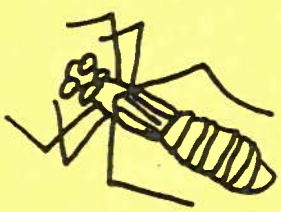
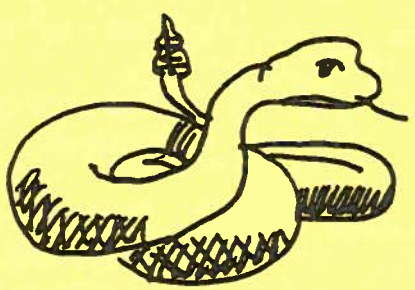
Name _____

Life Cycles





- Glossary -

Abdomen: The last section of an insect's three main body parts.

Adapt: Changing to fit the environment.

Adaptation: A structural or physiological characteristic that makes an organism better suited to its environment.

Adult: A fully grown mature organism.

Amphibia: The only class of vertebrates that undergoes metamorphosis, spending part or all of it's adult life on land but compelled to go back to water to lay its eggs. These animals are cold-blooded, breathe through gills in the larval stage but use lungs, and have moist skin in the adult stage. Has a three chambered heart.

Antennae: The sensory organs of an insect-antennae are used to smell, taste, feel, and sometimes hear.

Aves: Vertebrate group with feathers covering the body, is warm-blooded, has lungs for breathing, and a four chambered heart.

Biodiversity: The variety of all life on Earth. It provides us with all of our food and many medicines and industrial products. The more diverse a system (ecosystem) is the more stable it is in terms of being able to withstand change.

Biome: Ecosystems that have similar wildlife, climates and vegetation.

Camouflage: An organism's ability to blend in with the environment.

Carnivore: Animal that eats other animals for its sources of nutrients and energy.

Census: The counting of a population.

Chrysalis: The pupal case of many butterflies.

Cocoon: The pupal case of many moths that is made out of a silk like material.

Cold-blooded: The inability of an animal to maintain a constant body temperature independent of the outside temperature-insects, reptiles, fish, and amphibians are cold-blooded.

Community:	All the populations of all organisms that occupy an area.
Consumer:	Any organism that eats other organisms to survive. All animals are consumers.
Ecosystem:	A community interacting with its physical environment.
Egg:	The reproductive cell of many organisms usually consisting of the embryo surrounded by nutrient material and a protective covering.
Embryo:	The very earliest stages in the life cycle of an animal.
Endangered:	Any species that is threatened with imminent extinction.
Environment:	Usually defined as the physical, chemical and biological surroundings of an organism. The term is often used interchangeably with the term "habitat". However, even though an appropriate environment for robins may exist in many places, one particular robin lives in one habitat.
Exoskeleton:	An exoskeleton is a skeleton on the outside (e.g., insects).
Extinct:	When a species no longer exists. There is no longer a breeding pair of that organism alive.
Gills:	Organs found in fish, young amphibians, and some other water dwelling creatures which takes in oxygen from the water and releases carbon dioxide back into the water.
Habitat:	Where an animal lives and where an animal can meet its basic needs. The animal lives there because the conditions are conducive to its being there. The climate is right and the animals basic needs can be met. The animal is adapted to life in that particular habitat.
Herbivore:	An animal that eats only plants. A first level consumer.
Incomplete Metamorphosis:	A characteristic of a life cycle where the young changes in stages as it grows and does not go through the pupa stage.
Instinct:	Things that an animal knows as soon as it is born without being taught. For example, seals do not have to be taught how to swim and birds do not have to be shown how to build a nest – they know by instinct.

Invertebrate:	Animal without a backbone.
Larva:	The wingless, often wormlike form of a newly hatched insect before it undergoes metamorphosis.
Life Cycle:	The course of developmental changes through which an organism passes from an egg to the mature state where once again an egg can be produced. Some life cycles involve a series of different stages of development as in insect metamorphosis.
Mammalia:	Vertebrate group that has hair covering the body, is warm-blooded, with a four chambered heart, and nurses its young with milk produced in mammary glands.
Metamorphosis:	Change in the structure and habits of an animal during normal growth. The emergence of the adult from the pupa.
Molt:	The shed the outer skin or exoskeleton. As insects (and some other creatures) grow, they shed their skin several times before they reach the adult stage.
Nocturnal:	Animals that sleep during the day and are awake at night are nocturnal, (e.g., owls, bats, raccoons, etc.).
Nymph:	The young of any insect that undergoes incomplete metamorphosis.
Omnivore:	Animal that eats both plants and animals.
Population:	A group of individuals of the same species occupying a given area a certain time.
Predator:	Animal that eats other animals.
Prey:	Animal that serves as food for another group.
Producer:	Green plants that are able to make their own food.
Pupa:	The inactive stage in the metamorphosis of many insects, following the larval stage and preceding the adult form.
Species:	A group of individuals that are alike in many ways. They can interbreed and have fertile offspring.
Thorax:	The middle section of an insect's body to which the legs and wings are attached.

