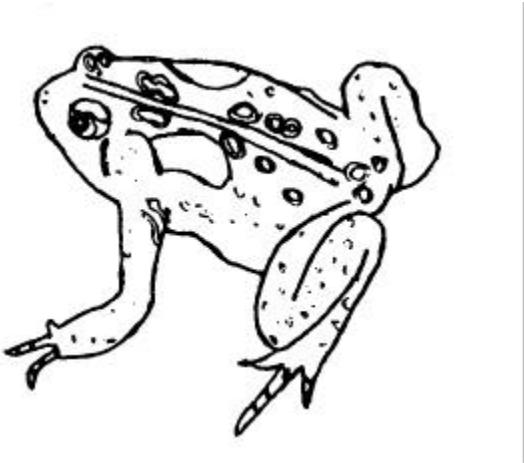


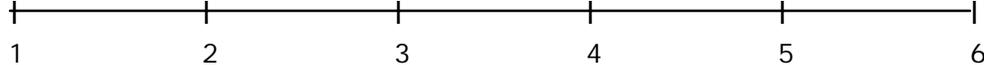
My Notes:

**Puddle Jumpers
Field Journal**

**To be used in preparation for and during an
ecology study visit to a Vernal Pool**



Inches



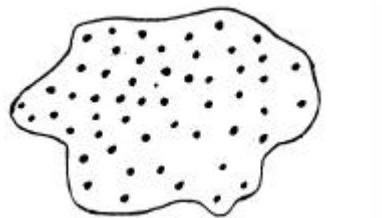
(Scientist's Name)

What do we know about amphibians?

Frogs, toads, and salamanders are all examples of amphibians. The eggs of most go through an aquatic before they transform, or metamorphose, into adults. Because of this tadpole-like stage, they all depend on water. Let's look at the American toad, a common amphibian in most areas.



They first begin life as an egg, either in water or a very damp place. Fish and other predators eat the eggs, so the parent often deposits hundreds to thousands of eggs at one time in a mass. The mass looks like jelly! Inside each egg, a tiny tadpole quickly develops.



Visit the Wildlife Habitat Council's Backyard Conservation webpage
For more activities and resources regarding vernal pools and other
habitats at <http://www.wildlifehc.org>, as well as the
Three Rivers Habitat Partnership at <http://trfn.clpgh.org/trhp>

A very special thanks to
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For Journal Development

Investigations

Share your “I wonder” questions with your classmates. Did anyone else ask the same question as you? Are there any you would like to investigate further?

List some ways to further investigate your questions...

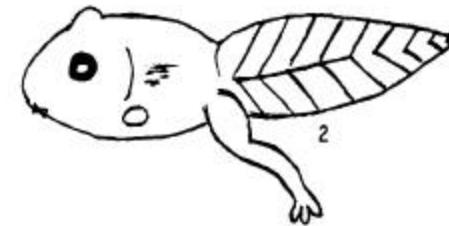
Many amphibians lay their eggs in shallow water that dries up in only a few months. Since fish cannot survive without year-round water, more eggs can hatch into tadpoles. But the young must grow quickly before the water dries up.

Vernal pools are a good example of such “puddles”, and are found in the woods in spring—*vernal* means spring in Latin. Vernal pools appear after the snow melts and spring rains fill depressions in the forest floor. Then amphibians such as frogs and toads and salamanders rush to lay their eggs in time. By summer, most vernal pools dry up, preventing fish from surviving.

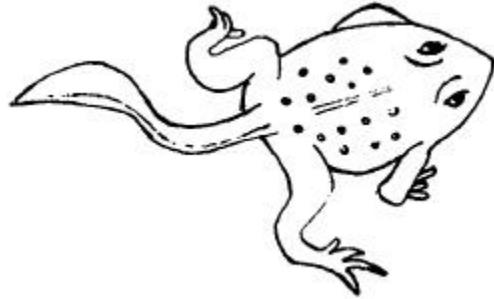
Some amphibians can breed successfully only in vernal pools, like the marbled salamander and wood frog. They are called “obligate vernal pool species.” If there were no more vernal pools on earth, these species would become extinct. Other amphibians often use vernal pools, but don’t depend on them since they can also breed in ponds and other areas. The American toad, green frog, and red-spotted newt are examples. Since they don’t require vernal pools, they are called “facultative vernal pool species.”



