Science Project
Rainforest Frogs

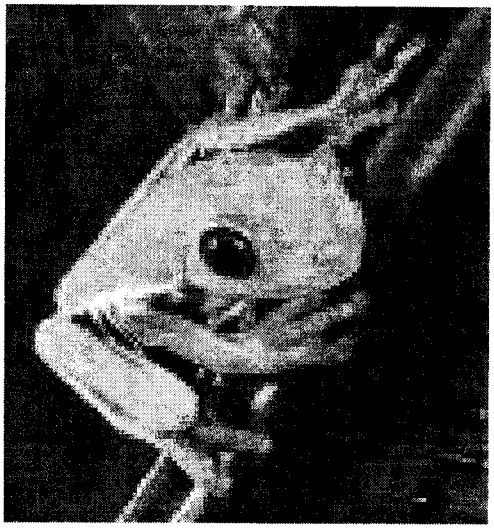
[redacted]

Methods II

Grade 1

Prof. McLoughlin

Prof. Gong



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Teacher Portfolio
Artifact Cover Sheet

ACEI STANDARD #: 2.2 Science

2.2 Science—Candidates know, understand, and use the fundamental concepts in the subject matter of science—including physical, life and earth and space sciences—as well as concepts in science and technology, science in personal and social perspectives, the history and nature of science, the unifying concepts of science and the inquiry processes scientists use in discovery of new knowledge to build a base for scientific and technological literacy.

Element A: Candidates have in-depth understanding of and experience w. abilities needed to do scientific inquiry.

Element B: Candidates understand the concepts in the subject matter of physical, life, earth and space sciences with in-depth knowledge of at least one of these.

Element C: Candidates understand naïve theories and misconceptions about scientific and technological phenomena and help students build understanding to avoid naïve theories and misconceptions.

Element D: Candidates have in-depth understanding of how science influences everyday living, personal health, characteristics and changes in populations, changes in environments, the use of science and technology in local challenges.

Element E: Candidates exhibit a high level of competency in teaching the content and fundamentals of physical, life, earth and space sciences using a variety of strategies.

NAME OF ARTIFACT: Methods Science Project – Lesson Plan

TYPE OF ARTIFACT: Science Lesson Plan

Brief description of artifact:

For this mini unit I chose to teach two lessons on frogs, specifically rainforest frogs and their life cycle. I began my first lesson by creating a KWL chart with my first graders about what they knew about frogs and what they wanted to learn about frogs. After we filled out this chart, I began to discuss the different stages of a frog's life cycle. I used numerous children's picture books to help me illustrate what I was describing to the students and show them the different examples of the different stages. I had created a worksheet for the students where they would illustrate the different life stages and I knew that showing the students the images would help them with the assignment. After thoroughly discussing the life cycles I handed out the worksheets and sent the students back to their seats to get started. For the second lesson I chose to focus solely on the characteristics of poison dart frogs and tree frogs, which are unique to the rainforest, since the students were starting their unit on the rainforest. I read the students a book on rainforest frogs that initially introduced them to the different features of rainforest frogs. I again used the picture books to help me illustrate the characteristics I was teaching and for the activity had the students each color in their own rainforest frogs that would be later added to the canopy the class was creating. I allowed the students to look through the pictures and take the books back to their seats with them so they could produce more accurate looking frogs. This resulted in the students producing accurate looking tree and poison dart frogs.

Brief description of how artifact demonstrates ACEI Standard 2.3:

I feel that this mini unit demonstrated the ACEI Standard because in order to appropriately teach this unit I needed to become an expert on rainforest frogs. This demonstrates that I had well rounded knowledge of the material and that I knew the different features of frogs. To back up the knowledge of what I was telling the students I used the picture books as evidence. This also allowed for a variation in technique that benefitted all the students and helped me to keep their attention and to keep them focused on the subject at hand.

Attached is the assignment that generated this artifact, the lesson plan from within the project, and the artifact assessment rubric completed by a Keene State College instructor.

Why Frogs?

For this science project we were asked to teach two science lessons that pertained to the science program in our placements. I informed this to my cooperating teacher and she informed me that we were just finishing up our required curriculum unit on weather. The next science unit that she was introducing was the rainforest and that I could teach on anything involving or incorporating the rainforest. Together we explored the numerous information, lessons, activities and packets that she had collected over the years, which got my brainstorming different topics that I could teach the students. In our Methods II class that Friday we had a brainstorming session where I talked to my peers about possible ideas and lessons that I could teach surrounding the rainforest. The ideas that came to me were interesting and fun but I felt that they were too close to what Ms. Camara, my cooperating teacher, and I had already looked at in her folders. Later that night while watching television, a commercial came on involving frogs and I decided to do a mini unit on the frog life-cycle and most specifically rainforest frogs, which would connect the lesson to the rainforest. When I approached my cooperating teacher with this idea she agreed that the students would enjoy the topic and that my lessons would fit in nicely with the rainforest unit. As part of the unit my cooperating teacher informed me that when learning the different levels of the rainforest the class creates a canopy level over the large window and that every year she incorporates frogs into the canopy since that is where they mostly live.

After knowing that my cooperating teacher felt confident in the topic I was going to teach I decided in the manner and activity I wanted to teach. Knowing that my lessons would be the first that the students would experience that would introduce them to the

rainforest unit I knew that I wanted it to be exciting and interesting to get the students excited for the rest of the unit. I chose to do a lesson on the life cycle of specifically rainforest frogs. I used only rainforest frogs as examples and used the real-life pictures from numerous children's books to show the students the different stages of the life cycle. I felt that this would keep the student's interest better than if I just read a book to them. I also decided that I would create a worksheet for the students where I would have them illustrate the three different life-cycles of most frogs, like egg to tadpole to frog, after we discussed the different stages. I discussed this idea with my cooperating teacher who agreed that this was a good way for me to note whether or not the students were understanding the chronology behind the life of a frog. For my second lesson I chose to continue with frogs but instead of focusing on their life-cycles, a feature that can be applied to all frogs, not just those found in the rainforest, I chose to focus of the different characteristics of tree frogs and poison dart frogs. I chose these two frogs because they are the most commonly known to the public that live in the rainforest. After talking to my cooperating teacher she informed me that the students had to color in frogs to add to the canopy level and that this lesson would be helpful in the students creating realistic looking rainforest frogs.

Micro-Teaching/ Brainstorming Science

Due to a shift in the schedule of our Methods II class, we worked together with out peers who were in the same school placement as us and brainstormed together ideas that we could teach for our science topic. Some of the future teachers in my group had already decided exactly what they were going to teach and how they were going to teach it by the class. I on the other hand was having difficulty coming up with a specific area that I wanted to teach that would incorporate the rainforest. I was in a group with three other peers who were in grade levels ranging from first, like me, to third. This helped because they knew the capabilities of my students and what could be expected of them at that age.

I initially looked into the possibility of incorporating art, music, and writing in one possible lesson where I would teach the students about the different levels of the rainforest and have the students illustrate them while listening to the different sounds of the rainforest and write about what they felt they were hearing. This would have then incorporated the different animals found in the rainforest, the different plants and the different elements of the rainforest like the weather. Another idea I came up with was to take an entire section of a wall and create each level of the rainforest. This was before I found out about how Ms. Camara creates the canopy, but I felt it would be a fun activity that would incorporate each student. When I have my own classroom I felt that I will use this idea. The last idea that I came up with was to do a mini-unit on frogs and their life-cycles and specific frogs found in the rainforest. The girls in my group really liked this idea and gave me many helpful suggestions and hints that I could incorporate to the lesson. Some suggested activities they remembered from when they were in school and

learning about frogs, while others gave suggestions of different ways for me to assess their learning. Overall I felt that the brainstorming was extremely beneficial and that I got a lot of great ideas that I incorporated into my lessons as well as some that I will save and use when I have my own classroom.

Research Photocopies

Tadpoles

Tadpoles live in water up to 14 weeks. They eat mostly algae. Algae are small rootless plants that grow in water or on damp surfaces.

Tadpoles must look out for predators. Water birds, fish, and snakes eat tadpoles.

Tadpoles change in the water. They begin to grow legs. They grow lungs. They also lose most of their tails.

Tadpoles leave the water as **froglets**. A froglet is a young tree frog with a short tail. The froglet's tail goes back into its body. The tail becomes food for the growing tree frog. After a short time, froglets become adult tree frogs.

The amount of time a tree frog lives depends on what kind it is. Some tree frogs kept as pets can live for 25 years.

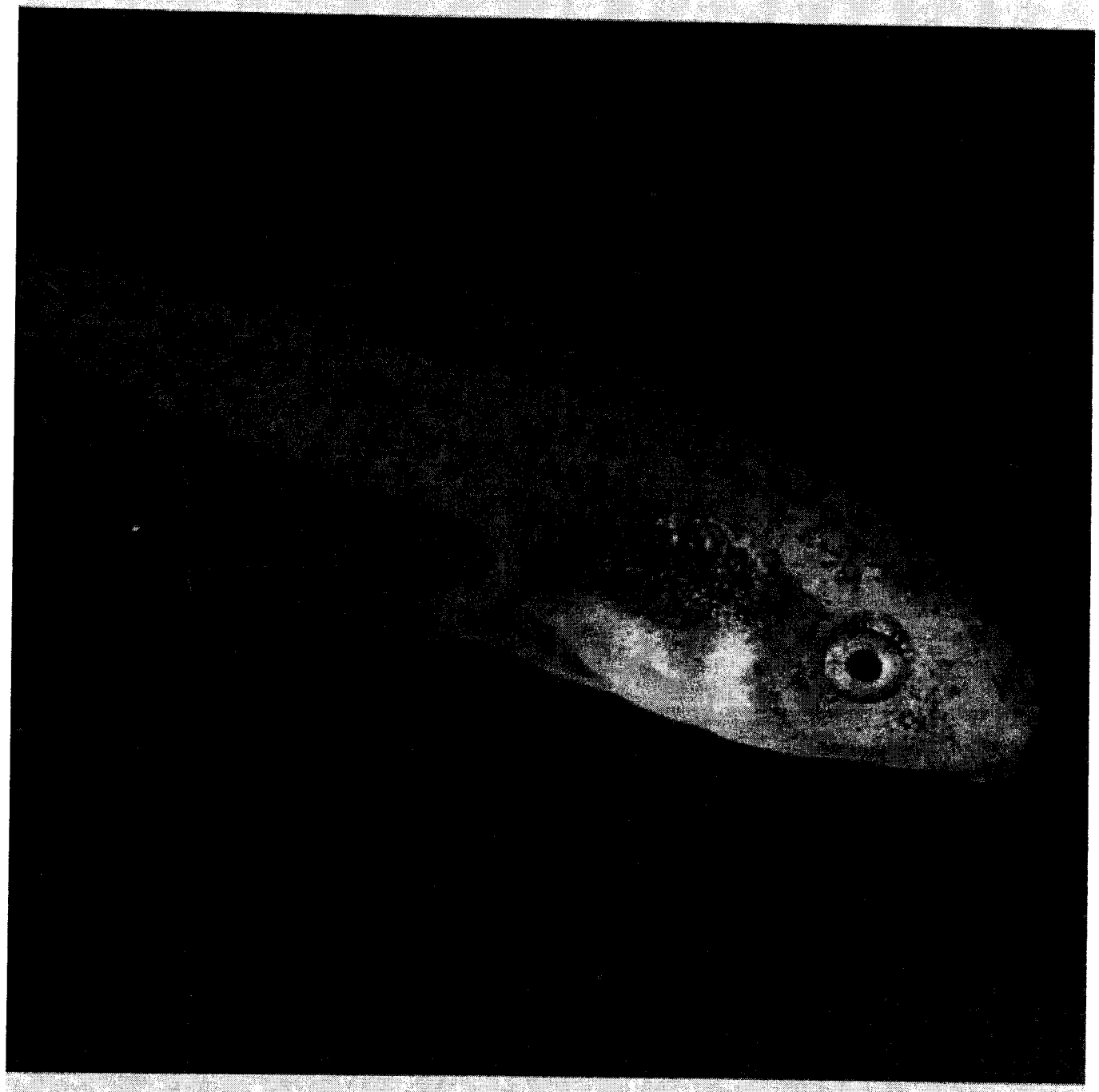
Eggs

The female tries to hide the eggs she lays. Some tree frogs lay dozens of eggs and some lay thousands. Females may hide them in the water. They may place them near grass, behind water plants, or next to rocks.