Toxic: A substance that is harmful, destructive or poisonous. Pertains to substances that find their way into a living system and cause changes to that system through its harmful effects.

Vertebrates: Animals with backbones.

Warm-blooded: Animals that are able to maintain a constant body temperature independent of the outside temperature. Birds and mammals are warm-blooded.

Of the features used in this activity, the most important one for segregating animals into the four vertebrate groupings is the type of *body covering*. Mammals have hair, reptiles have scales, birds have feathers and amphibians have a moist skin.

Other traits of each group of vertebrates would include:

Amphibians:

- *adults breathe through their moist skin, also have lungs*
- *have a three chambered heart*
- *go through metamorphosis*
- *lay soft shelled eggs in water, external fertilization*
- *no claws or toes*
- *coldblooded*

Reptiles:

- *lay leathery eggs on land (usually bury eggs in sand)*
- *heart almost completely four chambered*
- *have lungs*
- *coldblooded*
- *dry, leathery skin*

Birds:

- *lay hard shelled eggs, eggs incubated (sitting on them)*
- *have wings, although not all fly*
- *hollow, light weight bones*
- *no teeth*
- *beak present*
- *have lungs*
- *warmblooded vertebrates*
- *parental care helps young survive*
- *feathers*

Mammals:

- *have hair or fur*
- *bear their young alive (with the exception of the sping-skinned anteater and platypus)*
- *secrete milk for their young*
- *specialized teeth (premolars, molars, etc.)*
- *have lungs*
- *warm blooded vertebrates*
- *live on land or water*

Fish:

- *coldblooded*
- *vertebrates*
- *are aquatic*
- *usually have fins*
- *lay soft shelled eggs (except for sharks who have live young)*
- *use gills to breath oxygen*

Insects:

- *no backbone (invertebrates)*
- *have exo-skeleton*
- *segmented body*
- *lay eggs*
- *antennae on head*

Name: _____

Master # 3

Date: _____

Living or Nonliving?

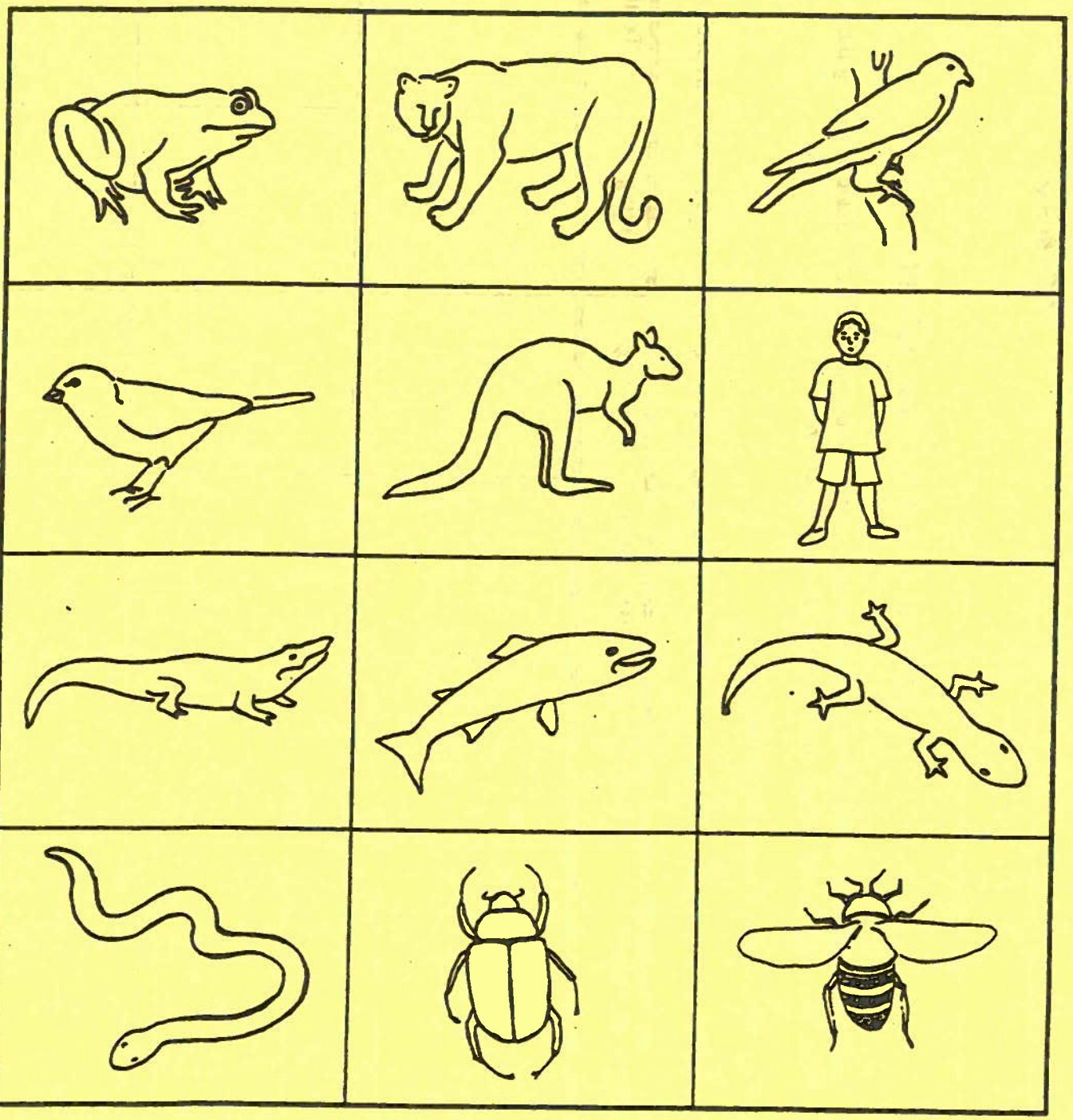
Living things found in the local environment	*Nonliving things* found in the local environment

