



SMITHSONIAN

Ages 8 and up

Bio Dome Habitat with Triops

WARNING:
CHOKING HAZARD - Small parts.
Not for children under 3 years.

No. 8490-08
No. 8488-08

FOR FROGS, TRIOPS, BUGS AND ANTS

IMPORTANT NOTE
NEVER DRINK WATER FROM THE TRIOPS AQUARIUM. DO NOT EAT THE FOOD, SALT OR EGGS. KEEP AWAY FROM SMALL CHILDREN/PETS

Dear Customer,

NSI is the manufacturer of this kit. We hope you enjoy our Bio Dome Habitat. If you find that we have made an error or if something is missing or damaged, let us know so that we can correct the problem for you. Please do not return the kit to the store where you purchased it, or to the Smithsonian, as they do not have replacement parts. Instead, write us a letter and please include the following:

- Name of item
- Date of purchase
- Purchase price (please include sales slip)
- Model number
- Place of purchase
- Brief description of the problem

READ THE INSTRUCTIONS BEFORE USE, FOLLOW THEM AND KEEP THEM FOR REFERENCE. KEEP SMALL CHILDREN AND ANIMALS AWAY FROM EXPERIMENTS. STORE THE SET OUT OF REACH OF SMALL CHILDREN.

We will do our best to satisfy you.

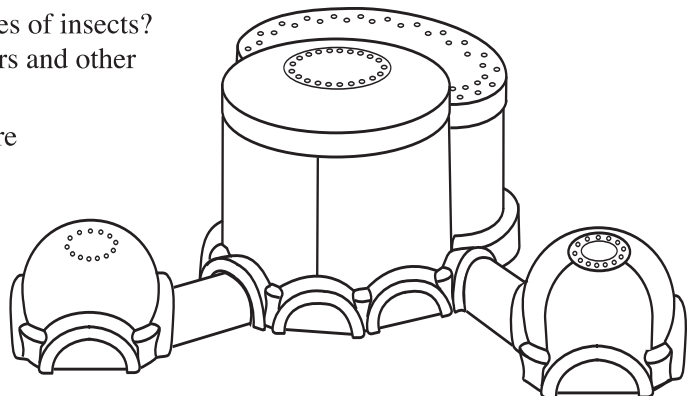
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INTRODUCTION

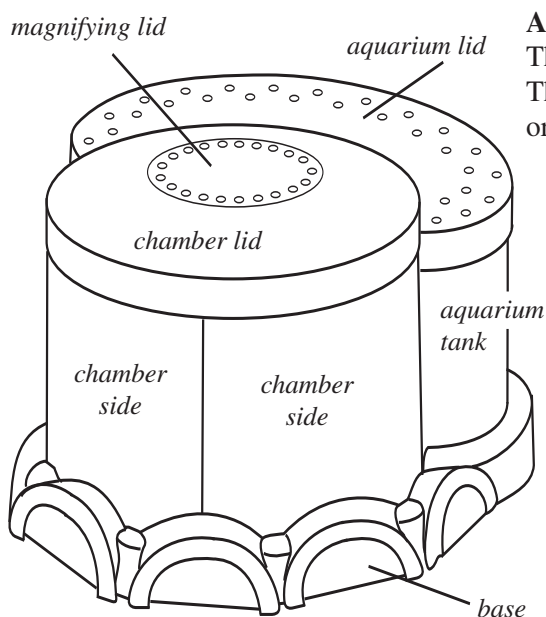
The Earth is immense and holds infinite secrets and mysteries. With your Smithsonian® Bio Dome Habitat, we will give you the chance to go out into the fascinating world of nature, and enjoy learning about it. Here are a few questions you might want to answer before you begin your journey.

- Do you like going on trips to the country?
- Do you like watching butterflies of all different colors?
- Do you like seeing and collecting different types of insects?
- Do you like collecting leaves, bark, soil, flowers and other things in nature?

If you enjoy these types of activities, then you are ready to begin building your Bio Dome Habitat!



COMPONENTS OF THIS SET

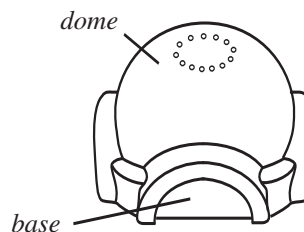


MAIN OBSERVATION DOME (Rain Forest Chamber)

The main dome is the largest of the three chambers. We call this the "Rain Forest Chamber." It is the best area to keep a frog, lizard or any of the larger insects that you may have collected. It is equipped with a magnifier at the top of the dome, which enables you to make close observations of the creatures without injuring them.