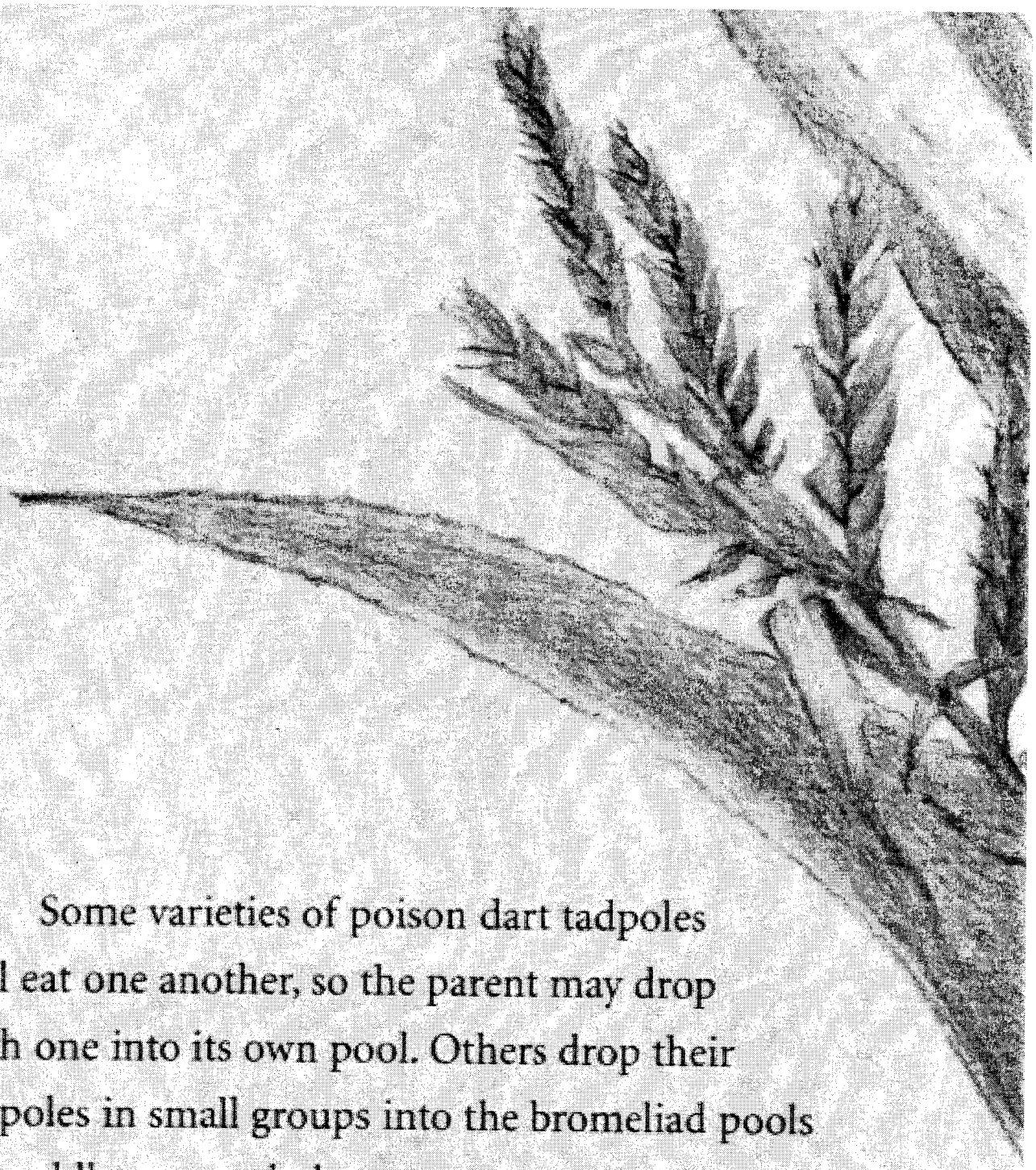
The eggs hatch after six to eight days. Only a few of the eggs will develop into adult frogs. Fish eat most of the eggs.

Some tree frogs do not need to be in the water to lay eggs. The female red-eyed tree frog lays her eggs on the bottoms of leaves that hang over water. Other kinds of tree frogs lay eggs in water trapped in branches or leaves.

Young

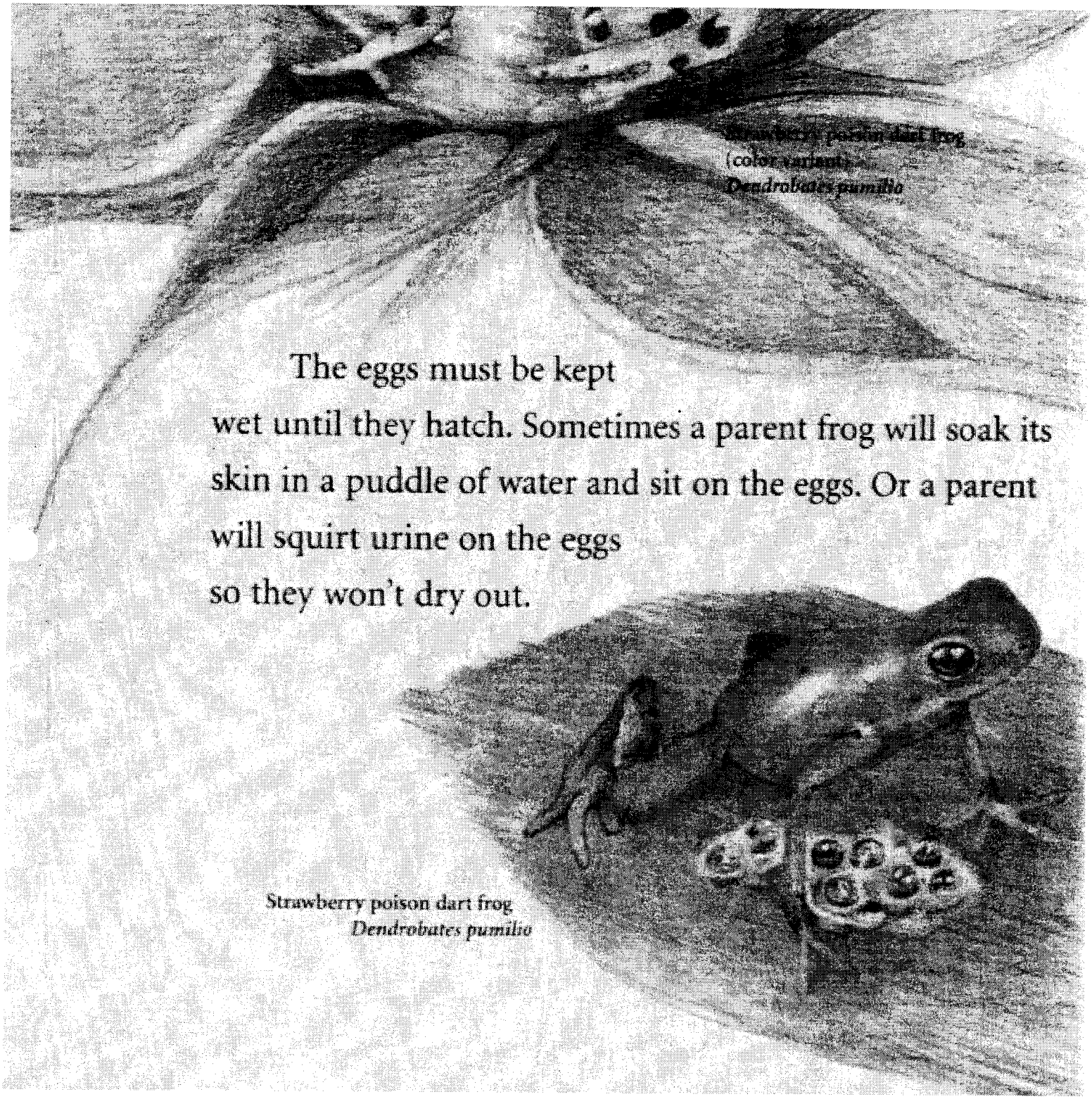


Baby frogs, like this Red-eyed Tree Frog tadpole, can live only in water. That's why tadpoles are fish-shaped—to be good swimmers. Like fish, baby frogs also have *gills* to extract the oxygen they need from the water.



Some varieties of poison dart tadpoles will eat one another, so the parent may drop each one into its own pool. Others drop their tadpoles in small groups into the bromeliad pools or puddles or tree holes.

The female strawberry poison dart frog visits her tadpoles every few days in their bromeliad pools. She lays one or two unfertilized eggs in each pool for the tadpoles to eat. Tadpoles who aren't fed this way by their parents will eat the insect larvae and algae they find swimming and growing in their pools of water.



Strawberry poison dart frog
(color variant)
Dendrobates pumilio

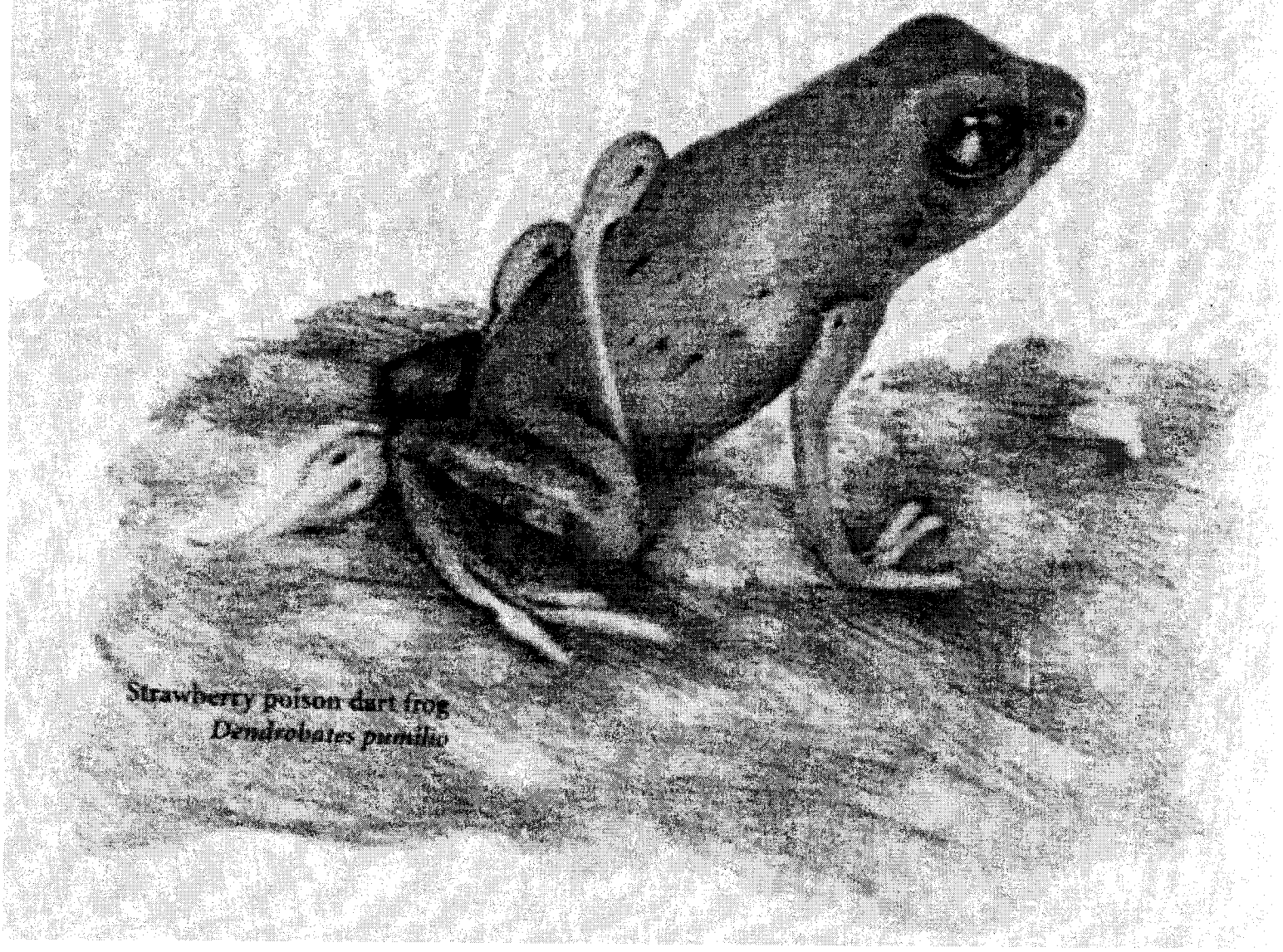
The eggs must be kept
wet until they hatch. Sometimes a parent frog will soak its skin in a puddle of water and sit on the eggs. Or a parent will squirt urine on the eggs
so they won't dry out.

