Chapter Nine

Species and Offspring

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 closely resemble their parents.

Many characteristics of an organism are inherited from the parents of the organism, but other characteristics result from an individual's interactions with the environment. Inherited characteristics include the color of flowers and the number of limbs of an animal. Other features, such as the ability to ride a bicycle, are learned through interactions with the environment and cannot be passed on to the next generation.

Definitions

Inherited traits	"in-hair-a-ted"; a feature (like eye color, height, hair color…) that you get from your parents
Offspring	a parent's baby
Species	a group of similar and related organisms that may or may not be living in the same area

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

Are all traits inherited from your parents?

No. some traits can be learned, like riding a bike or reading.

What are some learned traits?

Riding a bike, brushing your teeth, drawing a picture, etc.

Inherited traits come from how many different parents?

Two; A mother and a father.

Answers to worksheet questions:

Page 1:

"What is the difference between a 'species' and a 'population'?"

All organisms of the same species may or may not live in the same area. If they do, they are known as a population.

Page 2:

2- inherited traits

3 – offspring

1 – species

Page 3:

1. B
2. A
3. C
4. B
5. A
6. B

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.

No two people are the same. Even identical twins have differences in the traits they inherit from their parents.

Many traits we inherit from our parents can go overlooked if you do not know what to look for.

Many of these traits have been documented throughout the general population.

Where did I get that?

Objective:

Children will determine the similarities and differences between themselves and their parents.

Materials:

Inventory worksheet (see attached)

Procedure:

Review the definitions of inherited traits, offspring and species with the child:

Inherited traits	features (like eye color, height, hair color) that you get from your parents
Offspring	a parent's baby
Species	a group of similar and related organisms that may or may not be living in the same area

Remind the child that the body features they have comes from both of their parents. During this activity, the child will be exploring how similar/different they are from their parents.

Give them a copy of the "inventory worksheet" and guide them through their collection of information.

If possible, have the child compare himself/herself with other siblings, parents, grandparents, friends, etc…

Have the child predict if they believe the majority of people in the world share their traits. Explain to them the "frequency chart" below and see if their predictions are correct or not.

Explanation:

A frequency chart is typically used to identify a general number of people who share a particular trait. The chart below identifies the percentages of the traits from the "inventory worksheet" for the general population.

Frequency chart

Traits	Frequency form 1	Frequency form 2
Gender	Male - Approximately 50%	female - Approximately 50%
Earlobes	Unattached (free) - more frequent	Attached - less frequent
Thumb extension	Straight thumb - 75%	"hitchhikers thumb" - 25%
Tongue rolling	Can roll tongue - 65%	Cannot roll tongue - 35%
Cheek dimples	Dimples - more frequents	No dimples - less frequent
Handedness	Right handed - more frequent	Left handed - less frequent
Hair curl	Curly hair - more frequent	Straight hair - less frequent
Hair line	Widow's peak - more frequent	No widow's peak - less frequent

Inventory worksheet

Check the box that tells the traits you have…

Traits	Me	Mom	Dad	Brother	Sister	Grandma	Grandpa
Male							
Female							
Straight thumb							
"hitchhikers thumb" **							
Can roll tongue							
Cannot roll tongue							
Dimples							
No dimples							
Right handed							
Left handed							
Curly hair							
Straight hair							
Widow's peak							
No widow's peak							

**** A "hitchhiker's thumb" is one that can bend backwards towards your wrist. If your thumb can only point straight up, you do not have a "hitchhiker's thumb".*

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.

Inheritable traits in animals include the structural abilities from the parents. Some of these traits are learned while others are inherited.

Through its development, a bird's wing becomes an impressive mechanism for flight.

The same physical laws that apply to a bird's wing apply to airplane wing, hang-gliders, parachutes and even the simplistic model constructed for this activity.

ESP Activity: Up up and away

Objective:

The flight of a bird can be examined through the use of this paper wing.

Materials:

4" x 6" index card (or a piece of heavyweight paper)
tape
sharpened pencil, pen, nail (to be used to poke a hole)
two inch piece of drinking straw
~3 feet of fishing line
hair dryer
measuring tape

Procedure:

Fold the index card in two, lengthwise, and leave an overlap of the sides of about 1/2 inch.
By pushing and taping the overlapping ends together, one side of the paper will remain relatively flat while the other is more curved.
Use the pencil, pen or nail to punch one hole on the top and another on the bottom of the airfoil. The holes should be directly in the middle.
Insert the drinking straw through the holes and thread the fishing line through the straw.
Pull the fishing line tight and attach one end to the top of a table and the other to the floor. The string must be hanging straight.
Lift the airfoil up one foot from the ground, position the hair dryer and equal distance away and turn it on. The airfoil should remain in place.
Measure the distance the airfoil is lifted on the fishing line (this may require some additional help.)
For experimentation, move the hair dryer a farther distance away from the airfoil and measure its lift.

Explanation:

Although there are many different species of birds in the world, every generation inherits its traits from its parents. The shape and function of a bird's wings are no exception. Some are built for flying, others for gliding, and some are not built to fly at all.

Nevertheless, this activity looks at the shape of a bird's wing, body and feathers that allow most species to fly through the air. Airplane wings are very similar, with a curved top and a flattened body underneath. With both wings having the same general shape, this allows the body of the bird to achieve lift through the air. The hair dryer simulates the wind currents in the atmosphere. Without these currents, the bird (and the airfoil) will not have the necessary energy to lift itself from the ground

Independent variable: Distance of the hairdryer from the airfoil
Dependent variable: Height of the airfoil
Hypothesis:

If the distance of the hairdryer from the airfoil is (increased/decreased), then the height of the airfoil will (increase/decrease).