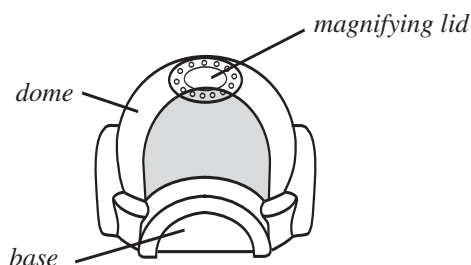
AQUARIUM

The aquarium is attached to the main observation dome. This tank can be filled with water for keeping your triops or your favorite fish.



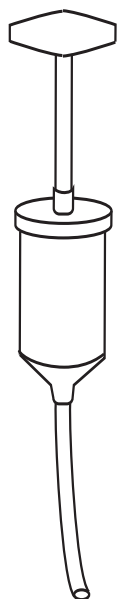
SMALL DOME (Bug Chamber)

This small observation dome is called the "Bug Chamber." It provides a perfect habitat for keeping and viewing the insects you collect.



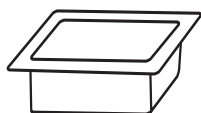
SMALL DOME (Ant Hill)

The other small observation dome is called the "Ant Hill". This dome is perfect for keeping the ants that you collect. It is equipped with a magnifier on the top of the dome, allowing you to safely observe the ants at work without disturbing them. The magnifying lid also lifts up, enabling you to add soil or food into the chamber.



BUG CATCHER

This tool allows you to catch small and delicate insects from the ground or from the surface of leaves or grass. You can then release them quickly and safely into your newly created habitat.



WATER TRAY

This tray can be filled with water and placed in the main observation dome. It will provide important moisture for frogs, lizards and vegetation to live and grow in.



TUNNELS

These two separate tunnels can be used to create several different habitats. The tunnels can be attached to different areas of the three chambers.



BASE PLUGS

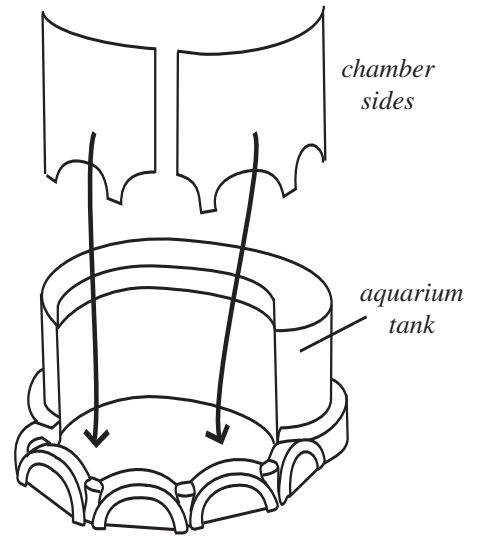
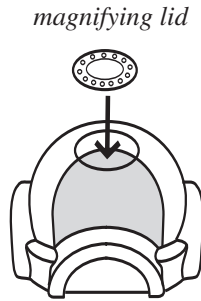
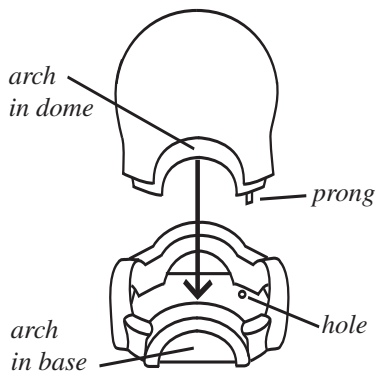
13 base plugs are included in this set. These plugs are used to seal off exposed holes along the base of the chambers.

STICKERS

Stickers are also provided in the kit. A sticker should be placed outside each of the 3 chambers. Refer to the cover of this kit for where to apply the stickers. The aquarium sticker goes on the inside back wall of the rainforest chamber so that the front of the sticker can be viewed through the aquarium. Stickers should only be applied to a dry, clean surface.

ASSEMBLING THE BIO DOME HABITAT

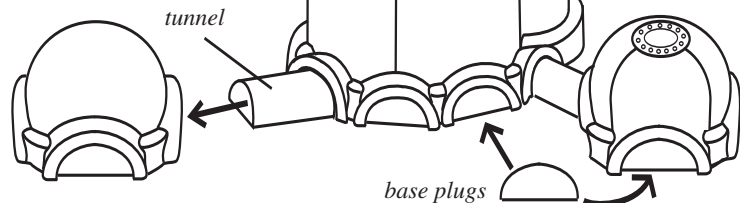
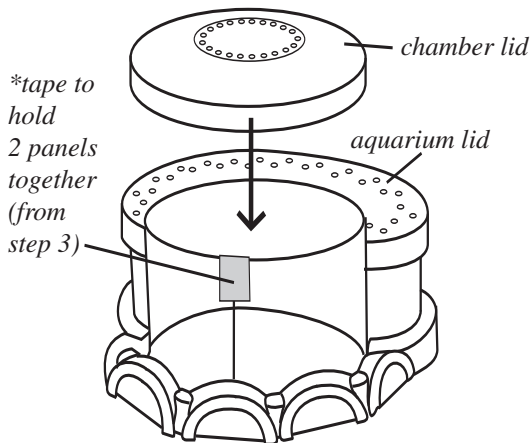
Follow these simple instructions for assembling and designing your Bio Dome Habitat.