Strawberry poison dart frog
Dendrobates pumilio

Harlequin poison dart frog
Dendrobates histrionicus

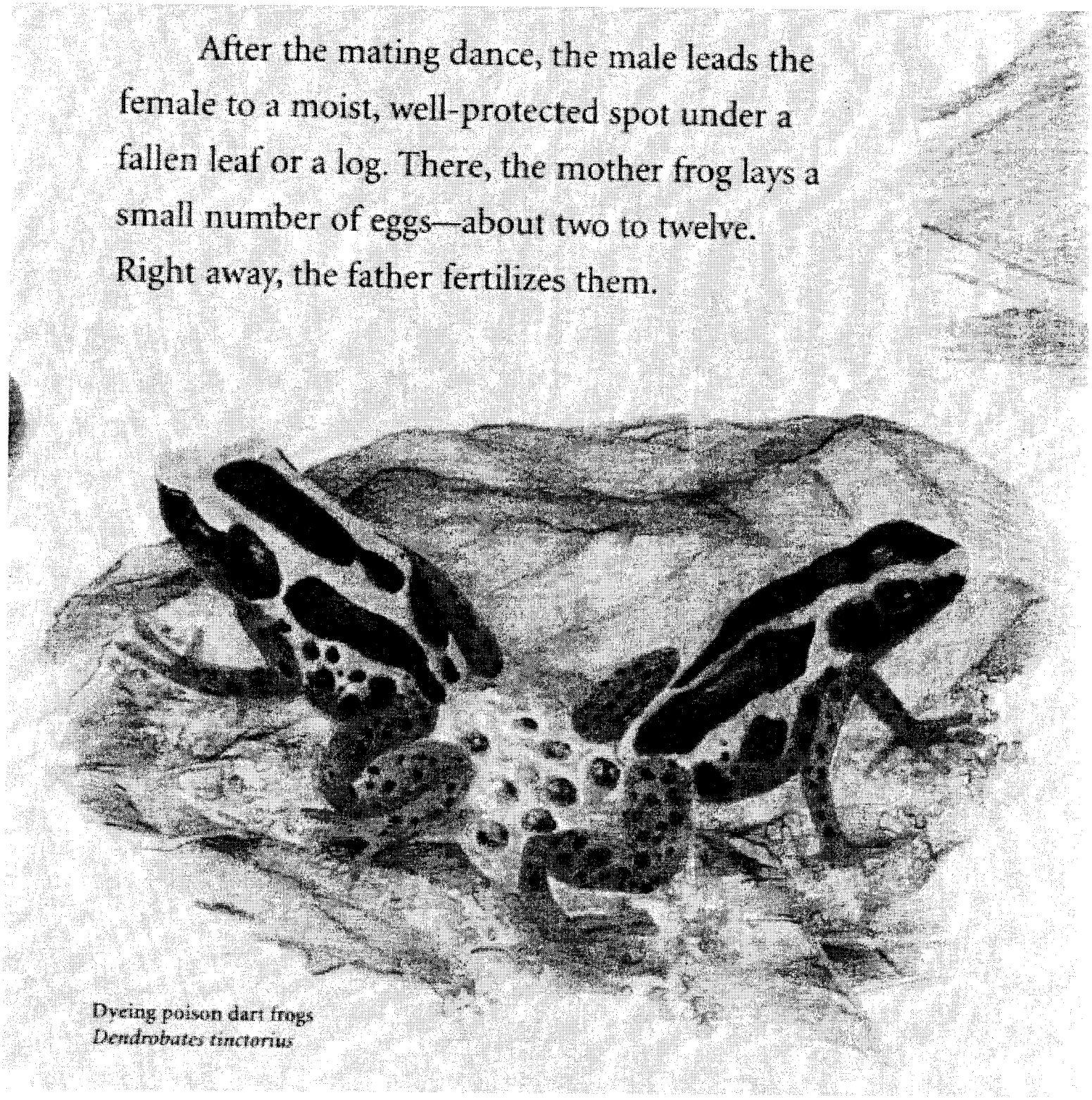
The eggs, which are not poisonous, are in danger of being eaten by snakes, insects, or even other female poison dart frogs. Although spiders do not eat the eggs, they are still a threat to the frog parents. The parents stay close to their eggs, and the bright colors of the frogs help keep predators away.

When the eggs hatch after about a month, one of the parents sits in the middle of the clutch, and the tadpoles climb onto his or her back. The frog then hops to a bromeliad or other water-holding plant or tree hollow, where the tadpoles slip into the water.

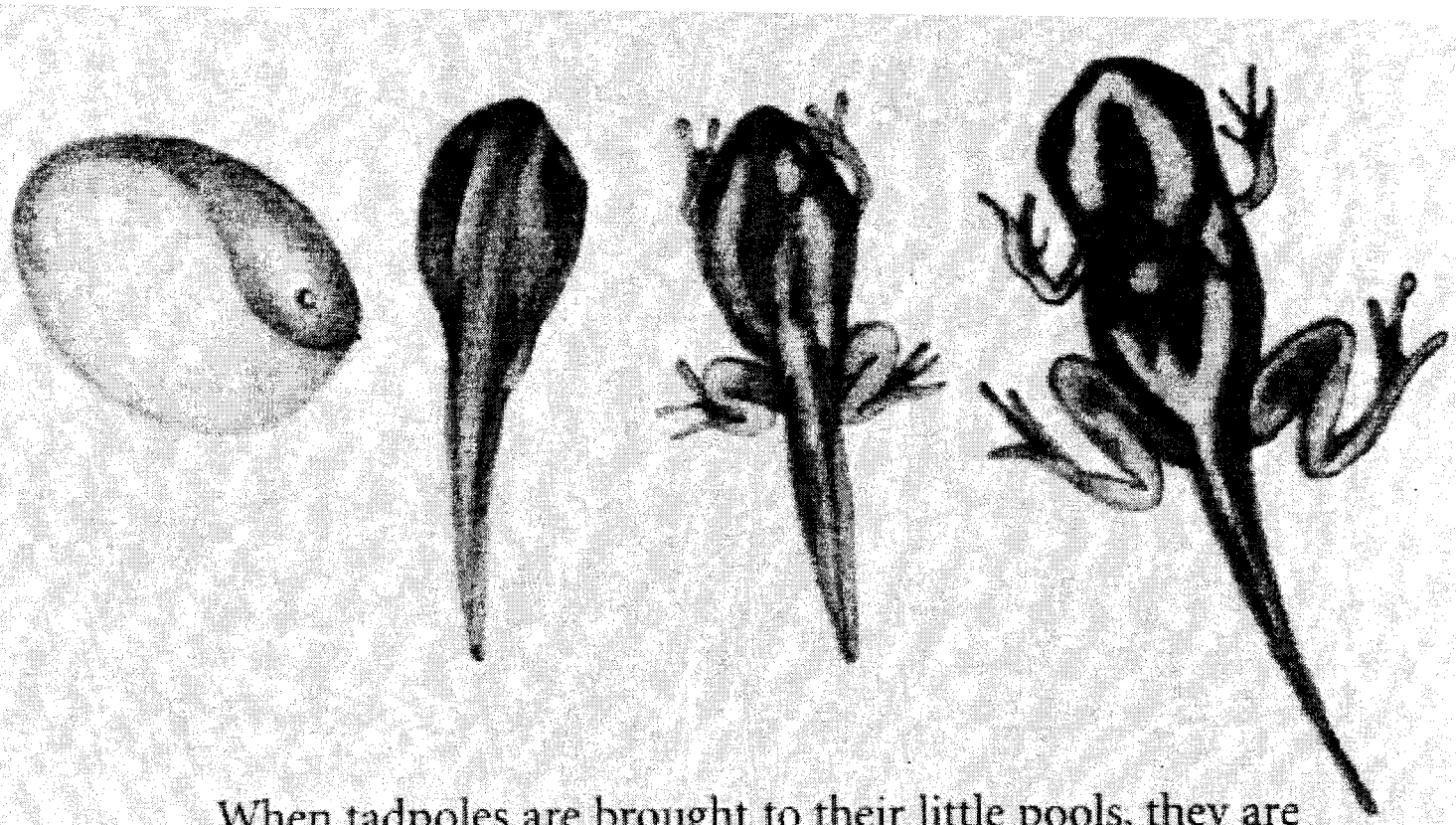


Strawberry poison dart frog
Dendrobates pumilio

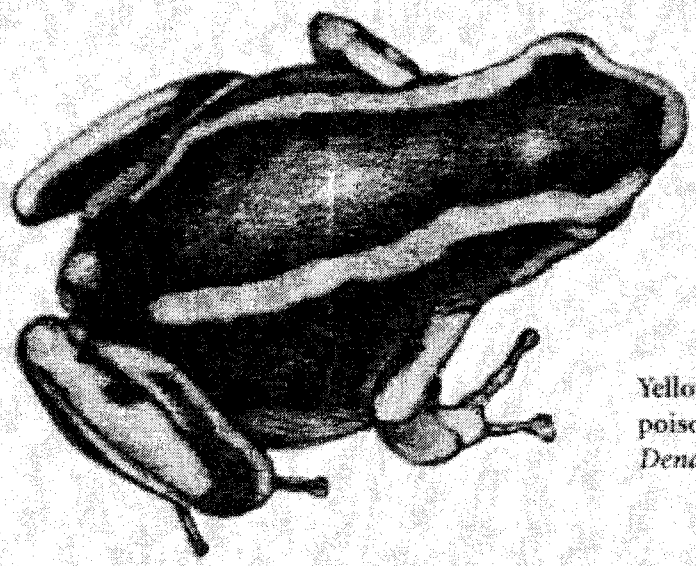
After the mating dance, the male leads the female to a moist, well-protected spot under a fallen leaf or a log. There, the mother frog lays a small number of eggs—about two to twelve. Right away, the father fertilizes them.



Dyeing poison dart frogs
Dendrobates tinctorius



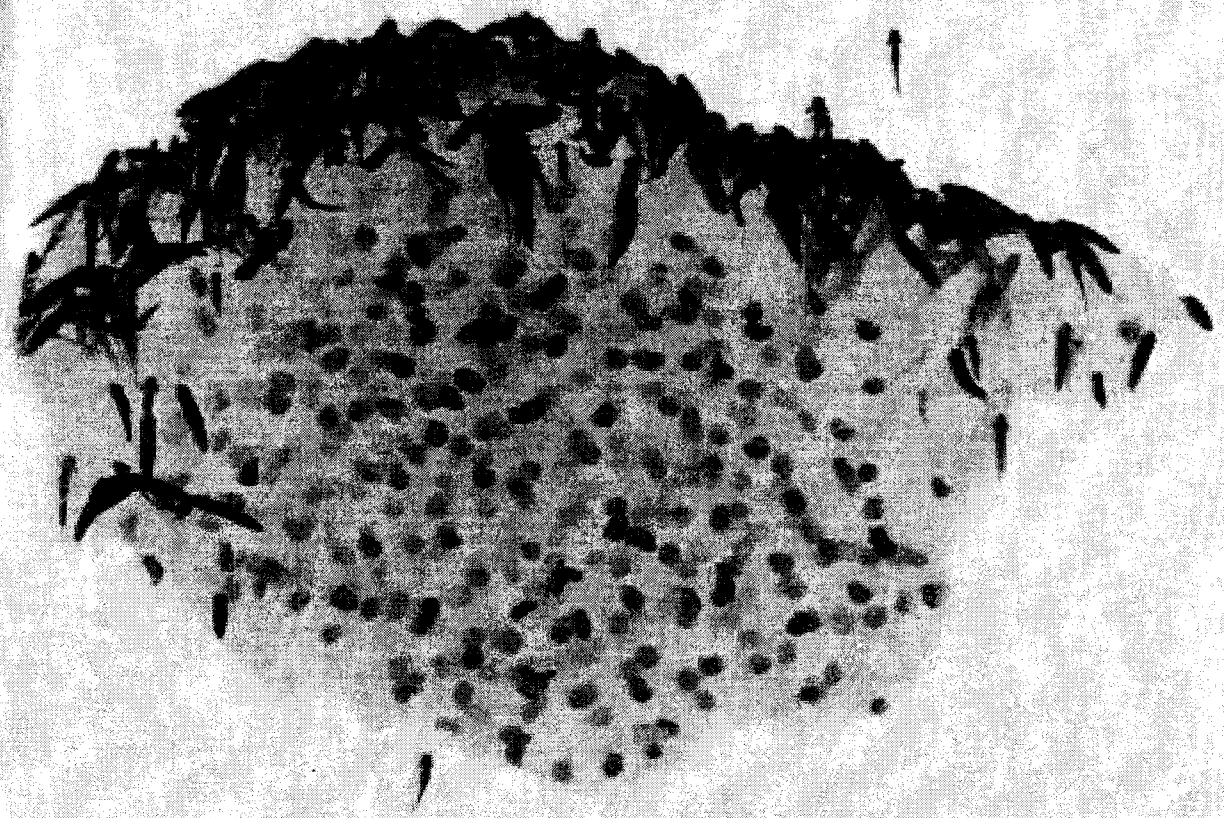
When tadpoles are brought to their little pools, they are not yet poisonous, and their skin colors are dull. Their poisons develop soon after their colors develop, over a period of one to three months as they grow into adult frogs.