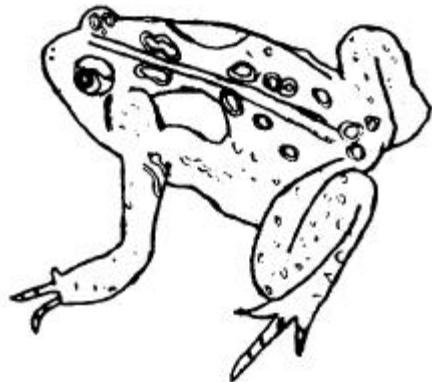
Soon, the tadpole gets tiny legs, and the tail slowly disappears.



Less than a month later, a toadlet hops from the water. It is small enough to fit on the tip of your finger! It must hide from predators and yet hunt for food.



Not many will survive long enough to mature into a large toad, or hoptoad as some people call them. But those that do will return to the vernal pools to breed and begin the cycle all over again.



Now that you've had time to meet some of the cool critters and plants that live in vernal pools, take a few minutes to reflect on the habitat. Scientists always have questions. They ponder problems or things they don't understand, and then try to investigate to understand the world better. What do you wonder about?

I wonder.....

I wonder.....

I wonder.....

Now share your observations with the other teams. Were there any amphibians?
If so, write them below. What stage are they in?

Could any of the organisms serve as food for amphibians?
If so, which life stage, aquatic or adult? Why?

A Map of your Habitat Study Area

Draw a map from above of your study habitat, as if you were a bird looking down.
Draw any features such as trees, logs in the water, plants, etc. Then mark an X at your assigned study plot.

A habitat is a science word for a place that provides all the needs of a living creature, or organism. All organisms need to have certain things to live. Can you think of a list of things that you need in order to survive? Write it below. Then compare your list with your classmates. Can you find several things that everyone needs in order to survive? Circle them.

When you visit the Habitat Study Area, you will look for amphibians and the organisms that live alongside them. What do you think a frog needs to survive?

What do you think a tadpole needs to survive?

Are they the same or different? Why?

The next pages are your own personal field guide to common amphibians. Use a real field guide to color in the drawings as accurately as you can. Notice the subtle differences in color, shape, and markings to help you identify them in the wild.

An asterisk (*) indicates an "obligate" vernal pool species. Remember, if they are obligate, that species will *only* be found to breed in a vernal pool. The others will commonly use vernal pools.

**Have fun jumping through the world of vernal pools—
they are much more than just oversized puddles!**

Now watch your organism. Describe what it's doing. Is it swimming, lying on the bottom, the top? How is it swimming (in circles, in short bursts, not at all)? Is it hiding from other critters? Is it alive? Would it act like this in the pool?

Behavior:

Using your field guides and charts, can you identify what this organism is? If not, can you investigate this later?

Description/drawing of Mystery Organism

Your job as a scientist is to record everything you can about this critter. Write and/or draw an entry so descriptive that another person would be able to identify it. (Does it have legs? How many? Eyes? Wings? What do they look like? How big/small is it? Color? Tail(s)?)

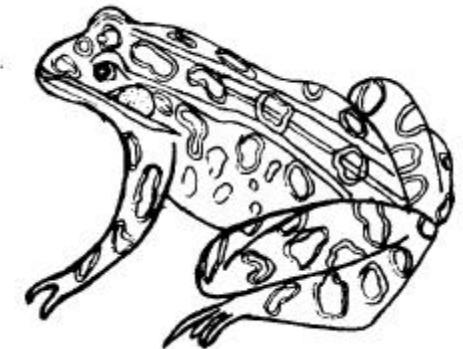
Where in the pool did you find it?
(edge, on top of water, along grass, in the muck, in leaves, in the middle of the water, in clear water)

