

Chapter Twelve

Birds, Mammals and Insects



Day One:

Today, you and your child will:

1. Read the text
2. Review the text with your child
3. Complete the student worksheets
4. Collect the materials you will need for days two and three

National Science Education Standards covered this week:

Plants and animals have life cycles that include being born, developing into adults, reproducing, and eventually dying. The details of this life cycle are different for different organisms.

Warm-blooded organisms, like Birds and mammals, have unique life cycles. Most birds lay eggs which hatch and grow into an adult bird. Most mammals do not hatch from eggs as the animal grows inside the mother's body and are born live.

The mother produces milk to feed the baby and usually protects and trains the baby until it is an adult.

The life cycles of insects change from species to species; however most insects go through a similar cycle beginning with an egg, developing into a larva which goes through a large change as pupa before becoming an adult.

Definitions

Birds	warm-blooded vertebrate animals which are covered in feathers
Insects	small organisms with six-legs and an exoskeleton
Mammals	warm-blooded vertebrates with fur or hair; a female mammal makes milk to feed her young
Warm-blooded	an organism whose body temperature stays the same, even if its habitat is very cold
Larva	the second stage of growth in an insect's life cycle; for a moth, this would be the caterpillar
Pupa	the third stage of growth in an insect's life cycle; for a moth, this would be the cocoon
Endoskeleton	having your skeleton inside your body
Exoskeleton	having your skeleton outside your body
Cocoon	the name for the pupa of a moth

Sample questions to ask your child after completing the weekly reading.

How many legs do you find on an insect? Are spiders insects?

True insects have six legs; spiders have eight legs so they are not considered to be insects.

Where would you find the skeleton for an insect?

Insects have an exoskeleton, their skeletons are found on the outside of their bodies.

Name one thing that can help a warm-blooded animal stay warm (blankets and coats are not acceptable answers.)

Warm-blooded animals must eat to keep their body temperatures warm. If you are a bird, your feathers will help to keep your warmth from escaping your body.

Answers to worksheet questions:

Page 1:

- 1) Warm-blooded - an organism whose body temperature stays the same even if its habitat is very cold
- 2) Pupa - the third stage of growth in an insect's life cycle
- 3) Larva - the second stage of growth in an insect's life cycle
- 4) Insects - small organisms with six-legs and an exoskeleton
- 5) Birds - warm-blooded vertebrate animals which are covered in feathers
- 6) Cocoon - the name for the pupa of a moth
- 7) Mammals - warm-blooded vertebrates with fur or hair

Page 2:

- 1 - birds
- 4 - insects
- 2 - mammals
- 7 - warm-blooded
- 3 - larva
- 5 - pupa
- 6 - cocoon

Unit Three Review Answer Key

Label the numbers with the correct parts of the plant.

1. leaves
2. roots
3. fruit
4. stems

Match the words in the first column to the best available answer in the second column.

- 2 - birds
- 4 - fish
- 1 - mammals
- 3 - reptiles
- 6 - insects
- 5 - amphibians

Be certain to go over your definitions for the test!

Day Two:

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

The following text will give you the most important items to review for your activity today.

The life cycle of a butterfly contains four separate stages: egg, larva, pupa and adult.

With careful observation, these stages of development can be witnessed directly.

Metamorphosis

Objective:

The child will construct a model showing all four stages of a butterfly life cycle.

Materials:

Four strips of paper (2" x 8 ½")

One strip of paper (2" x 11") Glue or tape

Procedure:

You will need to inform your child of the four stages of a butterfly's life cycle:

Egg stage

Larva/caterpillar

Pupa/chrysalis

Adult/butterfly

Your child will need to make four "loops" out of the small pieces of paper to act as the "eggs".



The eggs will then be glued or taped onto the longer strip to form the "caterpillar".



The ends of the caterpillar will be brought together to model the "chrysalis" stage of the butterfly's development (this is known as a cocoon if it were a moth.)



Finally, open up the ends of the chrysalis in the opposite direction and you will find that the four small loops will appear to be the wings of a butterfly.