1. To assemble the bug chamber, fit the clear dome into the base. Locate the small prong at the bottom of the dome and the small hole in the base. Fit the prong into the hole in the base. The arches along the bottom of the dome should line up with the open arches of the base.

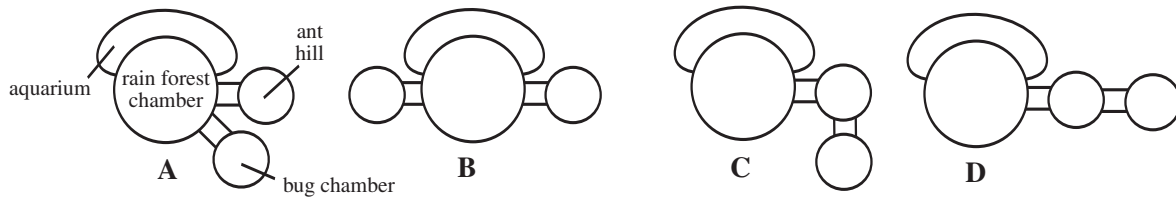
2. To assemble the ant hill, fit the clear dome with the magnifying lid over the ant hill base (the same way the bug chamber dome fit into its base). The magnifying lid fits into the opening at the top of the ant hill dome.

3. Place the aquarium tank into the large base. Fit each of the chamber sides into the front of the base. Make sure the notches at the bottom of the chamber sides line up with the holes of the base. Once the 2 sides of the chamber are inserted, we recommend adding a small piece of clear adhesive "scotch" tape over the top of the seam between the 2 panels. Refer to the illustration for step 4*.



4. First close the top of the aquarium with the aquarium lid. Then close the top of the rain forest chamber with the chamber lid and its magnifying dome. **Note:** When you remove the aquarium lid, you must remember to lift off the rain forest chamber lid first!

5. To connect the bug chamber to the rain forest chamber, use one of the tunnels. Fit one end of the tunnel into a hole along the base of the rain forest chamber. Slide the tunnel in about 1/4" (to the mark on the tunnel) to make sure that it fits securely. Fit the other end of the tunnel into a hole in the base of the bug chamber. Connect the ant hill the same way. Close up the remaining open holes along the base of all three chambers with base plugs.



There are over 50 possible ways to design your Bio Dome Habitat. The ant hill and the bug chamber can each be connected directly to the rain forest chamber as shown in designs A and B. Or, connect just the bug chamber to the rain forest chamber, and join the ant hill to the bug chamber, as shown in designs C and D. With any design that you choose, make sure that all remaining holes are closed up with base plugs. Forgetting to close up these holes will result in your bugs escaping.

SAFETY FIRST!

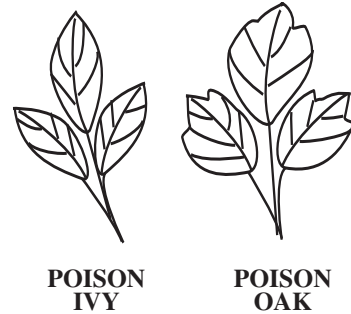
After assembling the Bio Dome, the next step is to prepare a natural habitat for your collection of insects, frogs, fish and ants. Gather leaves, twigs, small pebbles, soil or sand to arrange on the floor of the Bio Dome chambers. This will give your creatures something to crawl around on and to feed upon.

When you go outdoors to collect twigs and leaves, be sure to bring along the following:

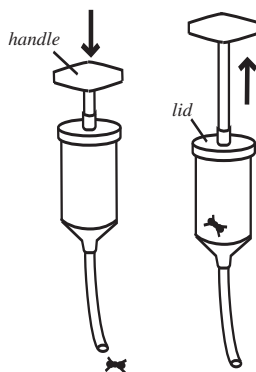
- Plastic or canvas gardening gloves to protect your hands
- The Bug Catcher included in this kit
- A small shovel to scoop up soil or sand.
- A pail or a few small bags to carry your collection.

CAUTIONS:

- Not all plants found outdoors are safe to touch. Poison ivy and poison oak, for example, are two plants that can cause an itchy rash on your skin. The best way to avoid these plants is to recognize them first. These plants have shiny leaves that always grow in groups of three. **Beware of all 3-leaved plants!**
- Try not to touch bugs with your bare hands. Most bugs will not harm people, but they may pinch your skin if they are mishandled. Use the bug catcher included in this kit to safely catch small insects.
- Always stay away from the following insects and spiders:
RED ANTS, BEES, WASPS, TERMITES, SCORPIONS, CENTIPEDES, STAG BEETLES, BLISTER BEETLES, MOSQUITOES, HOUSE FLIES, BLACK WIDOW SPIDERS AND LIGHT BROWN SPIDERS. See page 8 for additional insects and animals to avoid.
- Ask an adult first if you are unsure about the safety of picking up a specific bug.
- Wash your hands thoroughly with soap and warm water after collecting plants and insects for your Bio Dome Habitat.
- Do not store your Bio Dome Habitat in direct sunlight. There is danger of overheating when domes are exposed to direct sunlight.