Name: _____

Master #4

Date: _____

What's That Animal?



Name: _____ **Master #5**

Date: _____

Animal Classification Chart

1. Complete this table using the information you have about each animal on the charts. Begin by writing the name of each animal in the *"Name of Animal"* column opposite the correct *body covering*.

2. Fill in all the other features for the animals.

3. Find out what the *group* is for each row of animals *(mammals, birds, fish, reptiles, amphibians arthropods and insects)*.

Name of Animal	Body Cover	Back Bone	# of Legs	Wings	Teeth	Group
1._____ 2._____ 3._____	hair					
1._____ 2._____ 3._____	scales					
1._____ 2._____	moist skin					

Name of Animal	Body Cover	Back Bone	# of Legs	Wings	Teeth	Group
1._____ 2._____ 3._____	feathers					
1._____ 2._____ 3._____	exo-skeleton					

4. Of the *five features used in this activity*, which are most important to identify each group.

Group	Most Important Feature(s)
Mammals	
Insects	
Arthropods	
Reptiles	
Birds	
Fish	
Amphibians	

Chorus: There are two main animal groups,
The backbone is the key.
Invertebrates and vertebrates,
Am. Bi. Fi. Ma. Re.

Amphibians with thin wet skin,
Born in water and they lay eggs,
Start with a tail and finish with legs,
Lung and gills and blood that's cold,
Like frogs on logs and toads on roads.

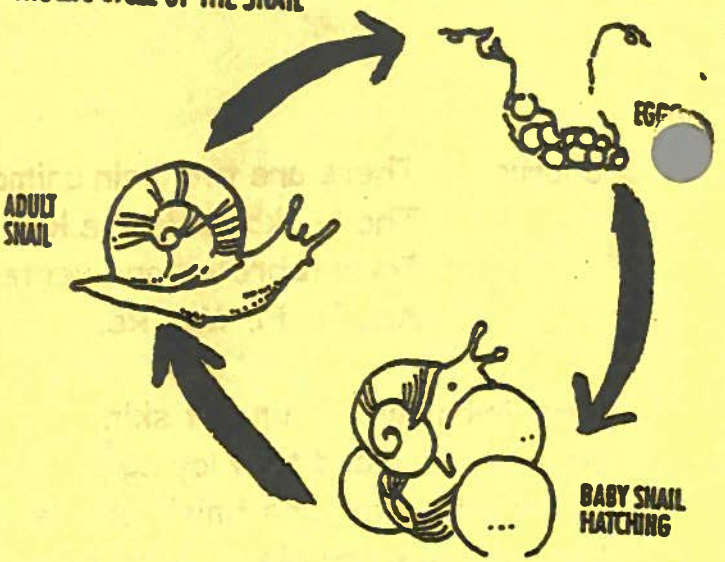
Birds that sing and flap their wings,
Covered in feathers, withstand all weather,
Blood that's warm, fly in form,
Eggs to lay, hatch in May,
They must migrate before it's late,
Crow, swallow and flamingo.

Fish are cold and hard to hold,
Have no legs but do lay eggs,
Breathe with gills and raise themselves,
Skin of scales, swish their tails,
Swim in schools and warm tide pools,
Salmon, carp, pike and sharks.

