Animal Growth and Development

for students in 3rd grade

Animal Growth and Development is a thematic program that follows the life cycles of a variety of insects, amphibians, reptiles, birds, and mammals from hatching or birth to adulthood.

The program begins with a PowerPoint presentation that introduces students to life cycle diagrams and the concepts of metamorphosis in insects and amphibians. Students also will learn about marsupial babies that develop in their mother's pouch; altricial babies that are hatched or born naked, blind, and helpless; precocial babies that are fully feathered or furred and able to care for themselves within a short time of hatching or birth; and much more.

The presentation is followed by hands-on interaction with small live animals and touchable biofacts as we emphasize concepts of growth, development, and diversity. This activity challenges the students' observation skills, verbal expression, and ability to make comparisons and deductions.

This 60-minute program can be presented at the Zoo or in the school classroom, but **NOT in the school cafeteria** because of the live animals. Since we are showing slides, please try to schedule school programs in a room that can be darkened. Also, if we are repeating the program, our docents really appreciate it if they do not have to pack everything up and move from one classroom to another.

"Animal Growth and Development" is aligned to 3rd grade Life Sciences Standard 1.
1. The duration and timing of life cycle events such as reproduction and longevity vary across organisms and species.

To schedule this program, or for more information, call 561-1452, ext. 125.

Vocabulary

Altricial:	Young bird or mammal hatched or born in an underdeveloped state and requiring the care and feeding by its parents.
Amphibian:	A cold-blooded vertebrate having a gill-breathing larval stage and a lung-breathing adult stage (e.g., frogs, salamanders).
Arachnids:	Class of arthropods with 2 body parts and 4 pairs of legs; includes spiders, scorpions, and mites.
Arthropods:	Invertebrates with jointed legs. Includes 5 groups: crustaceans, millipedes, centipedes, arachnids, and insects.
Aquatic:	Spend most of their time in water.
Camouflage:	An animal's coloring that allows it to blend in with its background.
Carnivore:	An animal whose diet is mainly meat.
Cocoon:	The casing of a pupa made by moth caterpillars and some other insect larvae.
Down feathers:	Very fine, soft, fluffy feathers that help keep birds warm in winter and cool in summer.
Egg tooth:	A special tooth that a baby reptile or bird uses to break the shell when it is ready to hatch out of its egg (disappears after hatching).
Gestation period:	Length of time a young mammal spends developing inside the mother.
Hatch:	To come out of an egg.
Herbivore:	An animal whose diet consists mainly of plants.
Insects:	Class of arthropods with 3 clearly defined body parts, three pairs of legs, and usually with wings.
Larva:	Immature form of insect (pl. larvae).
Mammal:	A warm-blooded animal with hair or fur that give birth to live young (usually) and feeds its young milk produced in mammary glands.
Marsupial:	Pouched mammal.
Metamorphosis:	Stages in the development of some insects and amphibians. Young look completely different from adults.
Precocial:	A baby bird or mammal hatched or born in an advanced state and able to feed itself almost immediately.
Predator:	An animal that hunts other animals for food.
Pupa:	The non-feeding stage between the larva and the adult in metamorphic insects during which the larva undergoes complete transformation
Reproduce:	To have babies.
Reptile:	A snake, lizard, turtle, or crocodile. A cold-blooded animal that has scales.

Animals and Their Young: Matching Quiz

Match the number of the adult to the letter of its baby.
Note: A letter may be used more than once.
The first one has been done for you.

				ANSWER
1.	**Bear**	**a.**	**Calf**	**1 e**
2.	**Camel**	**b.**	**Duckling**	_____
3.	**Insect**	**c.**	**Kit**	_____
4.	**Deer**	**d.**	**Kid**	_____
5.	**Horse**	**e.**	**Cub**	_____
6.	**Sheep**	**f.**	**Porcupette**	_____
7.	**Pig**	**h.**	**Cria**	_____
8.	**Duck**	**i.**	**Hatchling**	_____
9.	**Elk**	**j.**	**Lamb**	_____
10.	**Fox**	**k.**	**Piglet**	_____
11.	**Goat**	**l.**	**Chick**	_____
12.	**Goose**	**m.**	**Infant**	_____
13.	**Kangaroo**	**n.**	**Owlet**	_____
14.	**Lion**	**o.**	**Joey**	_____
15.	**Monkey**	**p.**	**Gosling**	_____
16.	**Owl**	**q.**	**Fawn**	_____
17.	**Penguin**	**r.**	**Foal**	_____
18.	**Porcupine**	**s.**	**Larva**	_____
19.	**Turtle**			_____