CATCHING BUGS!



Read all cautions above (and in chart on page 10) for dangerous insects to avoid. Use the bug catcher included in this kit to safely catch small insects.

1. Push down on the top handle of the bug catcher. Slightly angle the catcher so it is at a 45 degree angle. Holding the bug catcher at an angle will help to capture the bug.
2. Quickly pull up on the handle and watch the insect get sucked up into the barrel of the bug catcher.
3. Lift off the lid of the bug catcher and drop the insect into one of the chambers of your Bio Dome Habitat.

ANT HILL CHAMBER

Ant Colonies

An ant colony always starts with a queen ant. A queen is an ant that is ready to lay her eggs.

She goes underground in search of a protected place or chamber. Once she has found her protected place, she lays her eggs which soon develop into larvae (the earliest stage of development for new ants). The queen will come out of her chamber to look for food and take care of all of the chores in the colony. As new ants are growing up in the larval stage, they need to be fed all the time. Ants eat both carbohydrates and protein. Protein (in the form of other insects) is especially important for the queen to lay her eggs and for the larvae to grow.

The colony of worker ants quickly grows in both population and in nest size. There could be up to a million ants working and living together at one time.

Caution: Stay away from red ants!

Did you know...

- Worker ants are usually female ants.

- Ants can carry up to 50 times their weight and can travel far distances, even up a tree, with their load.
- Ants are social insects. They take care of their larvae by feeding and washing them.
- Ants are able to communicate with each other, letting others know of danger or where to find food.

Starting your Ant Colony

Lift the small magnifying lid at the top of the ant hill dome and spoon soil or sand into the chamber.

Moisten the soil or sand with a little bit of water.

For food, add a pinch of sugar and tiny bits of protein (hamburger meat).

To collect ants, look under a rock or a log on the ground. If you find a colony of ants, work quickly, since the air and light disturbs the ants and they will go back underground as soon as they can. Use the bug catcher to gather up the ants quickly and place them into the ant chamber.

The magnifying lid can be lifted off the ant chamber, as needed, to add more soil or food.

AQUARIUM

Getting your aquarium ready

The Bio Dome Habitat has an aquarium that can be filled with water for keeping triops or goldfish. All that is needed to care for your goldfish is clean water and goldfish food. For growing and care of your triops see page 6.

To prepare the aquarium, rinse the tank with warm water. Never use soap or detergent to wash the tank or anything you will be adding to the tank because soap residue can be harmful to the fish.

If you want to add gravel to the bottom of the aquarium, also rinse the gravel under water to get rid of dirt or dust particles.

Goldfish can be purchased at any pet shop that supplies fish for an aquarium. When you bring your fish home, fill a large bowl with room temperature water (65 to 75 degrees is ideal). Place the bag containing your goldfish into the bowl of water. Let the bag float in the bowl for about 15 minutes. This will gradually get the fish used to the new water temperature.

Now, pour the water from your bowl into the aquarium tank. Fill the tank about half way with the water. Open the bag with the fish and add the goldfish and a little of the water from the bag into the aquarium tank.

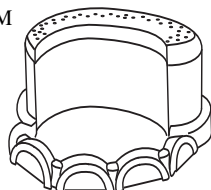
Goldfish are easy to take care of, and with their bright orange color, they are fun to watch in the aquarium. Follow these few simple tips to keep your fish healthy and safe:

- Keep the Bio Dome Habitat in an area where the water temperature can stay between 65 and 75 degrees. Water that gets too warm holds less oxygen than cooler water and your goldfish will not be able to get enough oxygen. Keep the aquarium away from open windows or anywhere there could be a draft. If the water temperature drops too quickly, it could harm the fish.
- Keep the aquarium on a sturdy, level surface, away from heavy traffic areas. Remember, the tank is filled with water and you don't want anyone to accidentally knock it over or to startle your fish.
- You can remove the lid of the aquarium for a few hours each day to allow more oxygen to reach the surface of the water. When the tank is not supervised, though, it is a good idea to keep the lid on so that dirt or other unwanted objects do not fall into the water.
- Keep the water in the tank clean. Every week pour out about 1/2 of the water in the tank and add fresh, room temperature water.

Note: Fish need plenty of space to swim comfortably. We recommend that you keep only one fish at a time in this aquarium.