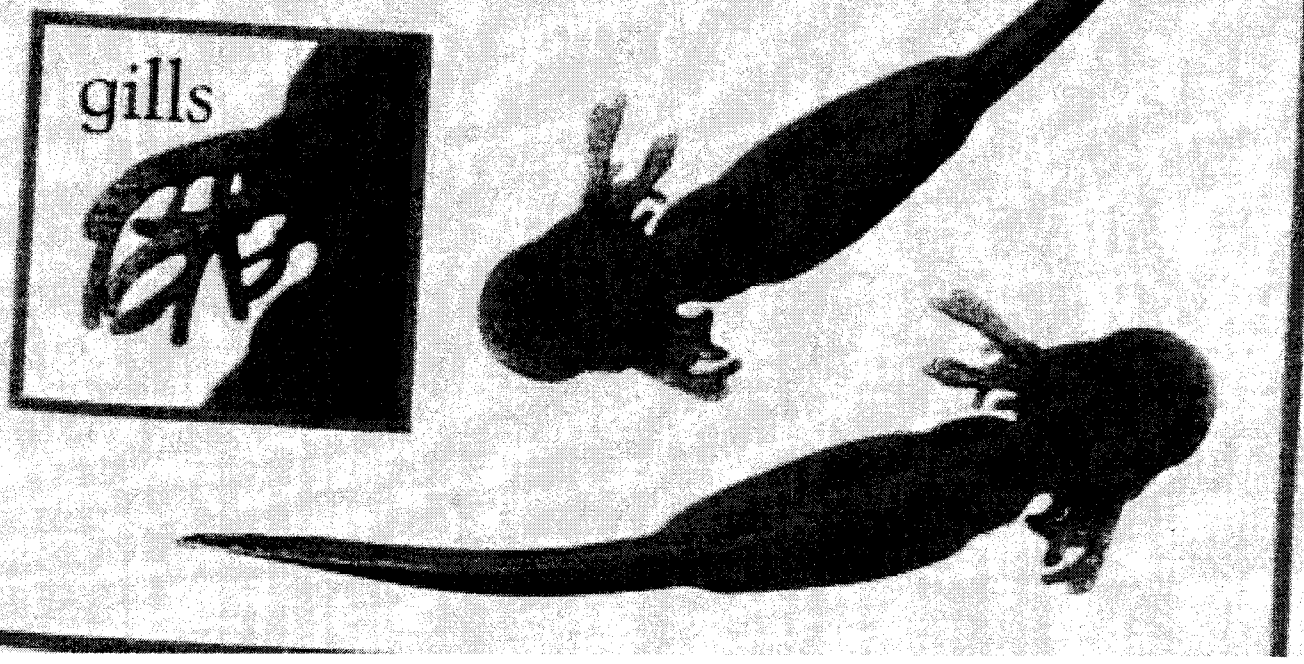
Yellow two-striped Surinam poison dart frog
Dendrobates trivittatus

Inside the jelly
the eggs grow into tadpoles.
They wriggle like worms.

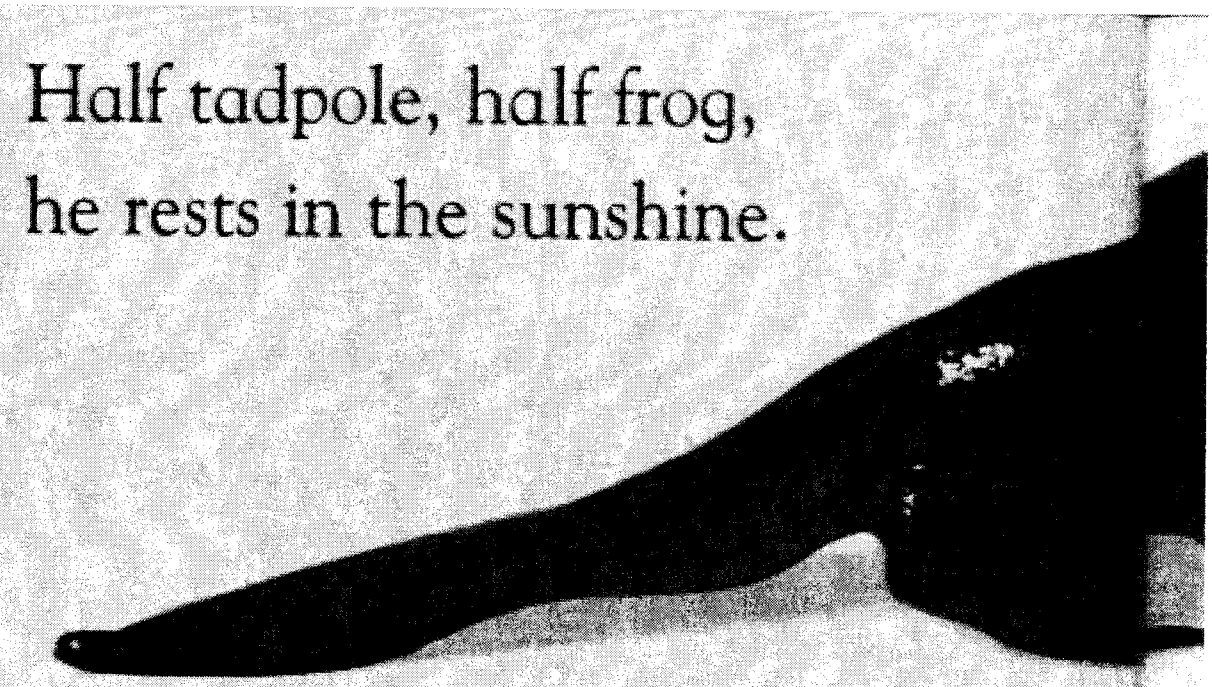
They push through the jelly
and swim in the water.



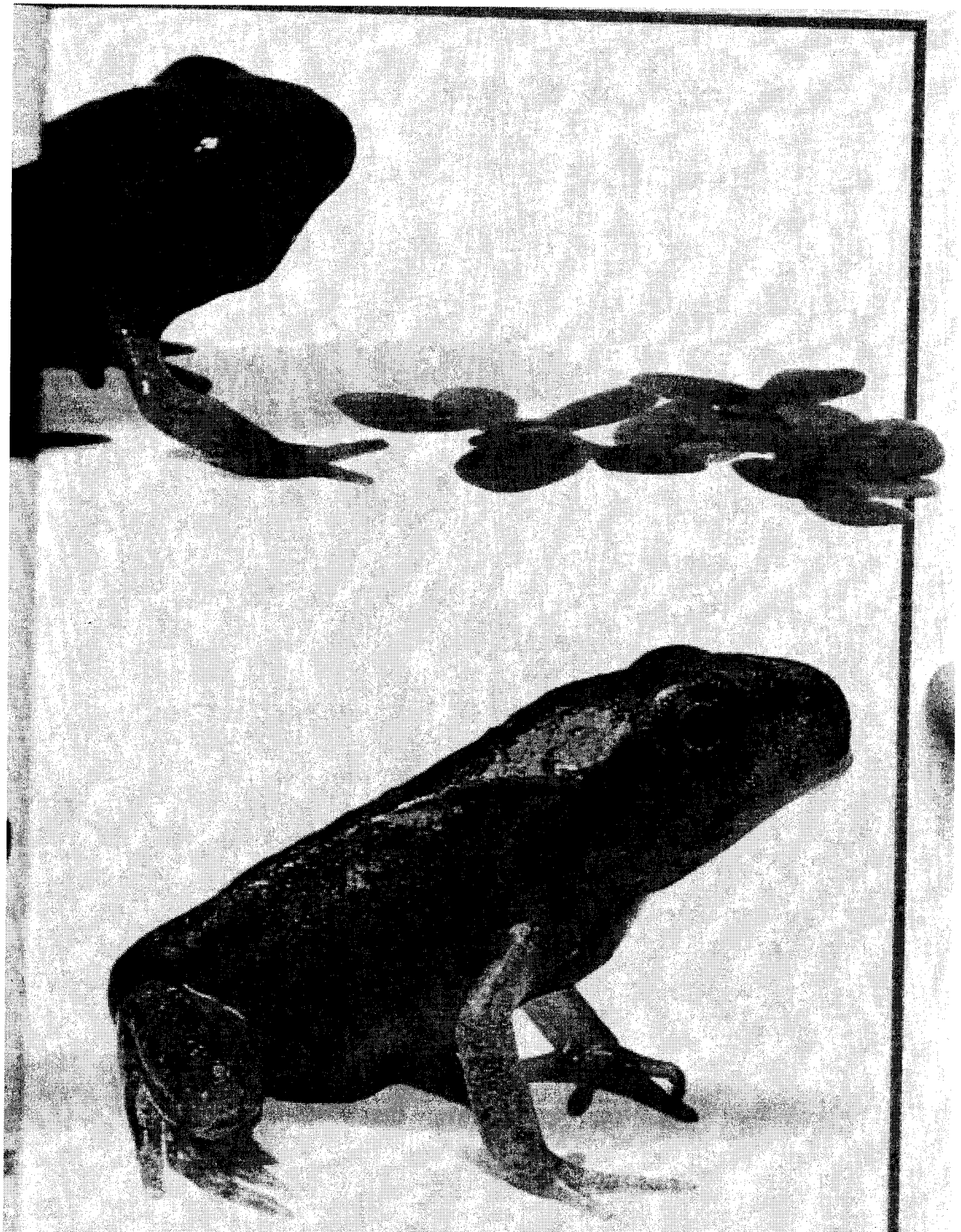
They breathe through gills,
just like fishes.



Half tadpole, half frog,
he rests in the sunshine.



His tail is shrinking.



It gets smaller and smaller.

Treefrogs can quickly change the tone of their skin from light to dark. Warmth and light backgrounds can make them turn light. Cold and dark backgrounds can make them turn dark.