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				ANSWER
1.	**Bear**	**a.**	**Calf**	**1 e**
2.	**Camel**	**b.**	**Duckling**	**2 a**
3.	**Insect**	**c.**	**Kit**	**3 s**
4.	**Deer**	**d.**	**Kid**	**4 q**
5.	**Horse**	**e.**	**Cub**	**5 r**
6.	**Sheep**	**f.**	**Porcupette**	**6 j**
7.	**Pig**	**h.**	**Cria**	**7 k**
8.	**Duck**	**i.**	**Hatchling**	**8 b**
9.	**Elk**	**j.**	**Lamb**	**9 a**
10.	**Fox**	**k.**	**Piglet**	**10 c**
11.	**Goat**	**l.**	**Chick**	**11 d**
12.	**Goose**	**m.**	**Infant**	**12 p**
13.	**Kangaroo**	**n.**	**Owlet**	**13 o**
14.	**Lion**	**o.**	**Joey**	**14 e**
15.	**Monkey**	**p.**	**Gosling**	**15 m**
16.	**Owl**	**q.**	**Fawn**	**16 n**
17.	**Penguin**	**r.**	**Foal**	**17 l**
18.	**Porcupine**	**s.**	**Larva**	**18 f**
19.	**Turtle**			**19 i**
20.	**Llama**			**20 h**

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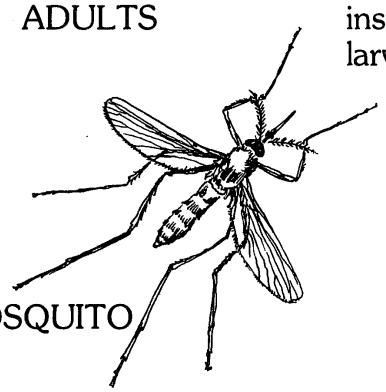
INSECT MATCH-UP

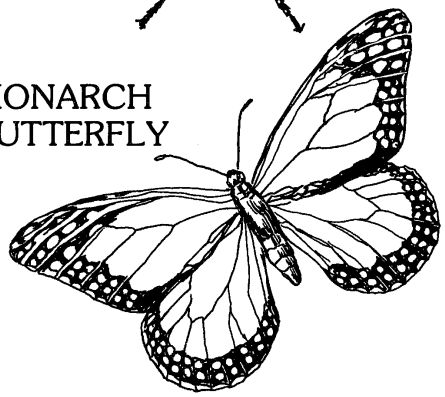
Draw a line to connect each insect adult with the picture of its larva or nymph.

ADULTS



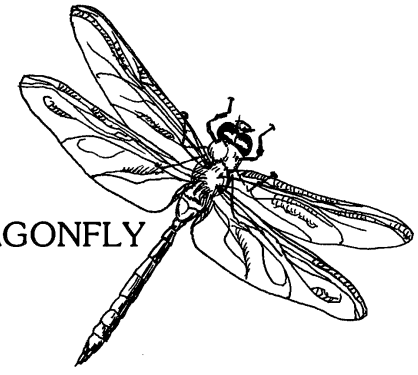
MOSQUITO

HOUSE FLY



MONARCH BUTTERFLY

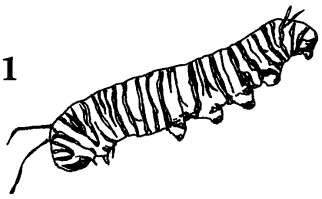
LADYBUG BEETLE



DRAGONFLY

NYMPHS & LARVAE

1



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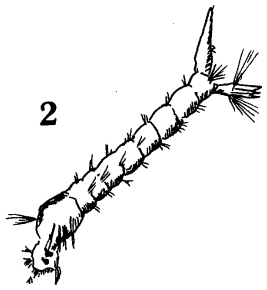