SETTING UP YOUR TRIOPS AND FISH AQUARIUM

AQUARIUM



TRIOPS
EGGS



BAG OF FOOD
PELLETS



Note: The Triops require distilled water. Distilled water is available at your local grocery store.

TRIOPS

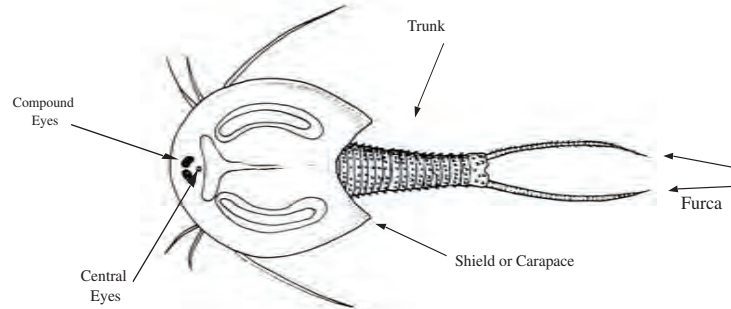
The tadpole shrimps (Latin name Triops), are crustaceans (like crabs, lobsters, shrimps), and have a hard skeleton on the outside of the body. They belong to a group of animals called the Notostraca. These animals have been around for more than 100 million years, and many fossils of tadpole shrimps have been found. These fossils look exactly like the modern living animals, which is why they are sometimes called "living fossils". Most of the living Triops are about an inch long, although some species may reach a length of 3 inches. Tadpole shrimps live in standing freshwater, especially temporary rainwater pools, often in desert or semi-desert areas. They are almost never found in the permanent waters of lakes or rivers - in fact, they are never found in the sea, either. They are strictly freshwater animals.

The body consists of a head to which the shield or carapace is attached, and a trunk that can have more than 40 rings. The carapace covers the front part of the trunk. The upper or dorsal part of the carapace carries two compound eyes plus a tiny simple central eye. The trunk rings carry pairs of leaf-like legs used for swimming and respiration. The last few rings lack legs. The eleventh pair of legs carries the egg pouch in the female. The last trunk segment carries two long slender furca, or appendages that branch off from the main trunk segment.

The pink or red eggs are kept briefly in the egg pouch, then dropped. The eggs can survive drying and freezing, and hatch the following year when pools refill with water. They can stay alive for up to 9 years in soil. After hatching within two days of getting wet, the animal molts up to 40 times before becoming adult. Development is rapid because the pools don't last too long. The tadpole shrimps mature in 16-20 days, and reproduce after 4-6 weeks.

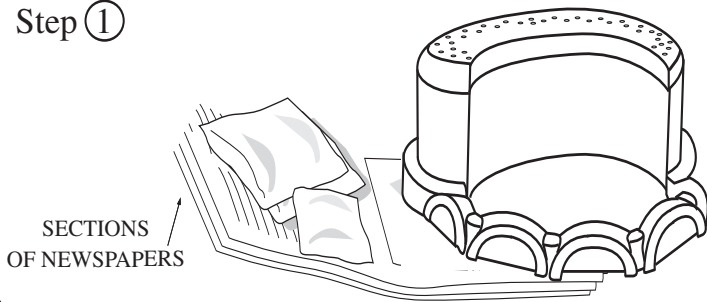
Triops generally walk on the bottom of their pools, but can swim actively. They are sediment feeders, extracting bits of decaying plants and animals material from the mud, but they will also feed on frog eggs, fairy shrimp, other small crustaceans, insect larvae, and dead tadpoles.

TRIOP DIAGRAM



PREPARATIONS

Step ①

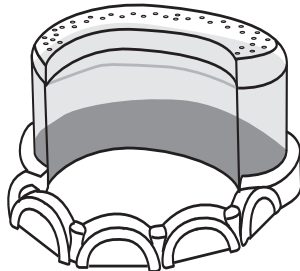


BEFORE STARTING: We strongly recommend organizing your supplies on a suitable working area such as a kitchen table with a sink nearby. Place everything on sections of newspaper for quick and easy cleanup.

NOTE: Remember to review the helpful hints located on the title page of this booklet.

ASSEMBLE YOUR AQUARIUM

Step ②

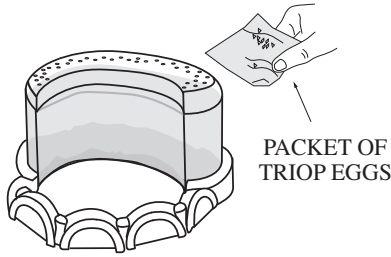


A. Locate the Aquarium Tank.

B. Fill the Aquarium Tank with room temperature distilled water. Do not fill the tank to the top, leave 1/2" of the tank unfilled.