**My Field Guide:
Common Amphibians in Northeast Study Habitats**

American Toad
(*Bufo americanus*)



Northern Leopard Frog
(*Rana pipiens*)

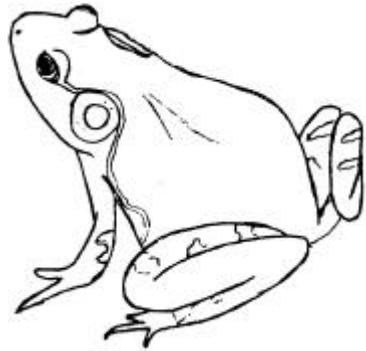


Spring Peeper
(*Pseudacris crucifer*)

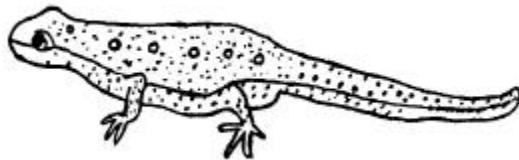


**My Field Guide:
Common Amphibians in Northeast Study Habitats**

Bullfrog
(*Rana catesbienna*)



Red Spotted Newt
(*Notophthalmus viridescens*)



Phase II: Critter Identification

At the end of collection time, return with your teams to further observe your findings. Choose one organism that you found to study. You will record what the organism looks like through notes, drawings, behavior, where it was found in the pool, and its name if you can identify it with the help of other resources. Think about how this organism is important to the amphibians and other animals that live in or visit the pool.

Team Name: _____

Date: _____

Weather Conditions:

Sunny
Warm
Rainy

Cloudy
Cool
Snowing

Vernal Pool Visit: Spring

It's spring now— rains are falling, snow is melting, and vernal pools come to life. Let's visit the vernal pool to discover what types of animals and plants are living there. The pool is like a neighborhood full of different critters, all of which make up a "community." Vernal pools are especially important for amphibians, since they are nurseries for many species such as salamanders. (If you absolutely cannot find a vernal pool nearby, a shallow pond or the edge of a larger body of water may be used instead.)

Phase I: Critter Collection: Amphibians and their Neighbors

Choose a team name that is somehow amphibian related, such as the Newts, Tadpoles, or Bullfrogs. You will visit a station as directed by your instructor to collect organisms that live within the pool.

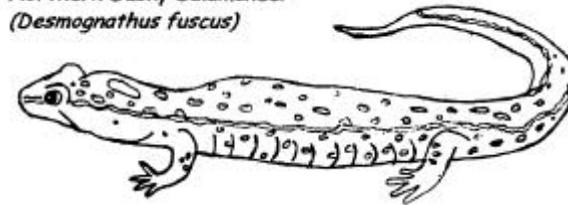
Dip your net into different areas in the pool, such as the top, the middle, and the mucky bottom to collect organisms such as insects, tadpoles, salamander larvae, snails, clams, and other critter. Try to remember where you found the different organisms. Sift through the mud and leaves to look for organisms. Your observation skills are very important in this step.

When you find an organism, gently transfer it to a cup with water, using the paintbrush if needed. All critters can be placed into the large white pans for later study. Be careful to not get mud into the white pan, which will cloud the water and hide your findings. Take turns with large nets, and remember to always return any muck back to the pool since many organisms may be hiding within it.

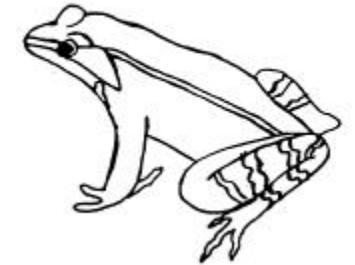
**Do not step into the water, or run, for your own safety and the habitat.
Tread lightly!**

My Field Guide: Common Amphibians in Northeast Study Habitats

Northern Dusky Salamander
(*Desmognathus fuscus*)



Wood Frog*
(*Rana sylvatica*)



Spotted Salamander*
(*Ambystoma maculatum*)