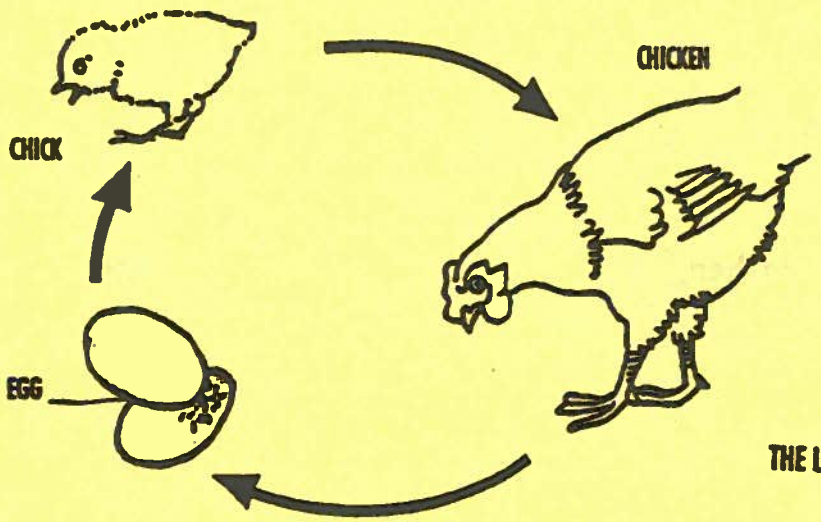
Mammals born alive, warm blood to thrive,
Fur like silk, drink mother's milk,
Raise their young until they're done,
Lungs and hearts that have four parts,
Dolphin's cats, rats and bats.

Reptiles hatch in an underground batch,
Most have legs but all lay eggs,
Raise themselves, some dressed in shells,
Breathe in air and have no hair,
Tough, rough skin with cold blood in,
Gators and crocs and turtles on rocks.

