

All About Animal Life Cycles

Investigation Data Sheet



The Metamorphosis of a Butterfly

From birth to adulthood, animals go through different stages of development. Animals usually look like their parents; however, in the case of animals that experience metamorphosis, like most insects and amphibians, they look very different during the first three stages of their lives. The stages of metamorphosis are the egg, larva, pupa and adult stages.

Objective

Observe the metamorphosis of a butterfly as it moves through each stage of its life cycle.

Materials

- a clear container with a lid that has small holes poked in it
- some fresh soil
- some twigs
- a sponge
- 1 tablespoon of sugar
- 1 cup of water
- a caterpillar

Safety Notice: All applicable laboratory safety rules must be followed. Students should not perform any experimental activity without the teacher's supervision and express permission. Students must follow safety guidelines and wear appropriate protective gear.

Procedure

1. Set up the container in an area that does not receive direct sunlight and prepare it by filling the bottom with soil and adding twigs. Make a mixture of sugar water by adding a tablespoon of sugar to a cup of water. Dip the sponge in the water and place it in the jar. Be sure to keep the sponge moist with sugar water as long as the caterpillar is in the container. Place the caterpillar inside the container. (You can get caterpillars by looking in an outdoor area or ordering them through a biological supply company.)
2. All caterpillars come from eggs. The egg stage is the beginning of the butterfly's life cycle. The caterpillar is in the second stage of its life cycle, the larva stage. Sketch the larva in the space below. Describe the larva and its behavior.

3. After a few days, you will see the caterpillar go through a change. It will start to form a cocoon. This is the next stage in the butterfly's life cycle, the pupa stage. The cocoon is like a little capsule and once this is formed, it will take more than a week for the butterfly to come out. It is important not to touch the pupa. Inside, the butterfly's wings are taking shape. Sketch the butterfly in the pupa stage. Check on the cocoon several times a day. List any observations below.

4. After a few days the caterpillar will emerge from the cocoon as a butterfly. This is the final stage in the life cycle of a butterfly, known as the adult stage. Sketch the adult butterfly. List any observations below.

5. Once you have had the opportunity to observe the butterfly, let it go. In a short time, the butterfly will lay its eggs and the life cycle will begin again.

Conclusions

- Select one life stage of the butterfly and explain why it is important to the development and survival of the butterfly.