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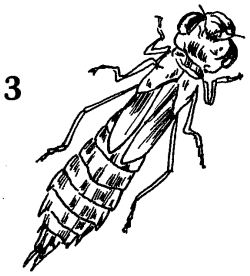

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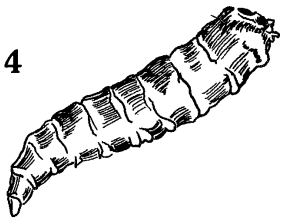

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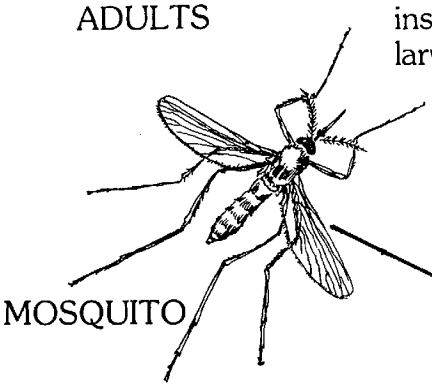
Answers

INSECT MATCH-UP

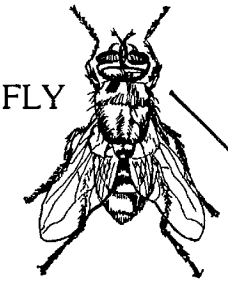
Draw a line to connect each insect adult with the picture of its larva or nymph.

ADULTS

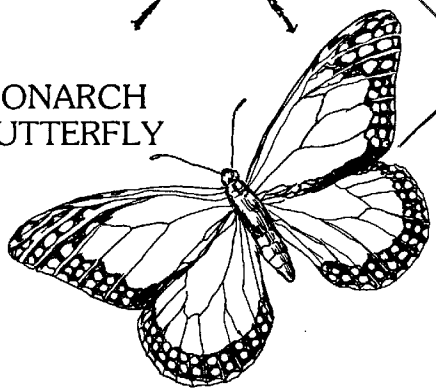
NYMPHS & LARVAE



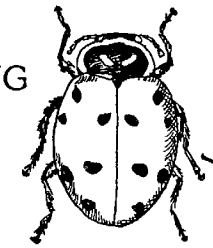
MOSQUITO



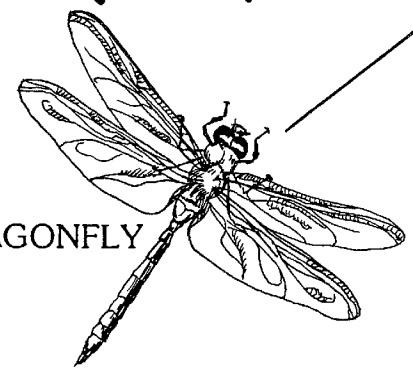
HOUSE FLY



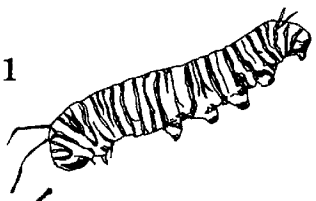
MONARCH BUTTERFLY



LADYBUG BEETLE



DRAGONFLY



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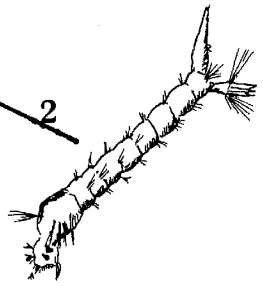

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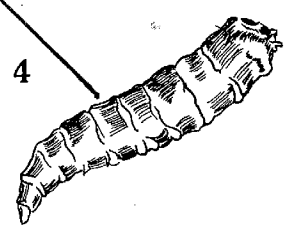

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Make a Baby Announcement

Fill in birth announcements for baby mammals.

Objective:
Name some characteristics of several baby mammals.

Ages:
Intermediate and Advanced

Materials:
- ***copies of pages 34, 67, 68, and 69***
- ***reference books***
- ***crayons or markers***

Subject:
Science

Wouldn't it be exciting to receive birth announcements from mammals that live in different places around the world? In this activity your kids can create their own mammal birth announcements, then share them with the rest of the group. Start by passing out copies of page 34 and explaining that each person will be filling in his or her announcement with information about a particular mammal. Then make one copy each of pages 67, 68, and 69 and cut out the mammal picture squares. Put the squares into a bag and let each person pick one. (You might need to add the names of a few extra mammals on slips of paper if there aren't enough pictures to go around.)