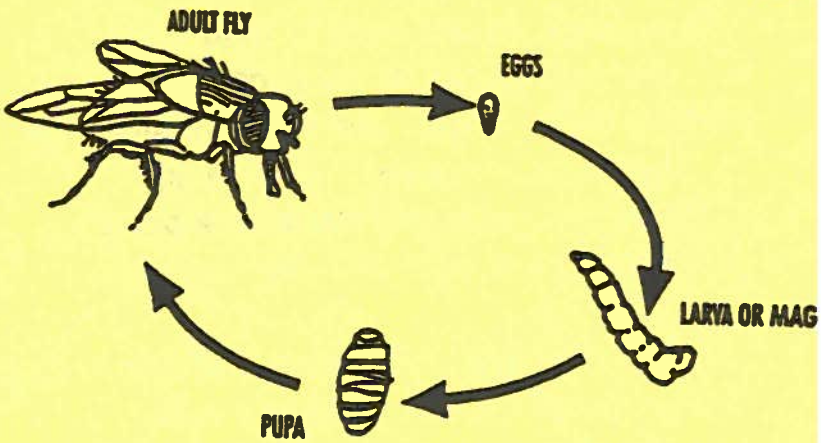
THE LIFE CYCLE OF THE SNAIL



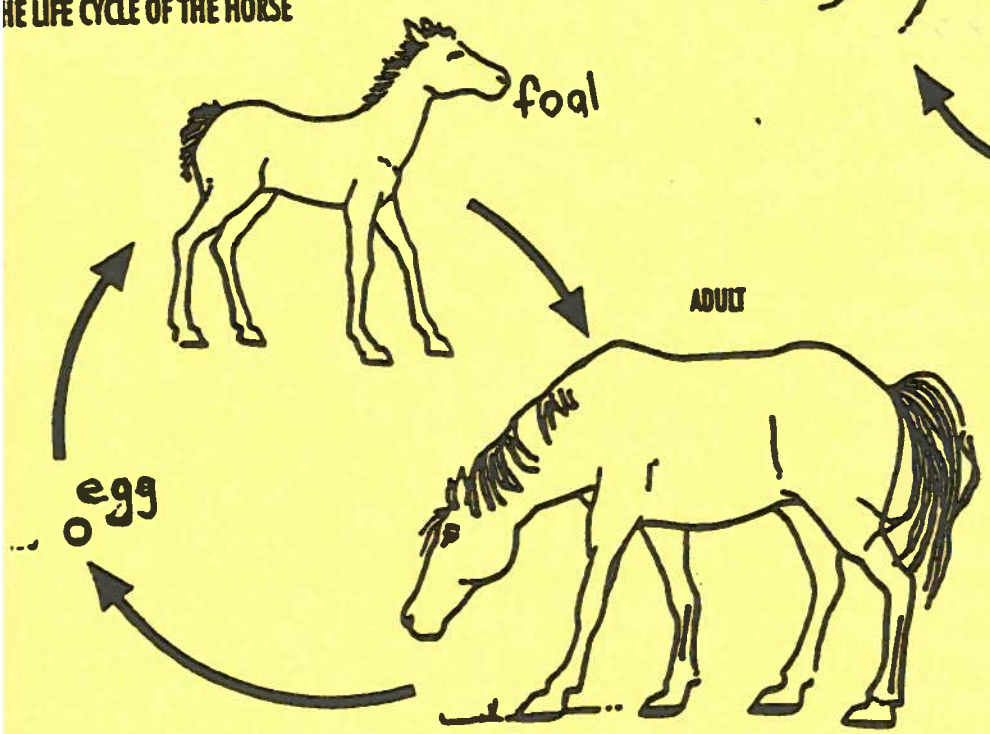
THE LIFE CYCLE OF THE CHICKEN



THE LIFE CYCLE OF THE FLY



HE LIFE CYCLE OF THE HORSE

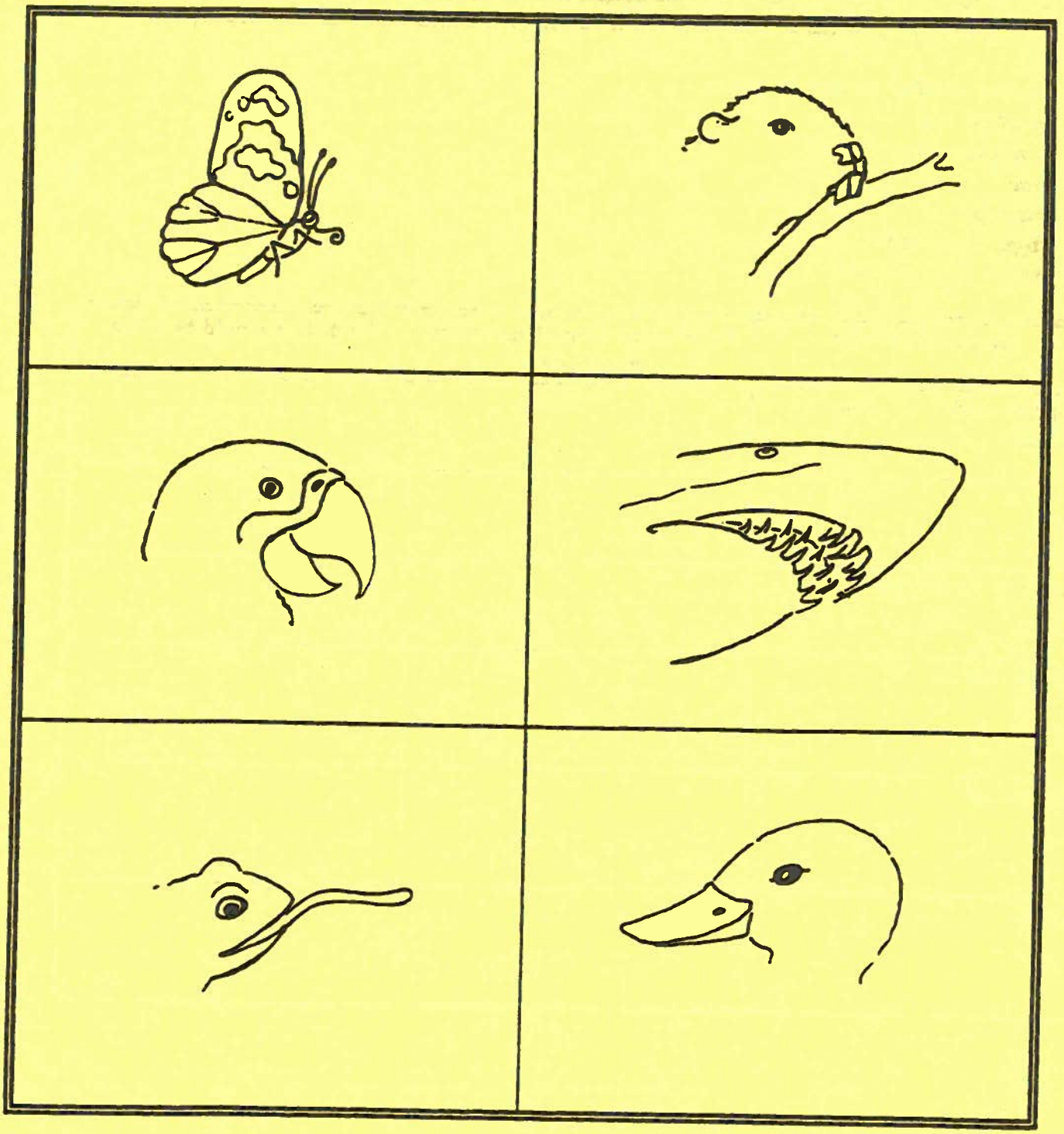


Name: _____

Date: _____

Master #45

Animal Teeth



Name: _____

Master #46

Date: _____

The Right Tool For the Job

Match the food with the correct man made device, i.e., the food that each device would be able to catch or crush. In some cases more than one food can be matched with a device/mouth part.

- *insects (dead or alive or pictures)*
- *meat (pieces)*
- *sunflower seeds*
- *rice*
- *water plants*
- *sugar water in vial*
- *willow bark, grasses*

Man-made device	Equivalent animal structure (mouth part)	Food that would be eaten
Popsicle stick with sticky surface		
Strainer		
Straw or eyedropper		
Staple remover		
Nutcracker		
Knife		

Name: _____

Master #47

Date: _____

The Right Tool For the Job – Results

For each animal identify the mouth part or parts most important in catching food and chewing it up. Tell how this part or parts are used and what food is eaten.