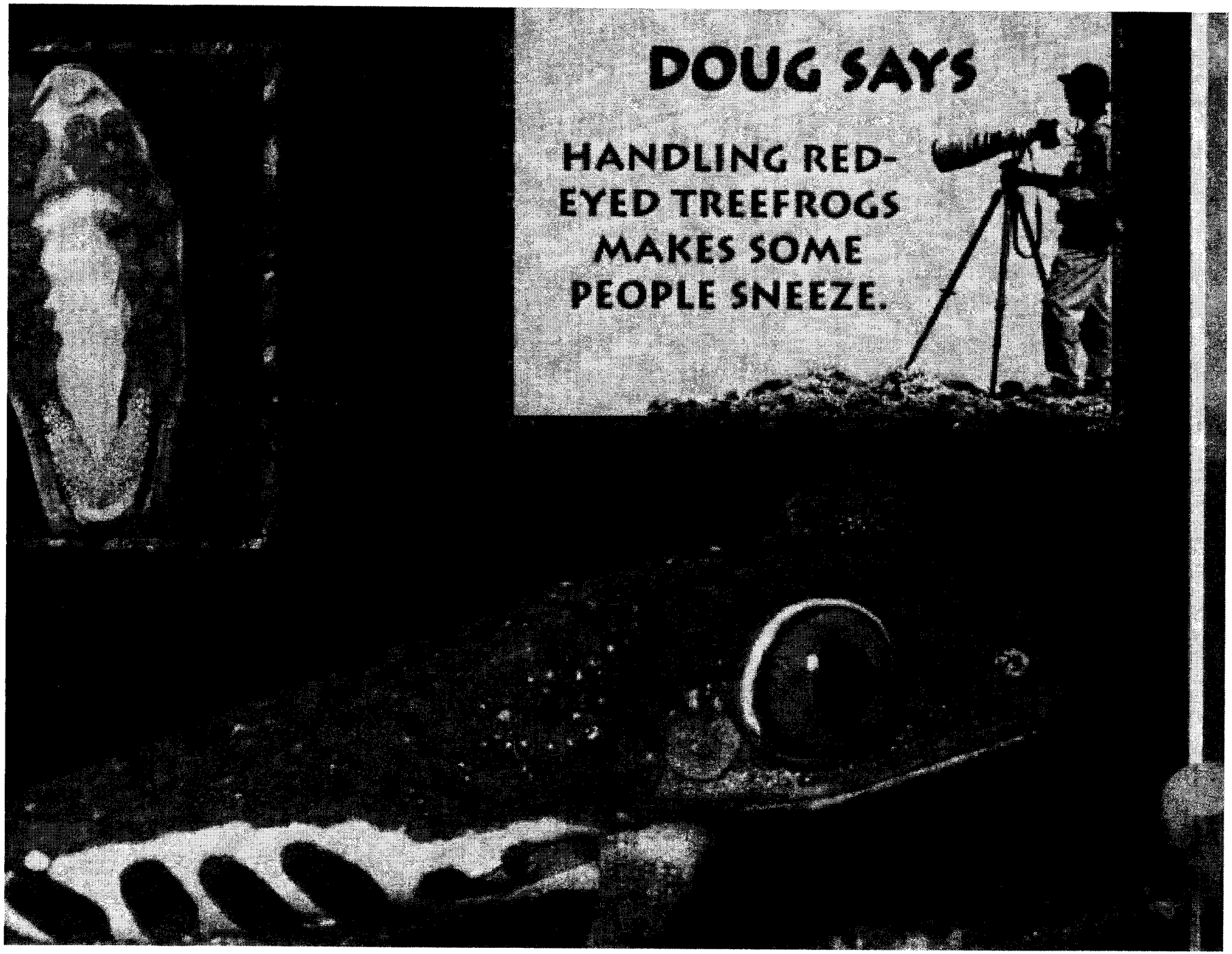
A few treefrogs can change colors. Gray treefrogs can turn from gray to green to blend in with leaves. The lemur treefrog can turn from a reddish color to green. Barking treefrogs can change from plain, bright green to green with dark spots.

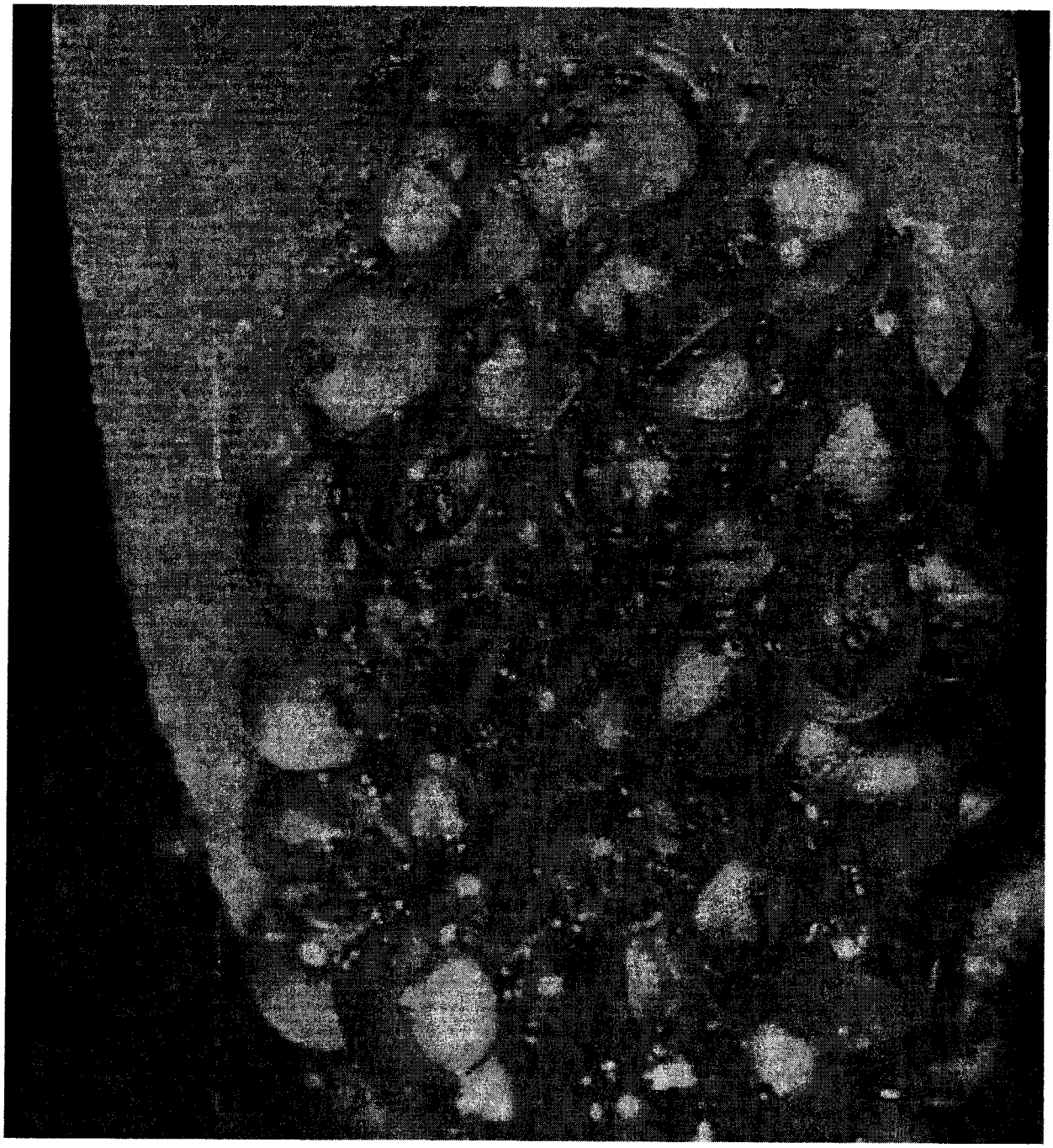
Most treefrogs are colored for **camouflage**. Their patterns and colors help them blend in with **lichens**, stones, leaves, or bark. The camouflage keeps them safe from birds and other **predators** that hunt by sight.

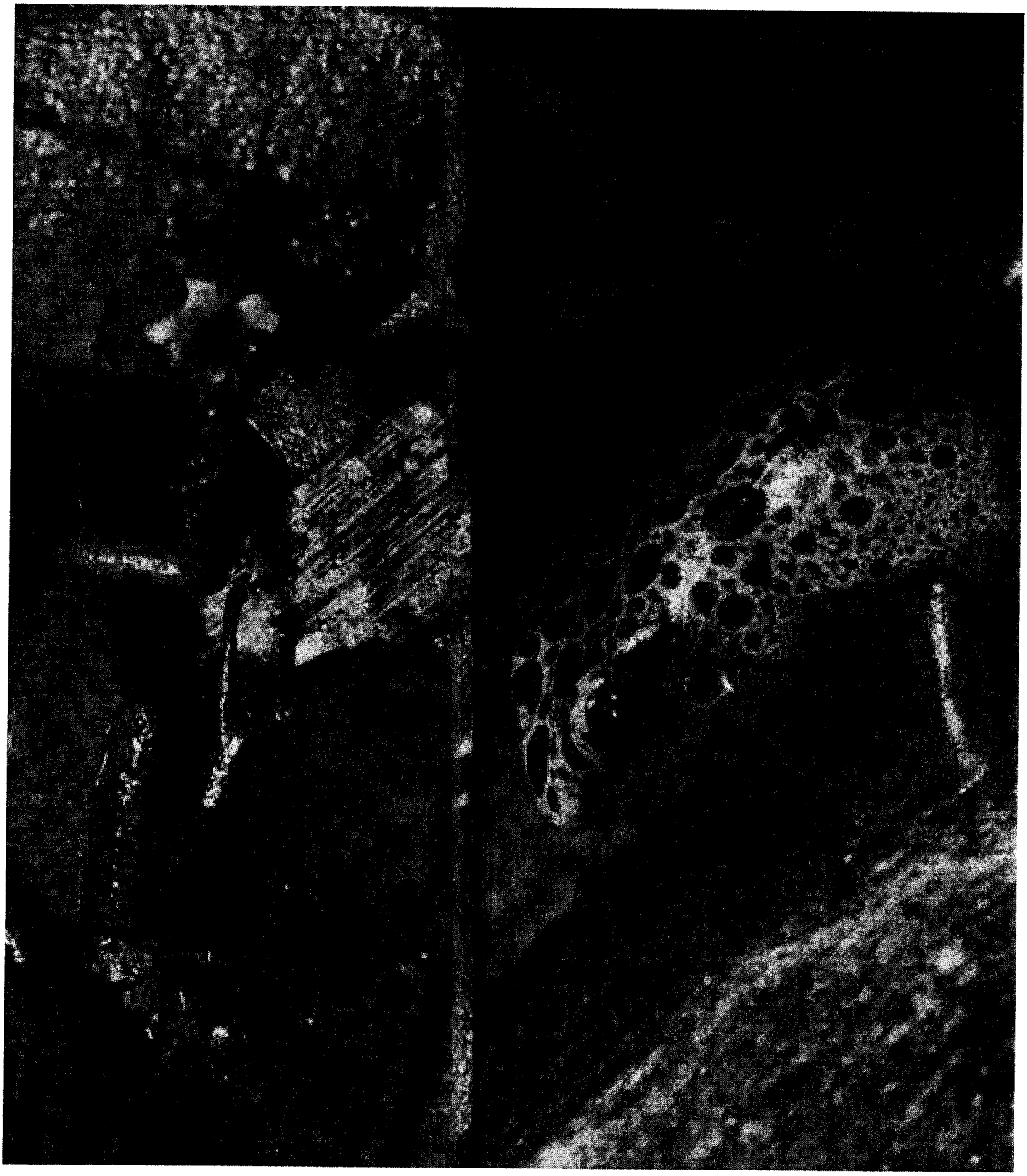
Tiny frogs eat tiny **prey**. Ants are just the right size for
ison dart frogs. Poison dart frogs eat more ants than
y other food. Ants provide more than a good meal for
se little frogs. The poisonous chemicals on the frogs'
n come from the ants. Other tiny animals are part of th
ison dart frogs' diet. Mites, which are tiny relatives of
ders, are the second most important food. After that
me beetles and springtails. Springtails are tiny jumping
ects that live among the dead leaves on the ground.
Most frogs sit in a good spot and wait for a meal to
me by. Poison dart frogs are always on the move.
hen they see a tiny insect, they lean toward it. They
k their sticky tongues out and pull it into their mouths.

What put the tree into treefrog? Toe pads did. Toe pads allow treefrogs to climb. Toe pads are large, rounded tips on the treefrog's toes. The pads make it possible for treefrogs to cling to branches, leaves, or even glass. When a treefrog jumps onto a leaf, the toe pads keep the treefrog from falling off.

Toe pads are moist. The moisture allows them to cling to smooth surfaces. The moisture on toe pads is not sticky like glue. It is mostly water. Water can hold things together on its own. To see how this works, cut two small squares from a plastic bag. Place one on top of the other with a drop of water in between. The water makes them stick together.


DOUG SAYS
HANDLING RED-EYED TREEFROGS MAKES SOME PEOPLE SNEEZE.





Annotated Bibliography

Bishop, N. (2008). *Frogs*. New York: Scholastic Inc.

Taking a close look at frogs from all over this world, this book is best used when the reader wants to take an up close look at different frogs. Each page is full of informational details about frogs in general and is accompanied by a full page up close photo of a different frog. Children of all ages enjoy this book due to the interesting facts it displays and the unique and detailed of different frogs.

Deiters, E., & Deiters, J. (2001). *Tree Frogs*. Austin: Steadwell Books.

