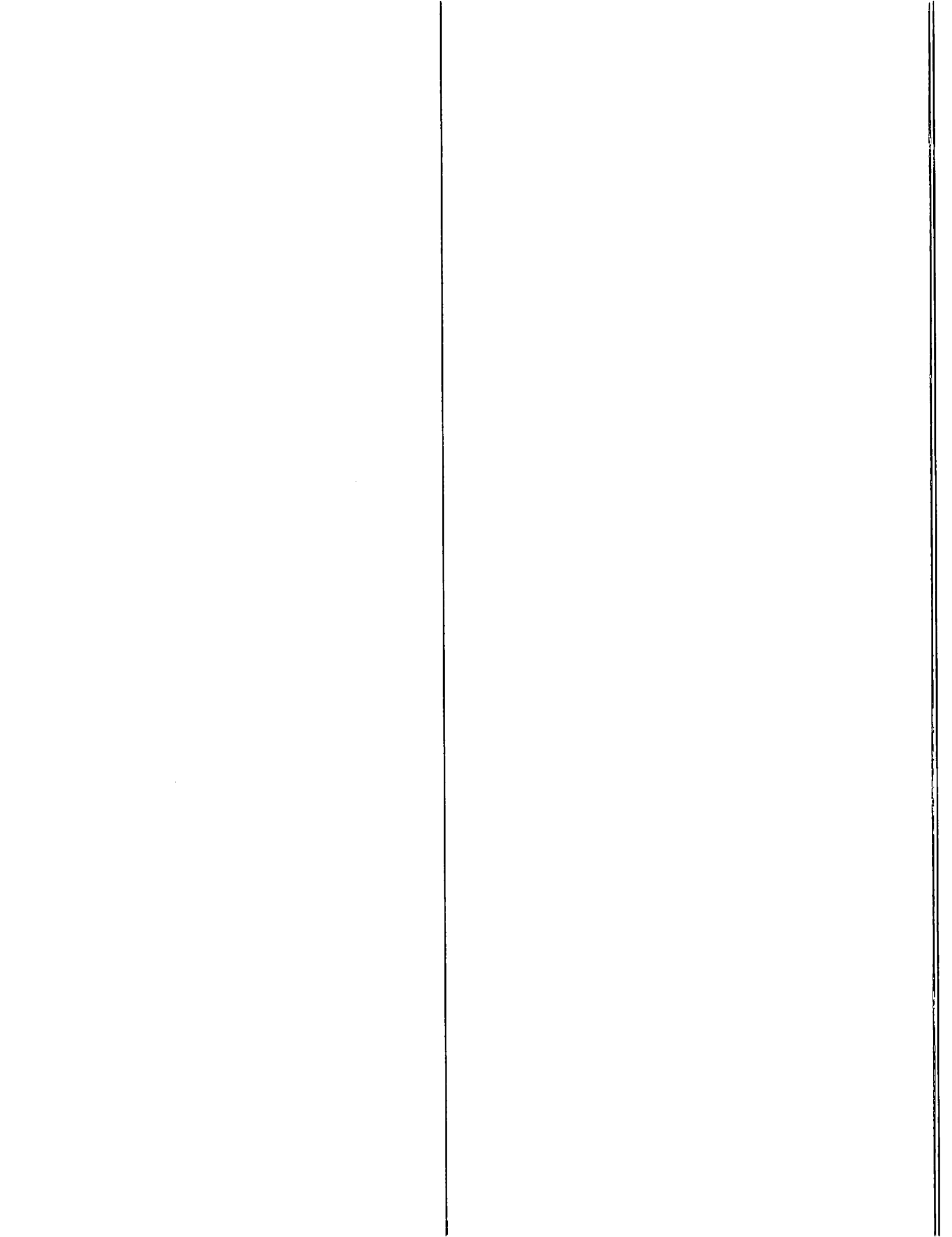


Aster length _____ cm
Eggs _____



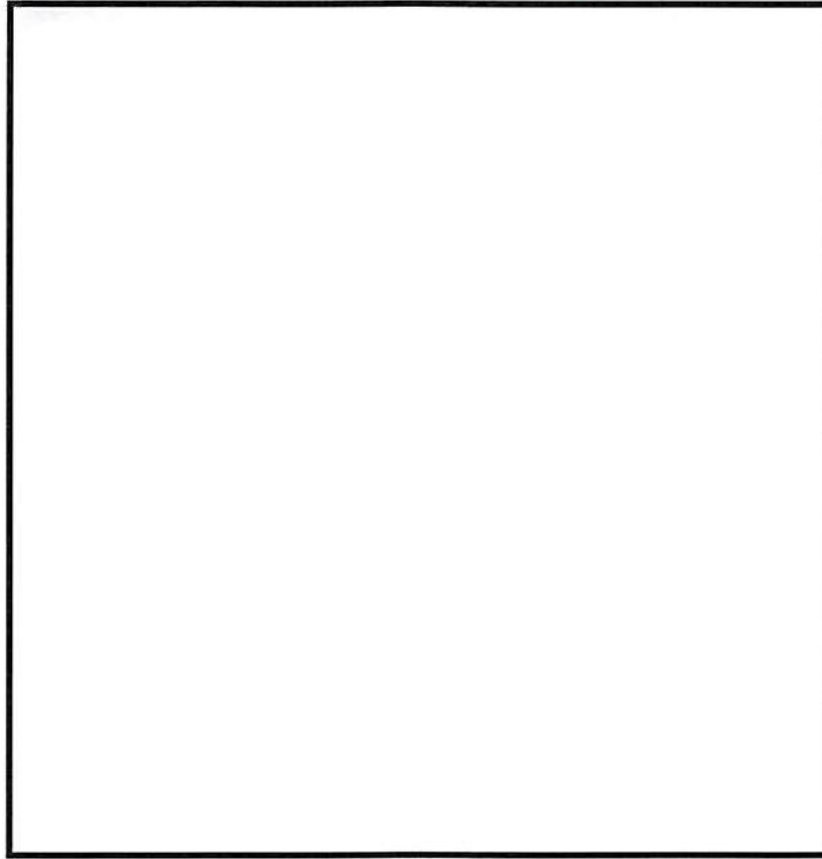
Eggs
Lily length
cm





Results

1. Were the lengths of the leaves the same or different? **The same**
2. Which leaf held the most eggs? **Answers may vary. The hollyhock should have the most area.**
3. Which leaf held the fewest eggs? **Lily**
4. Look carefully at the shapes of the leaves. If the lengths are the same, why can some leaf shapes hold more eggs? **Greater width**
5. Draw another leaf shape that could hold many butterfly or insect eggs. **Answers will vary**



Related items

- [Butterflies in the Classroom Kits](#)
- [Butterfly Habitats](#)
- [Butterfly Life Cycle Poster \(item #951515\)](#)
- [Painted Lady Butterfly Life Cycle Chart \(item #574587\)](#)
- [Butterflies of the World Chart \(item #574589\)](#)
- [Butterfly Life Cycle Model Set \(item #144060\)](#)
- [Butterfly Cultures](#)

*Next Generation Science Standards® (NGSS) is a registered trademark of Achieve. Neither Achieve nor the lead states and partners that developed the Next Generation Science Standards were involved in the production of this product, and do not endorse it.

You May Also Like



[Painted Lady Butterfly 5-Larvae Culture](#)



[Painted Lady Butterfly Life Stages, Chrysalis](#)



[Painted Lady Butterfly Life Stages, Eggs](#)



[Painted Lady Butterfly Life Stages, Adult](#)



[Painted Lady Butterfly Life Cycle Set](#)

Item #144005	☆☆☆☆	Item #144030	☆☆☆☆	Item #144078	☆☆☆☆	Item #144079	☆☆☆☆	Item #144020	☆☆☆☆
\$16.50		\$8.95		\$15.25		\$7.25		\$33.50	