Animal: _____ Mouth Part: _____ Food: _____ How is it used? _____ _____	Animal: _____ Mouth Part: _____ Food: _____ How is it used? _____ _____
Animal: _____ Mouth Part: _____ Food: _____ How is it used? _____ _____	Animal: _____ Mouth Part: _____ Food: _____ How is it used? _____ _____
Animal: _____ Mouth Part: _____ Food: _____ How is it used? _____ _____	Animal: _____ Mouth Part: _____ Food: _____ How is it used? _____ _____

Name: _____

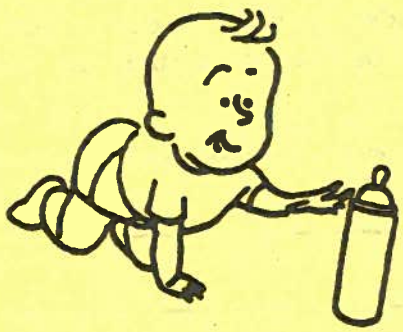
Master #48

Date: _____

Parental Care

Human Adult

Human Baby



Food: _____

Food: _____

Adult provides the young with: _____

_____

_____

Rabbit

Bunnies

Food: _____

Food: _____

Adult provides the young with: _____

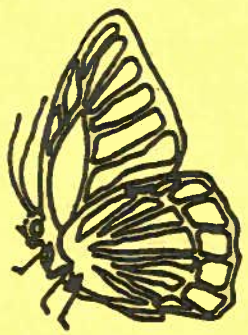
_____

_____

Name: _____

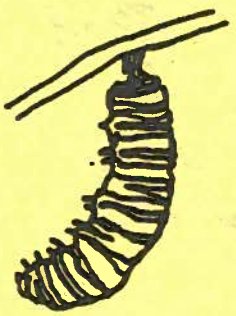
Date: _____

Butterfly



Food: _____

Caterpillars



Food: _____

Adult provides the young with: _____

_____

_____

Ant

Food: _____

Ant Larvae and Pupae

Food: _____

Adult provides the young with: _____

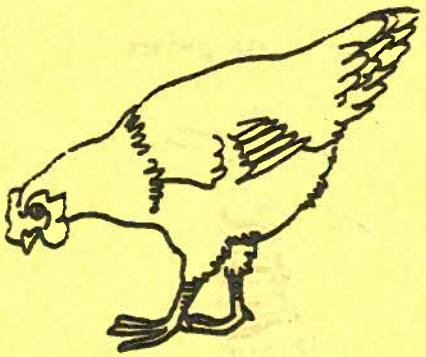
_____

_____

Name: _____

Date: _____

Chicken



Chicks

Food: _____

Food: _____

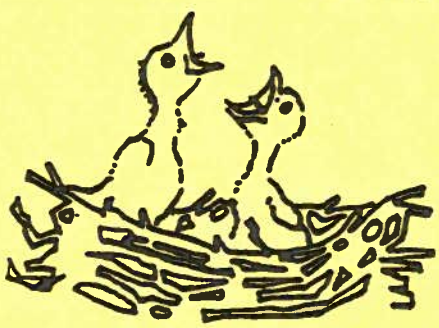
Adult provides the young with: _____

_____

_____

Robin

Robin Babies



Food: _____

Food: _____

Adult provides the young with: _____

_____

_____

Name: _____

Master # 48 Cont'd

Date: _____

Frog

Frog Tadpole

Food: _____

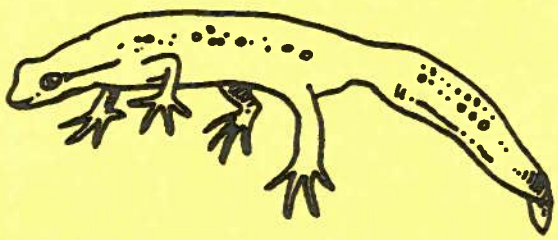
Food: _____

Adult provides the young with: _____

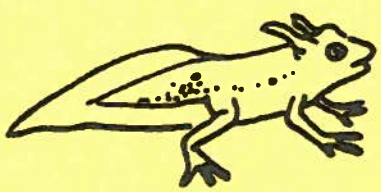
_____

_____

Newt



Newt Tadpole



Food: _____

Food: _____

Adult provides the young with: _____

_____

_____

Master # 50

Name: _____

Date: _____

Oil Spill

Draw a picture of an aluminum plate *before* and *after* seeds germinate. Show where oil was poured.

Before Germination: Seeds First Planted

After Germination:

Conclusion:

_____

_____

_____

Name: _____

Date: _____

Oil Spill Cont'd

Draw a picture of the bird feather in each box.

Dry Feather	Wet Feather

Write how a wet feather is different in appearance to a dry one.

_____

_____

The feather took _____ minutes to dry out.

Draw a picture of the oily feather.

Does an oily feather dry out?_____.