This is a small, highly informative children's book about the different types of tree frogs found in the rainforests of the world. The photographs in this book are exceptional and give a true and accurate portrayal of tree frogs in their natural habitat. This book is enjoyed by children of all ages and is full of interesting facts on the characteristics, habitats, eating habits, and homes of rainforest tree frogs.

Dewey, J. O. (1998). *Poison Dart Frogs*. Honesdale, PA: Boyds Mills Press.

Unlike many informative books on frogs this book displays facts and features of poison dart frogs through written word and illustrations. The illustrations are detailed accounts of the different places poison dart frogs live and grow and give a detailed account of the different stages of a frog's life.

Markle, S. (2006). *Slippery, Slimy Baby Frogs*. New York: Walker & Company.

Looking at the title of this book it is clear that this book is solely about frogs in their earlier stages of life and the different forms they are in such as tadpoles. Using intense photographs to help illustrate the facts this book supplies information about where eggs are laid and what they need to survive. It also goes into the care of baby frogs, or tadpoles, and the roles of the parents in "raising" frogs.

Patent, D. H. (1997). *Flashy, Fantastic, Rainforest Frogs*. New York: Walker & Company.

When read to a child, or class of children, this book is an excellent introduction to the wonderful world of rainforest frogs. By using detailed illustrations of the different types and features of rainforest frogs, this book is full of interesting facts and tidbits about the tiny, croaking, amphibians of the rainforest.

Wallace, K. (1998). *Tale of a Tadpole*. New York: DK Publishing, INC.

This book is a small story book that follows the life of a typical frog. By using real photographs that capture the evolution of a frog from egg, to tadpole, to frog, this book

supplies interesting facts, and informs students of the life cycle of frogs.

Wechsler, D. (2002). *Poison Dart Frogs*. New York: The Rosen Publishing Group's PowerKids Press.

This is an exceptional book that illustrates and discusses the unique facts and features of poison dart frogs as they are found in the rainforest. This book is full of amazing photographs that truly capture the brilliant colors and features of poison dart frogs. Each page is also full of information and facts on the life, uses, homes, and characteristics of poison dart frogs.

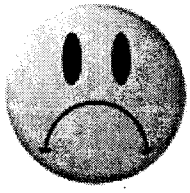
Wechsler, D. (2002). *Tree Frogs*. New York: The Rosen Publishing Group's PowerKids Press.

This book captures rainforest tree frogs in still photographs that display the intricate patterns and features found on tree frogs all over the world. It is an up to date and informational children's book that uniquely displays facts on the frogs while accompanied by beautiful photographs.

Lesson Plans and Blank Rubric

Life-Cycle of Frogs





Student Participation:			
How well student worked in group setting:			
How well student worked in individual setting			
Student worksheet:			

This is an example of a blank none.

LESSON PLAN

Name: Lauren Griswold Date: April 14, 2009 Grade Level: 1

Subject: Science Topic Frog Life Cycle

Purpose: The purpose of this lesson is to teach students the life cycle of a frog from when it is born in an egg, to when it turns into a tadpole and eventually when it becomes a frog.

Curriculum Standard:

LS1– All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).

S:LS1:2:3.2 Recognize that living things have a life cycle, during which they are born, grow, and die.

Burton, R. S. (2006). *New Hampshire Curriculum Frameworks*. Retrieved May 2, 2009, http://www.ed.state.nh.us/EDUCATION/doe/organization/curriculum/CurriculumFrameworks/documents/ScienceFramework.

Objective(s): Given pictures and diagrams of frogs, students will learn the life cycle of a frog and will demonstrate this by illustrating the three different stages of a frog's life.

Materials Needed for Learning Experience:

Teacher: Different pictures/ books on the life cycle of frogs
Examples of size as to how large/ small a frog is at any given stage of life.
Worksheets
Markers

Student: Pencil
Crayons

Anticipated Length of Learning Experience: 40-45 minutes

Student Grouping: This lesson will first be taught as a whole group when the students are originally learning about the different stages of life. Then they will work individually to fill in the worksheet that illustrates the different stages in the frog's life.

Prerequisite Knowledge:

Teacher: In order to teach this lesson the teacher needs to have a full and in-depth understanding of the different stages of a frog's life. They also need to have specific knowledge of different frog's and how these life cycles apply to each. Specific knowledge of an individual frog found in the rainforest would also be valuable and helpful in introducing rainforest frogs to the students.

Student: The students should know what a frog is and what it looks like. They should know that frogs are not like dogs, or other mammals, and that therefore they are born differently.

Procedure:

1. **Introduction:**

1.Remind children of lesson expectations before proceeding, i.e. one person talks at a time, raise their hand, sit on their bottoms, etc.
2. Be enthusiastic and motivational to gain interest.
3. Ask children to tell you some words that they think describes frogs the best.
4. Inform the class that they will be learning about frogs because they are an amphibian that lives in the rainforest. Specifically tell them that they will be learning about the lifecycle of a frog and that it is very different from our lifecycles.
5. Make connection to the water cycle that they just learned about in weather.

2. Body of Learning Experience:

1. Make a KWL Chart with students about what they know about frogs, what they want to know about frogs, and what they want to learn about frogs.
2. Show pictures of what frogs look like when they are full grown because that is how we normally see them.
3. Ask students how they think frogs look when they are little
4. Show pictures of tadpoles and explain that after being born from an egg, frogs are tadpoles and live underwater.
5. Work backwards (frog, tadpole, egg)
6. Be enthusiastic/ ask questions to check for understanding throughout the lesson.
7. Show students picture of lifecycle in chart form.
8. Use different objects to show students the size of the frog at the different stages of its life.
9. Show students the worksheet they will be illustrating and inform them that they will be illustrating the different stages of a frogs life in each of the three boxes.
10. Call students up by table to get the worksheets and inform them they are to work quietly and at their seats.

3. Conclusion:

1. Summarize what students have learned
2. Check for understanding
3. Make connections to previous learning and upcoming lessons
4. Reteach/enrich/review as needed
5. Include students in clean up when appropriate
6. Link to next lesson/activity

Assessment:

1. Formative: While teaching this lesson I will take note of which students are answering my questions and how correct they are. I will be paying attention to how well students are listening by how they are sitting and acting during the lesson. I will also take note of which students are answering my questions and contributing to the creation of the KWL.

2. Summative: I will use the worksheet as a main feature in assessing how well the students understood the concept of the lesson and how well they took in the information during the lesson. I will wander around the room and answer any questions the students might have while they work on their illustrations and will also take note of who is working diligently and who is trying to waste time because they do not know what to do.

Child Guidance:

Proactive Considerations:	Reactive Considerations:
Before beginning the lesson I will go over what we will be doing in the lesson and the expectations I have for what I think the children will be able to do. In order to prevent behavioral issues I will keep certain students away from each other as I see fit and will send students to their seats until they can behave. The group questions I will ask and the examples I will ask of the students will hopefully keep the students positive about the lesson and engaged so they stay focused throughout the lesson. I will ask students for their ideas on how to show the data and will reinforce the idea that there are no wrong or stupid answers.	If students misbehave I will split them up if it is because of whom they are sitting next to and if it continues, I will send the student to their seat until they can act appropriately. If students have difficulty attending I will redirect their attention by asking them a question about what we are doing and by reinforcing the fact that everyone needs to be sitting and paying attention. If students are confused about directions or what they are supposed to be doing I will answer their questions and re-explain what they are supposed to be doing until they fully understand the expectations.

Differentiation: I know that some of my students have trouble with language and may have difficulty following the new vocabulary. For these students I think having the pictures of each specific step will help them to follow along with the lesson because they have a picture they can visually match with the new words they are learning. I will make sure at the beginning of the lesson that the students who cannot sit near each other because they cannot cooperate when next to each other, are not close on the carpet so that there is less chance of a disturbance. For other behavior issues I will inform students at the beginning of the lesson that if I have to talk to them they will be sent to their seats and if I have to talk to them three times in one lesson, I will take away five minutes of recess. This lesson honors the multiple intelligences because it focuses on visual learning with by showing the chart and the different pictures. It honors auditory learning when we discuss as a class the different facts and features of the frogs and their lifecycles. Lastly it honors hands-on learning when the students illustrate their own stages of the frogs life.

Needs for Lesson Participation:	**Modification Required:**

to each other, are not close on the carpet so that there is less chance of a disturbance. For other behavior issues I will inform students at the beginning of the lesson that if I have to talk to them they will be sent to their seats and if I have to talk to them three times in one lesson, I will take away five minutes of recess. This lesson honors the multiple intelligences because it focuses on visual learning with by showing the different pictures. It honors auditory learning when we discuss as a class the different facts and features of the rainforest frogs. Lastly it honors hands-on learning when the students color in their own frogs that will go in the bromeliad plants.

Needs for Lesson Participation:	**Modification Required:**
Some students may have some issues with the language and some of the new terms introduced. Others may find how all the data is related confusing. Discussing the different ways of collecting and showing data may need some encouragement and help on my part so students do not get confused with what I want from them when working on their charts. I am going to have to be very clear with the directions I give on what I want the students to do throughout the lesson so that there is no confusion.	I will have to be very clear in my instructions and expectations so that there is no confusion and if there is I will be patient with students and explain it in a different way so that students understand it and are not confused. I will move students around when on the carpet and in their seats if I feel that they would benefit from the switch. I will also make sure that the charts and any other prop I will be using are clearly visible to all the students and will make adjustments as I see necessary. I will put simple directions on the top of the worksheet and leave the examples up on the white board so that if the students have any questions they can reread the directions themselves or look up the board for examples before coming to the teacher.

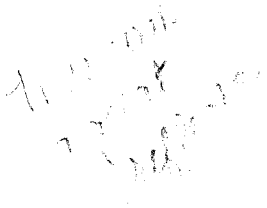
Reflection:

After discussing with my cooperating teacher that the next unit the students would be working on was the rainforest, we decided together that I should teach the students about frogs, and especially those found in the rainforest. I wanted this first lesson to be especially interesting to the students since it was their first introduction to the unit so I chose to use a variety of techniques to keep their attentions. I was observed for this lesson, and I began the lesson by telling the students that I expected them to be sitting on their bottoms for the duration of the lesson and that they needed to be respectful, safe, and kind to myself and the other students in the class. Once I explained the behavior expectations I had for the class and the day's lesson, I informed the students that they would be learning about frogs and the life cycle of a frog. I placed a KWL chart on the board and we filled it out as a class. The students were well behaved and raised their hand appropriately to fill in each section of the chart. After we completed the chart we read through each column out loud as a class. I had the students sitting in a circle on their bottoms throughout the lesson and I had brought with me seven books that were full of photographs of the different stages of a frog's life cycle. I began explaining the different stages of a frog's life cycle and used the pictures from the book, which I had previously marked the night before, to help illustrate what I was saying to the students. I informed the students of different facts about specific frogs and made a strong point to focus on rainforest frogs and their specific life cycle stages. After discussing as a class the different features and facts on the life cycle, I informed the students that they would be working back at their seats to fill out a worksheet by illustrating the different stages of a typical frog's life. I showed the class the worksheet and explained the directions while all

the students were still on the carpet. The students had to label the stages themselves, so I wrote them up on the board so the students could copy them and spell them correctly. I called the students up by table to get their worksheets and sent them back to their seats to begin.

Now that I have taught this lesson and had a chance to reflect on it alone, with my cooperating teacher and with my advisor I feel that overall the lesson was a success and I feel that as a whole the lesson went well. The students really enjoyed the topic and the fact that I used numerous books to show them the pictures rather than just one helped to keep their interest and therefore they were attentive and there was little fooling around. I had to only send one student back to their seat, but I feel that I should have sent them to their seat earlier in the lesson instead of letting their behavior go on as long as I did. When the class did start to get talkative or a little restless I would stop talking and wait or tell the students to get back to where we were. I liked how in the beginning of the lesson I allowed time for the students to share stories with one another about experiences they had had with frogs because I think this helped them to and allowed them to be able to focus on the lesson better. Another feature I think went well was that I only showed the students the pictures from the book and told them the information and facts about the life of the frog rather than read to them from a book. One area I did not think went well was when I was filling out the KWL chart with the students. I got the columns mixed up and accidentally had the students fill out the last column before the lesson when it should have been filled out after. I will also be more careful when shuffling through the worksheets because I accidentally cut myself at the beginning of the lesson and had to teach with a tissue around my hand so I did not get blood on everything.