HOW TO PREPARE THE TRIOPS FOR HATCHING

Step ③



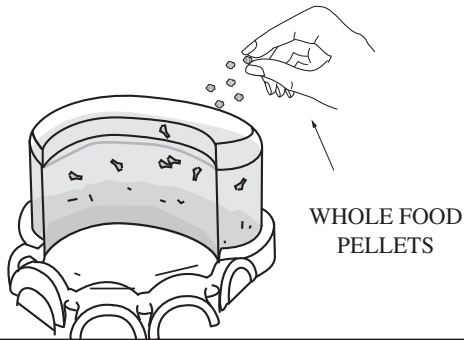
A. Open the packet of Triop Eggs and pour half the contents into the water.

B. Place by a lighted window and DO NOT cover.

NOTE: Within a day or two the Triops will start to hatch.

HOW TO FEED AND CARE FOR THE TRIOPS

Step ④



IMPORTANT NOTE: The Triops will require feeding approximately 2 days after hatching.

A. Two days after the Triops have hatched try to count the number of Triops alive in the tank of water.

B. Locate the food packet and drop 1 pellet of food for every Triop in the tank.

C. Thereafter drop 1 pellet for every Triop, every 2 days.

Note: As the distilled water evaporates, add more distilled water. When all the creatures are gone, including the second batch, wait for the water to evaporate completely. Then add distilled water to let newly laid eggs and some old eggs hatch. Repeat steps 3 and 4.

FROGS

Frogs have fascinated people since the beginning of civilization. Frogs can be found on every continent in the world except Antarctica. Bullfrogs, with their rumbling foghorn calls and their long, flipping tongues, are the species of frog many Americans know best. But there are more than three thousand frog species, and the lives they lead are endlessly varied. There are tree frogs that never descend to earth: their eggs are laid in tiny pockets of water stored at the base of leaves. There are desert frogs that live part of their lives underground, where they stay cool and damp. Others dwell happily in icy mountain streams, or in the tropics, where they hatch their eggs in water as hot as 90 degrees.

All frogs are amphibians. Amphibians are ancient animals that have been around for at least 360 million years. The word “amphibian” comes from the Greek amphibios, meaning “with a double life,” and amphibians all share a very important characteristic: they spend part of their life cycle on land and part in the water.

Amphibians can be divided into three main groups:

- **Anurans:** frogs and toads
- **Caudates:** (tailed amphibians) salamanders, and the caecilians
- **Apoda:** blind, legless creatures that primarily live underground or under water.

Most amphibians undergo metamorphosis, a process of physical change that alters their anatomy to allow them to change from an exclusive water dweller in the larval stage to one that can breathe air as they grow from an egg into a mature adult.

Here is how metamorphosis works:

Adult frogs lay eggs. After they are hatched from their eggs, they emerge as larvae called tadpoles. (After hatching, the tadpoles of most species swim independently, although there are a few species where tadpoles stay attached to their mother’s bodies until they’re ready to fend for themselves).

Tadpoles live entirely in water, and swim by beating a strong tail. They breathe through gills, much like a fish. Tadpoles are efficient

eating machines, feeding on particles of plants, animal remains, and algae that they find in the water.

As tadpoles grow and mature into baby frogs (froglets) or toads (toadlets), their bodies undergo many changes. Legs sprout, allowing them to hop or walk about. The tails disappear, in a process known as “resorption.” Their gills are also resorbed as they grow lungs and begin to breathe air. By the end of metamorphosis, the frogs are no longer just dependent on water-dwelling alone, but can spend time on land. The whole process can take a few days for some species, or as long as four or five years for the North American bullfrog.

Bullfrogs are a very common species of frog in North America. They’re large, measuring 100-175 mm, and highly aquatic: adults rarely travel far from rivers, lakes or ponds. Bullfrogs hibernate during the winter, then emerge for the warm weather and begin calling at their breeding sites during the springtime. Bullfrog calls are instantly recognizable — they’re the deep, foghorn-like calls that can sometimes be heard from as far as a kilometer away. The males call to attract mates and to declare their territories. A single female bullfrog can lay 20,000 eggs at a time; the eggs hatch in four days or less in warm summer waters. However, bullfrog tadpoles develop slowly — it can take up to five years for them to reach maturity. The bullfrog’s appetite is legendary.

They eat (or try to eat!) anything that moves, from bugs to baby ducks to snakes. The frogs in turn are preyed upon by snakes, raccoon, large birds, and many other predators. A bullfrog can live 7 to 9 years in the wild, though the record for a frog in captivity is 16 years.

There is a decline in global amphibian population that seems to have begun around 10 years ago. The first evidence of a problem was anecdotal: people simply noticed there seemed to be fewer frogs around. But recently scientists have collected data to support this perception. Many frog species do seem to be in danger. We must all work to conserve and protect the natural environments where frogs live.