What can happen to a bird if it swims into oil floating on a lake or the ocean?

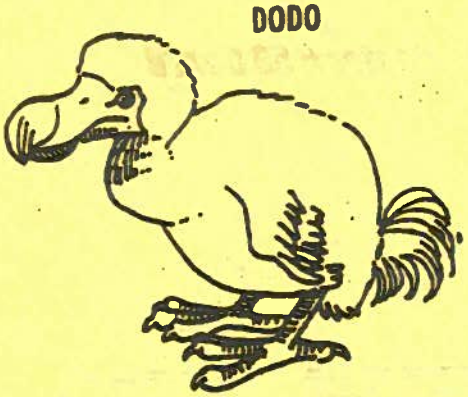
_____

How can oil be removed from feathers?

_____

_____

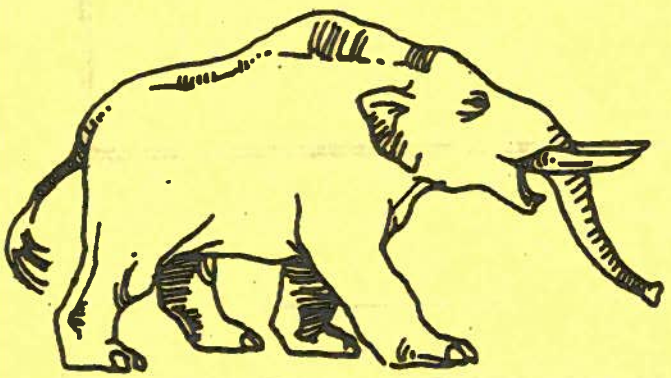
Extinct Is Forever



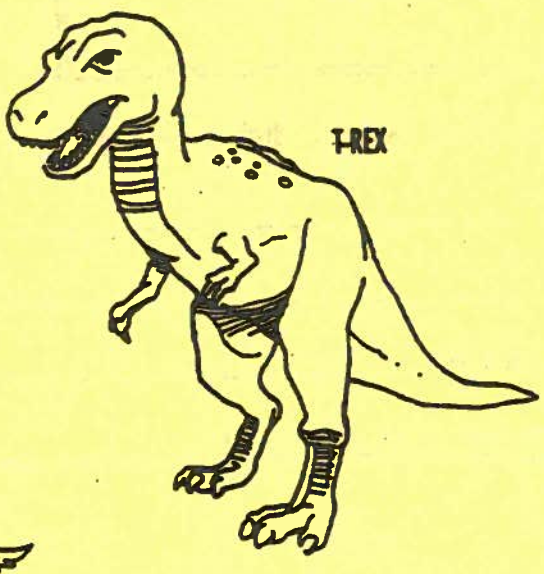
DODO

GREAT AUK

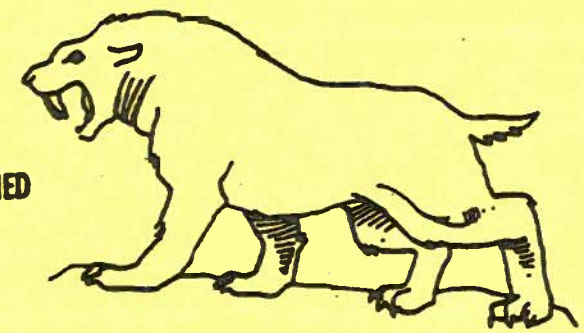
GREAT MOA



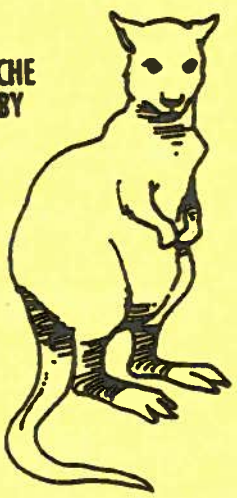
MASTADON



T-REX



SABER-TOOTHED TIGER



TOOLACHE WALLABY

PASSENGER PIGEON

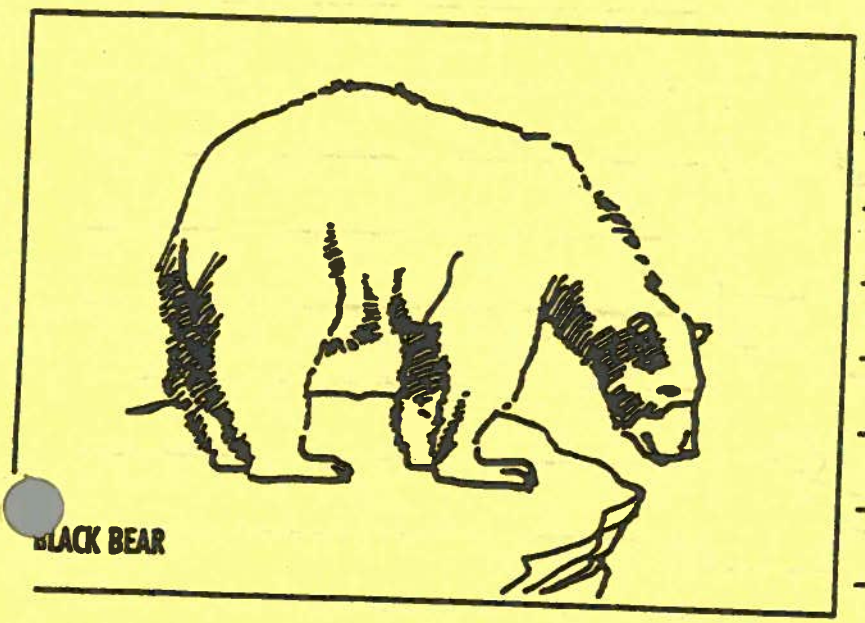