If I were teach this lesson again I think that I would keep most of it the same. I liked how I used the numerous books to show the pictures instead of just read the facts a loud to the students. This was beneficial to the flow of the lesson and helped me keep the students attention. I also liked how I focused primarily on rainforest frogs because it made a nice tie into the unit the class was starting. One thing that I would change would be to use each column of the KWL chart like it is meant to be used and to fill out each area appropriately. I think that when I did this wrong it confused the students slightly and made the lesson a little more complex. Overall however I feel that this lesson went well and that the students learned a lot from it.



LESSON PLAN

Name: Lauren Griswold Date: April 15, 2009 Grade Level: 1

Subject : Science Topic: Rainforest Frogs

Purpose: The purpose of this lesson is to inform students of the different physical characteristics of rainforest frogs, especially poison dart frogs and tree frogs.

Curriculum Standard:

LS1– All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
S:LS1:2:1.1 Differentiate between living and nonliving things; and categorize objects in each group using the significant observable characteristics they share, such as color, shape and size.

Burton, R. S. (2006). *New Hampshire Curriculum Frameworks*. Retrieved May 2, 2009, http://www.ed.state.nh.us/EDUCATION/doe/organization/curriculum/CurriculumFrameworks/documents/ScienceFramework.

Objective(s): Given numerous books on rainforest frogs and information on rainforest frogs through class discussion, students will color in pictures of frogs that mimic the physical characteristics of the rainforest frogs discussed in class.

Materials Needed for Learning Experience:

Teacher: Frog books
Worksheets
Markers
Pencil

Student: Pencil
Crayons
Markers
Colored Pencils

Anticipated Length of Learning Experience: 40-45 minutes

Student Grouping: For the initial discussion of the lesson, the class will be kept whole and then students will work individually on their worksheets.

Prerequisite Knowledge:

Teacher: In order to teach this lesson the teacher needs to have sufficient knowledge of the various types of rainforest frogs, especially poison dart frogs and tree frogs. They need to know what the differences in their skin mean and why they look the way they look and the point of the different features of their bodies, i.e. camouflage, poisonous, etc.

Student: To get the most out of this lesson the students need to have general background information on frogs in general. They need to know where frogs are found, what they eat, how they grow, and that there are thousands of different species.

Procedure:

1. Introduction:

1.Remind children of lesson expectations before proceeding, i.e. one person talks at a time, raise their hand, sit on their bottoms, etc.
2. Be enthusiastic and motivational to gain interest.
3. Ask children to tell you some words that they think describes frogs the best and their characteristics.
4. Review the information that the students learned yesterday about the life cycle of a frog and about the general information they learned in the previous lesson.
5. Inform the students that they will be learning about specific rainforest frogs to prepare them for their upcoming trip to the rainforest.
6. Explain that the frogs they will be learning about are the poison dart frogs and the tree frogs.

2. Body of Learning Experience:

1. Begin the lesson by showing the students numerous pictures of different tree frogs and poison dart frogs.
2. Ask students to describe what they saw, take notes of what they say on the board.
3. Take out the book *Flashy Fantastic Rainforest Frogs* and inform the students that you will be reading it to them.
4. Remind students of how you expect them to sit and act during the book and to silently make mental notes of the different characteristics they see on the frogs in the book.
5. Read book, be enthusiastic, change your voice
6. Make sure to give students ample time to look at the pictures.
7. Ask students to raise their hands and tell you some of the things they noticed in the book.
8. Begin speaking about the different characteristics of tree frogs and poison dart frogs.
9. Use books to help show what you are saying about their skin patterns and horns.
10. Explain why the frogs have horns, or bright colors
11. Give specific details about each frog that is unique to that frog alone.
12. Show students the worksheets they will be working on call up students by table to get the sheet.

3. Conclusion:

1. Summarize what students have learned
2. Check for understanding
3. Make connections to previous learning and upcoming lessons
4. Reteach/enrich/review as needed
5. Include students in clean up when appropriate
6. Link to next lesson/activity

Assessment: How will you know how to adjust your teaching to meet the immediate needs of the students? How will you know the lesson's objectives have been met? How will the student know a skill or concept has been learned or knowledge gained?

1. **Formative:** While teaching this lesson I will take note of which students are answering my questions and how correct they are. I will be paying attention to how well students are listening by how they are sitting and acting during the lesson. I will also take note of which students are answering my questions and contributing to the note taking on the different characteristics of rainforest frogs.

2. **Summative:** I will use the worksheet as a main feature in assessing how well the students understood the concept of the lesson and how well they took in the information during the lesson. I will wander around the room and answer any questions the students might have while they work on their illustrations and will also take note of who is working diligently and who is trying to waste time because they do not know what to do.

Child Guidance:

Proactive Considerations:	Reactive Considerations:
Before beginning the lesson I will go over what we will be doing in the lesson and the expectations I have for what I think the children will be able to do.	If students misbehave I will split them up if it is because of whom they are sitting next to and if it continues, I will send the student to their seat until they can act appropriately.
In order to prevent behavioral issues I will keep certain students away from each other as I see fit and will send students to their seats until they can behave.	If students have difficulty attending I will redirect their attention by asking them a question about what we are doing and by reinforcing the fact that everyone needs to be sitting and paying attention.
The group questions I will ask and the examples I will ask of the students will hopefully keep the students positive about the lesson and engaged so they stay focused throughout the lesson.	If students are confused about directions or what they are supposed to be doing I will answer their questions and re-explain what they are supposed to be doing until they fully understand the expectations.
I will ask students for their ideas on how to show the data and will reinforce the idea that there are no wrong or stupid answers.	

Differentiation: I know that some of my students have trouble with language and may have difficulty following the new vocabulary. For these students I think having the pictures of each specific step will help them to follow along with the lesson because they have a picture they can visually match with the new words they are learning. I will make sure at the beginning of the lesson that the student's who cannot sit near each other because they cannot cooperate when next

Some students may have some issues with the language and some of the new terms introduced. Others may find how all the data is related confusing. Discussing the different ways of collecting and showing data may need some encouragement and help on my part so students do not get confused with what I want from them when working on their charts. I am going to have to be very clear with the directions I give on what I want the students to do throughout the lesson so that there is no confusion.	I will have to be very clear in my instructions and expectations so that there is no confusion and if there is I will be patient with students and explain it in a different way so that students understand it and are not confused. I will move students around when on the carpet and in their seats if I feel that they would benefit from the switch. I will also make sure that the charts and any other prop I will be using are clearly visible to all the students and will make adjustments as I see necessary. I will put simple directions on the top of the worksheet and leave the examples up on the white board so that if the students have any questions they can reread the directions themselves or look up the board for examples before coming to the teacher.

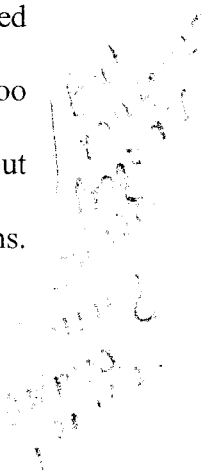
Reflection:

For my second lesson on my mini science unit, I decided to again teach about rainforest frogs. Rather than focus on their life cycles however I chose to focus solely on poison dart frogs and tree frogs, two species that are especially known for living in the rainforest. My cooperating teacher informed me that as part of the unit she creates a canopy level of the rainforest in the classroom and that as a part of it the students always color in rainforest frogs. When I found this out I knew that I wanted to teach about the specific characteristics of these two species so that the students could create life like frogs to add to the canopy. To begin the lesson I reviewed with the class what we had learned the previous day about the life cycle of frogs and that today we would be learning specifically about poison dart frogs and tree frogs, two species found in the rainforest. I read the class the book *Flashy, Fantastic Rain Forest Frogs* to introduce them the different features and characteristics of rainforest frogs. The students listened well to this and paid attention when I began to discuss with them more specific features of the rainforest frogs. After talking as a class and reviewing the different characteristics of the frogs I informed the students that they would be coloring in their own frogs to add to the canopy. I showed the students the frogs they would be coloring and explained the directions before calling the students up by table and having them start.

I feel that this lesson was again an overall success. The students remained attentive and focused throughout the lesson and seemed genuinely interested in the subject matter. I liked how I read the story to the class first because it was a good introduction as to what they would be learning for the rest of the lesson. I also liked how I used the books I had used in the previous lesson to show the students more pictures of

the specific frogs. The class responded well to this and it seemed to help them remain focused longer. I also liked how I allowed the students to take the books back to their seats with them and use them to help color in their pictures. I felt that the lesson was getting a little long however and that I should have cut it a little shorter since the students seemed to lose focus by the end and were getting antsy.

If I were to teach this lesson again I would definitely read the book to the students before starting the actual lesson because I felt that it was a good introduction to the lesson. I would also have the students color in the frogs but the frogs they colored belonged to another project so they were small and a little hard for the students to get too detailed with. If I were to do this again I would have the students color in the pictures but I would make them larger so the students could get more detailed with their illustrations. Overall I feel that this lesson went well and that the students learned a lot from it.



Student Work Samples + Completed Rubrics + Interview

Student Interview

Before:

What do you know about the rainforest?
Student: "I think it's like the jungle and they have lots of animals and it think it must rain their a lot."

What do you know about frogs?
Student: "I got to hold one once and it was really slimy and gross. Then it jumped out of my hands and it started to hop away but my dad caught it."

Can you tell me what we call frogs when they are first born?
Student: "Umm, I think they are called baby frogs or something like a tadpole."

How do you like to learn about science? Do you like to read about it, see pictures about it, or do experiment?
Student: "I like to look at pictures and I like to read. I'm a good reader."

After:

What was your favorite part about learning about frogs?
Student: "I liked when we learned about tadpoles and drew the pictures about baby frogs. I named mine Adam and my tadpole had lots of friends."

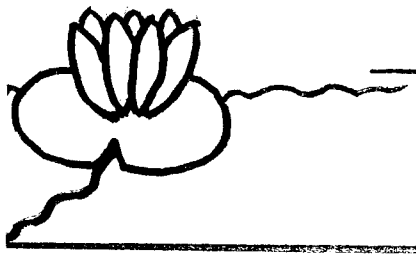
Was this easy for you to learn, or did you have trouble following the lessons?
Student: "I thought it was easy and now I know everything about frogs."

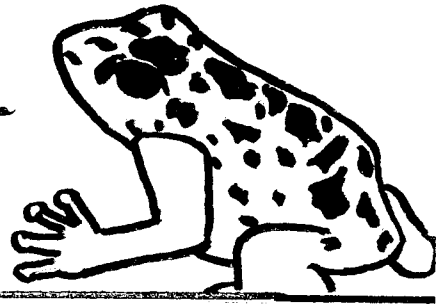
What do you think would have made learning about frogs even better?
Student: "We should have played leap frog! And watched a movie about frogs or something. I like movies."

Did you learn a lot from this lesson?
Student: "Yea, I learned all about poison dart frogs and at recess I am going to be a blue frog and (students name) is going to be a red-eyed tree frog!"

Name: _____ Date: _____

Frog Lifecycle





Stage 1:	Stage 2:	Stage 3:

This is an example of what the blank worksheet looked like for the students.

Name _____ Date: 4-14-01

- This student is in the lower intermediate level in class.
- I know that this student drew many eggs in the egg section, before coloring the entire piece in black.
- One of the only students to remember that some eggs are born on the underside of lily pads (student explained their illustration to me)
- Student has some behavior issues and had to be sent back to their seat.