You can create a frog or lizard habitat in the rainforest chamber of your Bio Dome Habitat. Fill the water tray with fresh water and arrange a few small rocks and leaves around the tray for your amphibian to climb around on.

INSECT CLASSIFICATION

There are millions of different animals in the world, and they are all arranged according to body structure. Animals with certain features in common belong to one group; those with other similar features belong to other groups. The animal kingdom is divided into major categories called phyla. Each phylum is broken down on the basis of body structure. These groups are called classes. Classes are then broken down into orders, then families, then genera and finally into species.

For example, the house cricket would be classified as:

Phylum: Arthropoda

Class: Insecta

Order: Orthoptera

Family: Gryllidae

Genus: Acheta

Species: Domesticus

Insects, Class Insecta, belong to the Phylum Arthropoda. Also included in this phylum are: spiders, scorpions, and ticks (Class Arachnida); millipedes (Class Diplopoda); centipedes (Class Chilopoda); sowbugs, crayfish, lobsters, crabs, barnacles (Class Crustacea). Most arthropods belong in one of these five major classes.

Spiders, Scorpions, Mites, Ticks - Class Arachnida

- 8 legs in 4 pairs
- 1 or 2 body regions; if 2 exist, then the front is called the cephalothorax (head and chest), the back, the abdomen
- no antennae
- terrestrial or freshwater, a few are marine

Millipedes - Class Diplopoda

- many legs, 2 pairs on most body parts
- wormlike, cylindrical body - sometimes flat, with many segments
- 1 pair of antennae
- terrestrial

Centipedes - Class Chilopoda

- many legs, 1 pair on most body parts
- wormlike, flattened body with many segments
- 1 pair of antennae
- terrestrial

Sowbugs, Crayfish, Crabs, Barnacles - Class Crustacea

- 10 or more legs in pairs
- 2 body regions, called cephalothorax and abdomen
- 2 pairs of antennae
- mostly marine - some freshwater and terrestrial

Insects - Class Insecta

- 6 legs in 3 pairs
- 3 body regions, called head, thorax, and abdomen
- 1 or 2 pair of wings (sometimes they don't have wings)
- 1 pair of antennae
- terrestrial or freshwater, a few are marine

INSECT CLASSIFICATION

The Classes of insects listed on page 9 can be further broken down into Orders. The order names are Greek words that describe the order's unique characteristics:

Order Odonata ("tooth")

The members of this order have teeth on their mandibles that allow them to chew their foods.

Examples: Darner Dragonflies and Broadwinged Damselflies

Order Orthoptera ("straight wings")

The members of this order have four wings that fold and lie flat on the back.

Examples: Grasshoppers and Cockroaches

Order Hemiptera ("half wings")

The members of this order have front wings that are thickened and leathery at the base, and membranous (thin) on the outside half of the wing.

Examples: Stink Bugs and Giant Water Bugs

Order Neuroptera ("nerve wings")

The members of this order have four wings that are crossed and divided by many veins.

Examples: Antlions and Lacewings

Order Coleoptera ("sheath wings")

The members of this order have hardened wings that cover the more delicate hind wings used for flight.

Examples: Ladybird Beetles and Scarabs

Order Lepidoptera ("scaled wings")

The members of this order have wings with delicate scales that brush off like dust if handled.

Examples: Monarch Butterflies and Tiger Moths

Order Diptera ("two wings")

The members of this order have only one pair of wings and commonly have the word "fly" in their name.

Examples: House Flies and Fruit Flies

Order Hymenoptera ("married wings")

The members of this order have two front wings that are connected to the hind wings by tiny hooks.













Examples: Cuckoo Wasps and Bumble Bee

Order Homoptera ("same wings")













The members of this order have membranous wings that cover much of the upper body.

Examples: Cicadas and Aphids

INSECTS & ANIMALS THAT ARE SAFE TO COLLECT

Picture of Insect or Animal	Scientific FAMILY Name	Scientific ORDER Name	Usual Habitat	Other Data	Size in Millimeters
 GRASSHOPPER	Acrididae	Orthoptera	On plants and grass in fields	Damages crops at harvest time	30-45mm
 ANTS	Formicidae	Hymenoptera	In soil and sand	Fire ants are very dangerous	3.5-6.5mm
 CRICKETS	Gryllidae	Orthoptera	On plants and in lawns and fields	Feeds on crumbs, food scraps, plant matter	14-30mm
 BEETLES	Chrysomelidae	Coleoptera	In fields and forests	Feeds on bark and is generally harmless	24-25mm
 MOTHS	Noctuidae	Lepidoptera	In woodland and fields, attracted to light	Feeds on various plants	28-50mm
 EARWIGS	Forficulidae	Dermaptera	Sandy soil and vegetation	Pincers have no sting	10-15mm
 SNAILS	Mollusks	Gastropoda	Moist areas and on vegetation	A slug-like body, soft & sticky with a hard shell	2-25mm
 BUTTERFLIES	Papilionidae	Lepidoptera	Around flowering plants	Very fragile	10-150mm
 LIZARDS	Lacertidae	Squamata	Under rocks, sometimes in trees	Except for Gila Monsters, lizards are harmless	60-120mm
 LADYBUG BEETLES	Coccinellidae	Coleoptera	Foliage & stems of plants	Occur in various color patterns	4.5-6.5mm
 DRAGONFLY	Aeschnidae	Odonata	A round ponds & lakes	Eggs are laid on water surface	20-60mm
 TRUE BUGS	Pentatomidae	Hemiptera	Crop fields, orchards, gardens	All have triangular section on back	2-5mm