GUADALUPE FLICKER

Name: _____

Date: _____

Master #49

Three Bears



BLACK BEAR

To survive, this bear needs:

_____

_____

_____

_____

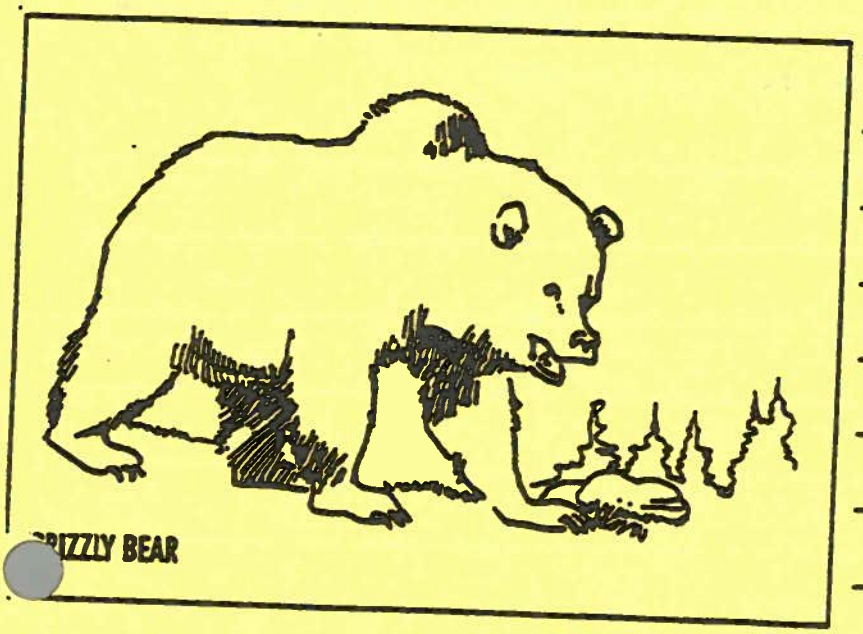
_____

_____

_____

_____

_____



GRIZZLY BEAR

To survive, this bear needs:

_____

_____

_____

_____

_____

_____

_____

_____

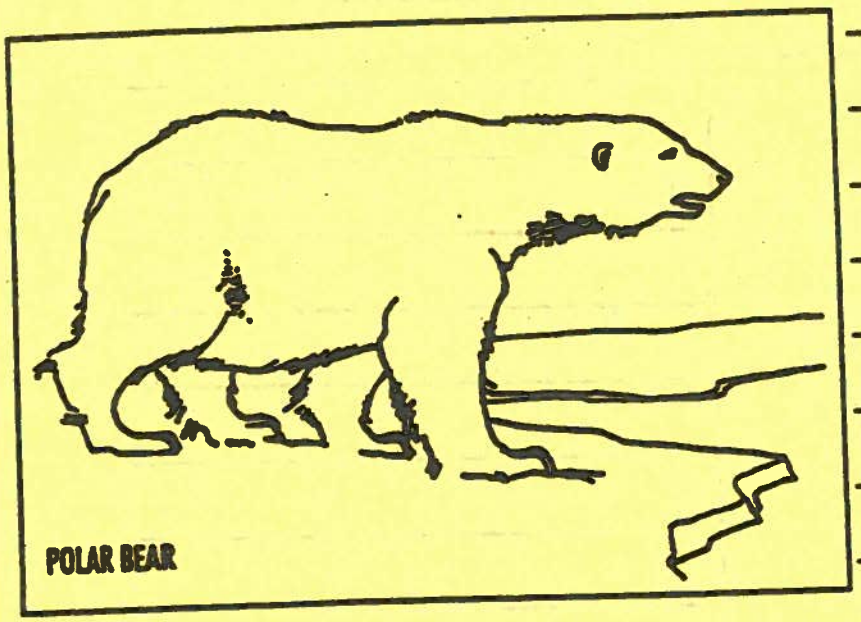
_____

Name: _____

Date: _____

The Three Bears Cont'd

To survive, this bear needs:



Do different *habitats* meet the needs of the *same* kinds of animals?