Once everyone has a mammal to work with, tell the kids that they'll have some research time to fill in their announcements. Then go over the blanks on the announcement so the kids will get a feel for how they can fill them in. Explain that in the first blank they should fill in the name of the mammal they're working with. For example, if a person picked the picture of the wildebeest, he or she could write, "Mrs. Wildebeest" or "Wanda Wildebeest" in the first blank (see example #1). Point out that most mammal fathers don't play a role in raising the young. But some mammal fathers *do* play a role—and the kids should take this into consideration when they're filling in the first blank on their announcements. (Example #2 depicts the way an announcement for a red fox could be filled in. [Male red foxes help raise their young.])

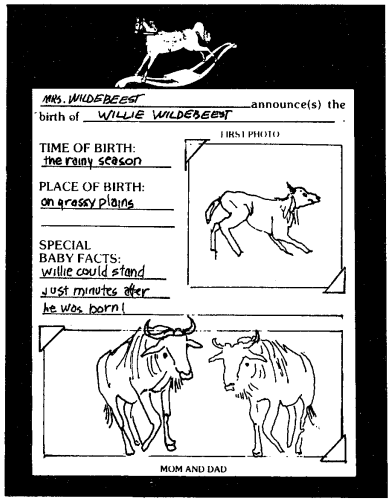
Next tell the kids that their announcements should reflect the average number of young each person's mammal has at one time. (See the second blank in each example below.) Then tell the group that under the heading "Time of Birth," they can write either a specific month or a general season. Whatever they come up with should be based on the information they discover while they're doing their research.

You might want to lead a discussion about why mammals are born at certain times. For example, you could ask the kids why mammals that live in areas where there are four seasons usually give birth during the spring, and why mammals that live in arid areas usually give birth during the rainy season. (More food is available in spring or a rainy season, so young mammals and other animals born at these times have a better chance of surviving. And the mothers have more food to eat, which helps them produce a steady flow of milk.)

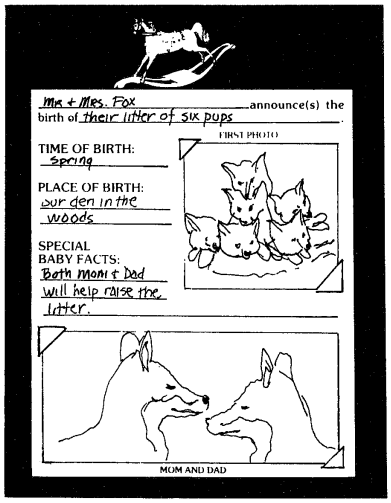
Now explain that, under "Place of Birth," each person should write the name of his or her mammal's habitat or special home. For example, if someone were filling in a birth announcement for a whitetail deer, he or she could simply write "the forest" under "Place of Birth." A beaver's place of birth, on the other hand, could read "a lodge in our beaver pond."

Finally, tell the kids that when they draw their pictures of the parents they should keep in mind that many adult male and female mammals look different from one another. For example, some males have tusks, manes, antlers, and so on.

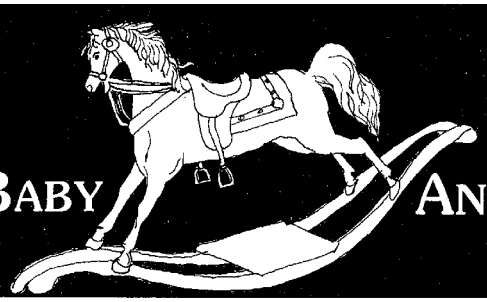
When the kids have finished filling in their announcements and drawing pictures of the young and adults, have them fold the announcements over and draw more pictures on the outside. Then have them present their announcements to the rest of the group.



EXAMPLE #1



EXAMPLE #2



A BABY ANNOUNCEMENT

_____ announce(s) the birth of _____.

TIME OF BIRTH:

_____

PLACE OF BIRTH:

_____

_____

SPECIAL BABY FACTS:

_____

_____

_____

_____

FIRST PHOTO

MOM AND DAD