INSECTS & ANIMALS THAT ARE NOT SAFE TO COLLECT

Picture of Insect or Animal	Scientific FAMILY Name	Scientific ORDER Name	Usual Habitat	Other Data	Size in Millimeters
BEE 	Apoidea	Hymenoptera	Flowers	Stinger on end of abdomen	12mm
WASP 	Vespoidea	Hymenoptera	Trees & House & Leaves	Stinger on end of abdomen	17-18mm
TERMITE 	Rinotermitidae	Isoptera	Rotting Tree Trunks	Very destructive to wood	6-9mm
WATER BOATMAN 	Notonectide	Hemiptera	Ponds & Lakes	Poisonous saliva	1-4mm
SPIDERS 	Arachnida	Araneae	Widely distributed	Some can be poisonous	2-100mm
PRAYING MANTIS 	Mantidea	Mantodea	Fields & Gardens	Feeds on other insects	50mm
CRANE FLY 	Tipulidae	Diptera	Fields & Gardens	Very fragile	1-22mm
COCKROACH 	Blattidae	Blattodea	Behind kitchen cabinets & woodwork	Contaminate food	20-40mm
SCORPION 	Arachnida	Scorpionida	Under stones	Dangerous	50mm
CENTIPEDE 	Athropoda	Chilopoda	Houses, Barns, Gardens	Nocturnal	25mm
HOUSE FLY 	Muscidae	Diptera	Everywhere	Can carry diseases	15-22mm
MOSQUITOES 	Culicidae	Diptera	Everywhere	Can carry diseases	3-4mm

The Smithsonian Institution

The Smithsonian Institution is home to more than 141 million objects, ranging in size from insects and diamonds to locomotives and spacecraft. It is the world's largest museum complex, comprising 15 museums and galleries and the National Zoo in Washington DC, and two additional museums in New York City. Millions of visitors each year visit the nation's capital to view such treasures as the Hope Diamond, the Star Spangled Banner, and the Wright Flyer. A broad range of exhibits ensures a fun and educational experience for young and old alike.

One of the world's leading scientific research centers, the Institution has facilities in eight states and the Republic of Panama. Research projects in the arts, history and science are carried out by the Smithsonian all over the world. Some of the Smithsonian's research centers include the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts, the Smithsonian Marine Station at Link Port, in Florida, and the Smithsonian Tropical Research Institute, in Panama.

For membership information or pre-visit planning material, write or call the Visitor Information and Associates Reception Center, Smithsonian Institution, Washington, D.C., 20560, (202) 357-2700 (voice), (202) 357-1729 (TTY). You may also visit the Smithsonian through our web site, www.si.edu.

History

James Smithson (1765 – 1829), a British scientist, drew up his will in 1826 naming his nephew, Henry James Hungerford, as beneficiary. Smithson stipulated that, should the nephew die without heirs (as he did in 1835), the estate would go to the United States to found "at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge..."

On July 1, 1836, Congress accepted the legacy bequeathed to the nation by James Smithson, and pledged the faith of the United States to the charitable trust. In 1838, following approval of the bequest by the British courts, the United States received Smithson's estate—bags of gold sovereigns—then the equivalent of \$515,169. Eight years later, on August 10, 1846, an Act of Congress signed by President James K. Polk, established the Smithsonian Institution in its present form and provided for the administration of the trust, independent of the government itself, by a Board of Regents and Secretary of the Smithsonian.

Smithsonian Museums, Galleries and Zoo

- Smithsonian Institution Building ("Castle")
- Anacostia Museum and Center for African American History and Culture
- Arthur M. Sackler Gallery
- Arts and Industries Building
- Cooper-Hewitt, National Design Museum
- Freer Gallery of Art
- Hirshhorn Museum and Sculpture Garden
- National Air and Space Museum
- National Museum of African Art
- National Museum of American History, Behring Center
- Steven F. Udvar-Hazy Center
- National Museum of the American Indian
- National Museum of Natural History
- National Portrait Gallery
- National Postal Museum
- National Zoological Park
- Smithsonian American Art Museum
- Renwick Gallery
- S. Dillon Ripley Center