Explanation:

In the egg stage, the early development of the caterpillar takes place. The caterpillar is the primary eating and growth stage of the insect. This is also known as the larva stage. The pupa or chrysalis is the resting or transformation stage, and within it the marvelous transformation from caterpillar to adult butterfly takes place. The adult butterfly emerges from the chrysalis.

Day Three: Lab Activity

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

The following text will give you the most important items to review for your activity today.

The ends of a spider's legs contain oil that keeps the spider from sticking to its own web.

It is possible for a spider to get stuck in its own web; however, this does not occur very often.

ESP Activity: Stuck in your home

Objective:

The movement of a spider on its web is examined with this experiment.

Materials:

masking tape

marble

book, board or other object to be used as a ramp

cooking spray

measuring tape

Procedure:

Create a ramp by which a marble will be rolled down its surface.

From the base of the ramp, place a two-three foot long piece of tape, sticky side up. You will want to secure the ends of this tape with additional tape so that it will not move when the marble comes in contact with it. The marble will leave the surface of the ramp and immediately roll across the surface of the tape, lengthwise. Think of the tape as an extension of the ramp.

Place the marble on the top of the ramp and release. Record the distance the marble traveled on the tape until it stopped.

(This may take a few trials until the marble gets stuck. You may have to alter the height of the ramp to achieve these results.)

Coat the marble with cooking spray, place it at the top of the ramp and release. For experimentation, increase or decrease the height of the ramp.

Explanation:

This experiment is analogous to the movement of a spider on its web. Although spiders can, in fact, get caught in their own webs, it is not often observed. The ends of a spider's leg contain a specific oil that does not adhere to the chemicals in its web. Therefore, the spider can walk freely around the web

without getting caught. By coating the marble with cooking spray (oil), the marble should not have adhered to the tape as easily as it did when it was "oil free."

Independent Variable: Height of the ramp

Dependent Variable: Distance of the marble

Hypothesis:

If the height of the ramp is (increased/decreased), then the distance of the marble will (increase/decrease).

Test: Unit 3

Chapters 9-12

Match the words in the second column to the best available answer in the third column. Place the correct number on the blank line.

_____	germinate	a pattern for all organisms that includes being born then growing into adults, reproducing and dying
_____	vertebrates	a feature that you get from your parents
_____	life cycles	warm-blooded vertebrates with fur or hair
_____	inherited traits	a group of similar and related organisms that may/may not be living in the same area
_____	photosynthesis	an animal whose body temperature stays the same as its habitat
_____	offspring	an organism whose body temperature stays the same even if its habitat is very cold
_____	warm-blooded	the beginning stage of plant growth
_____	birds	a way for plants to make their own food
_____	fish	warm-blooded vertebrate animals which are covered in feathers
_____	mammals	an animal which has a backbone
_____	species	cold-blooded vertebrates that live inside the aquatic biome
_____	cold-blooded	a parent's baby

Which one is right? Circle the correct answer.

1. Which of these sentences are true:

- a) a population is a species that lives in one place
- b) a species is a population that lives in one place
- c) populations and species both mean the same thing

2. Which of these lists include only inherited traits:

- a) curly hair and drawing a picture
- b) hair, skin and eye color
- c) rolling your tongue and riding a bike

3. What part of a plant remains in the ground?

- a) roots
- b) stems
- c) leaves

4. What part of a plant goes through photosynthesis?

- a) roots
- b) stems
- c) leaves

5. Reptiles and amphibians both...

- a) are cold-blooded
- b) have wet, smooth skin
- c) have the same life cycle

6. The largest group of animals in the world are:

- a) mammals
- b) plants
- c) insects

Label the correct stages in the life cycle of a butterfly. Put your answers under each picture below:



A



B



C



D

What is the correct order of these pictures? Place the letter from each picture in the empty spaces below:

1. _____  2. _____  3. _____  4. _____

Test: Unit 3

Answer Key

Matching:

7 germinate

10 vertebrates

1 life cycles

2 inherited traits

8 photosynthesis

12 offspring

6 warm-blooded

9 birds

11 fish

3 mammals

4 species

5 cold-blooded

Multiple choice:

1. a

2. b

3. a

4. c

5. a

6. c

Correct order of butterfly life cycle:

1. eggs (a)

2. caterpillar (c)

3. chrysalis (d)

4. butterfly (b)