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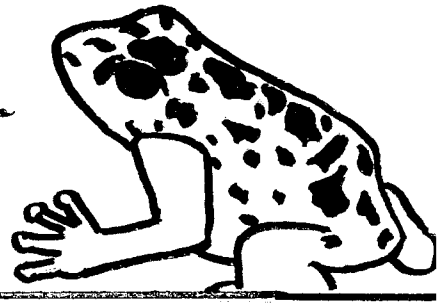
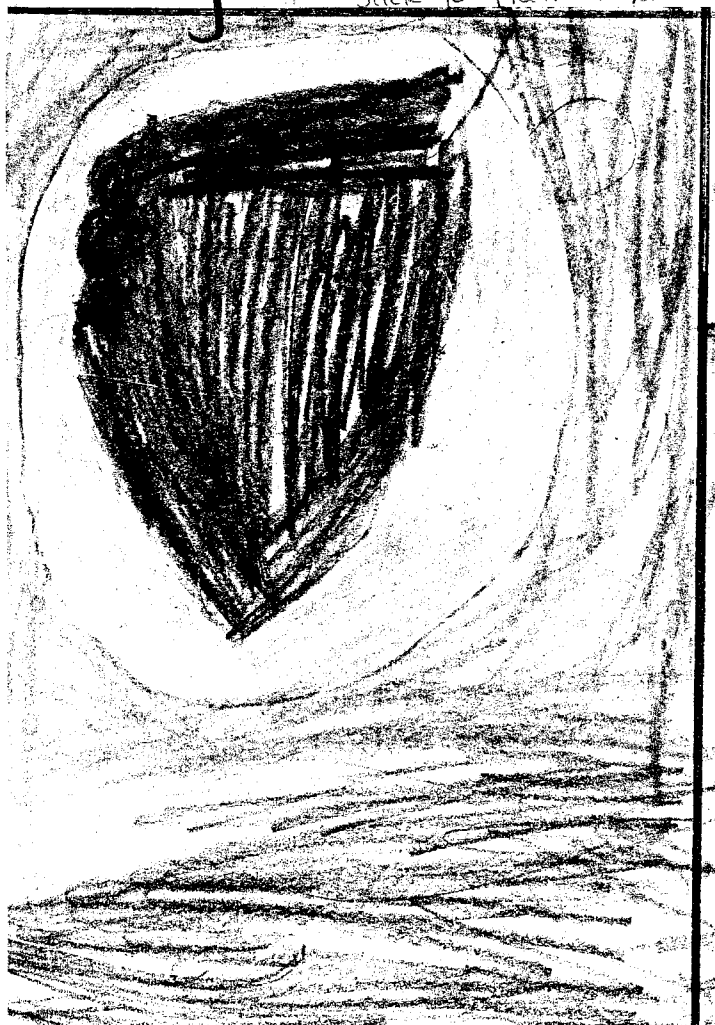
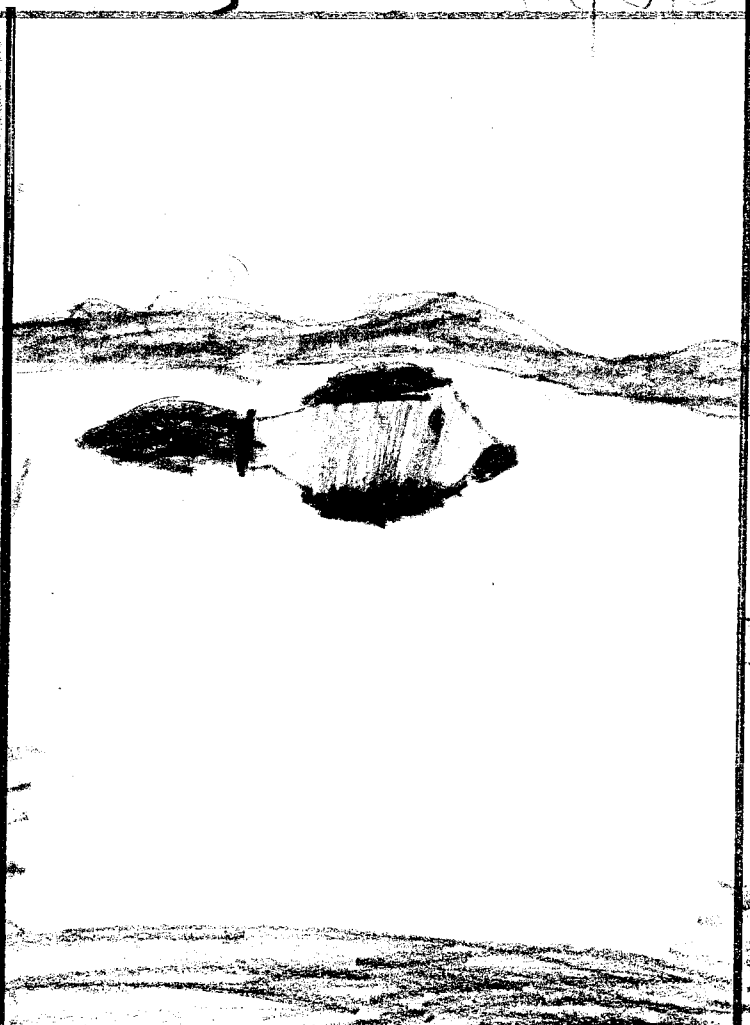
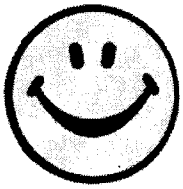


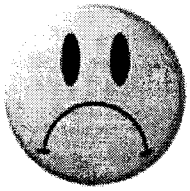
Stage 1 | Stage 2: tadpole | Stage 3: frog





Life-Cycle of Frogs





Student Participation:			✓ Student talked during lesson but did not contribute to the lesson or answer questions
How well student worked in group setting:			✓ Student had to be sent back to their seat because they were being disruptive and bothering other students.
How well student worked in individual setting		✓ Student worked well but not overly efficiently Had to be redirected numerous times	
Student worksheet:	✓ Student understood lesson and drew appropriate pictures		

Name _____

- This is a bright, outspoken student who contributed often during the classroom discussion.
- He/she worked quietly and efficiently at their seats.
- Illustrations are detailed and accurate.
- Student took his/her time completing worksheet and enjoyed lessons.
- some letters are written backwards in labeling.

Date: 1-14-04

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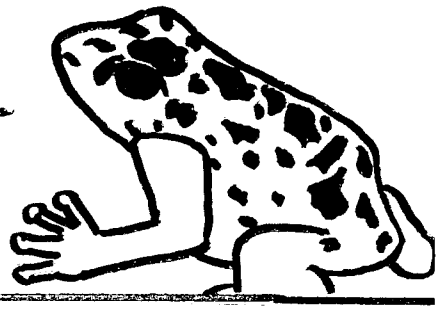
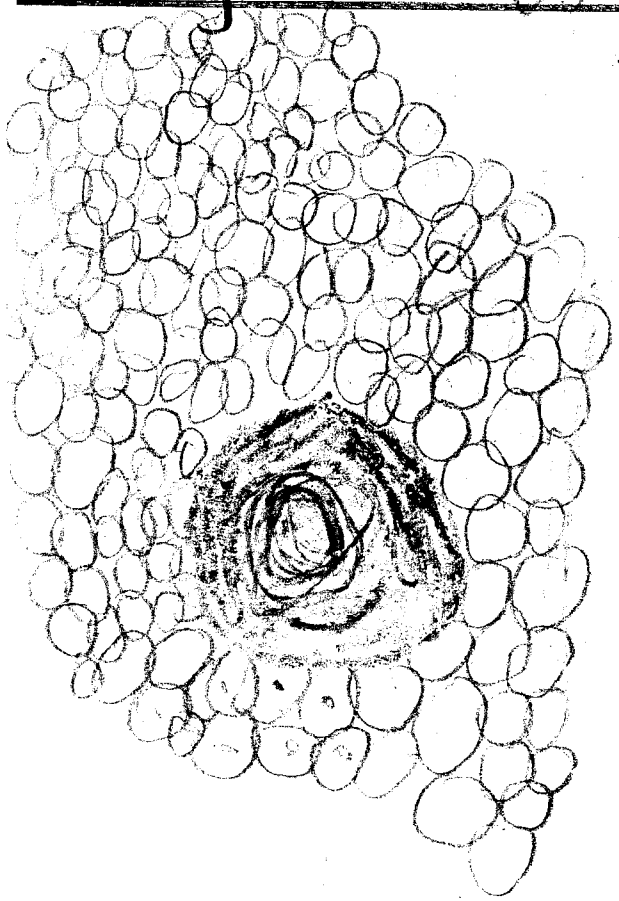
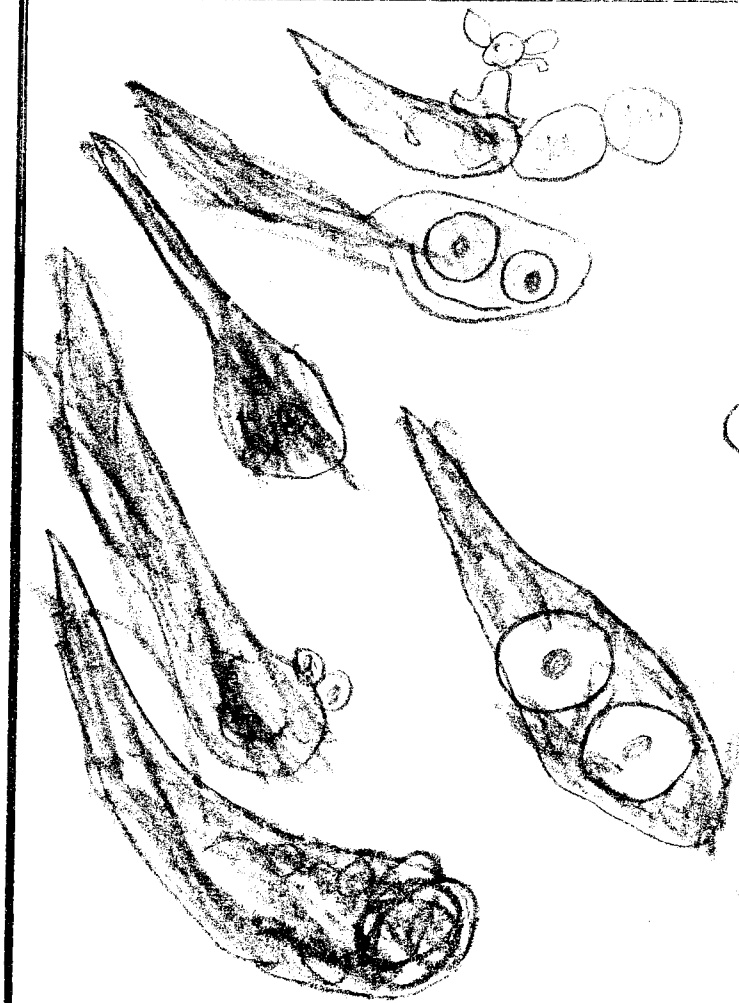


Stage 1:

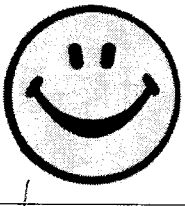


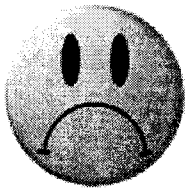
Stage 2: Puddle



Stage 3: Frog

Life-Cycle of Frogs





Student Participation:	✓ Student raised hand and answered questions correctly		
How well student worked in group setting:	✓ Student paid attention and kept his/her hands to themselves.		
How well student worked in individual setting	✓ Student worked efficiently and did not need guidance.		
Student worksheet:	✓ Excellent and accurate pictures.		

Name _____ Date: 4-14-16

- Student has numerous behavior issues and does not work well with others.
- This student is very artistic and creative which shows in the colors he/she chose to color the frog.
- He/She displayed accurate illustrations that demonstrate their understanding of the different life stages.
- Student writes and draws very neatly.

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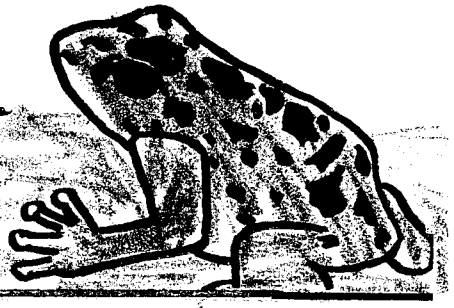
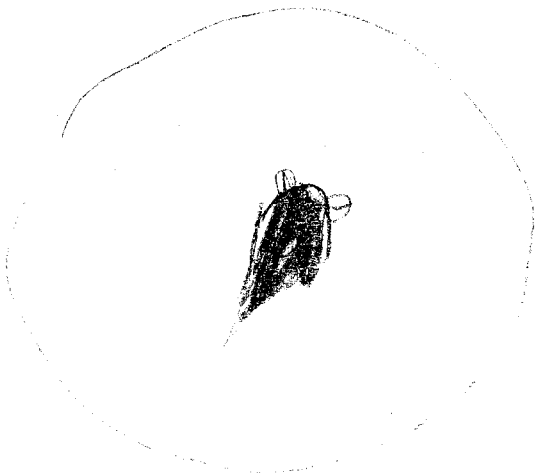
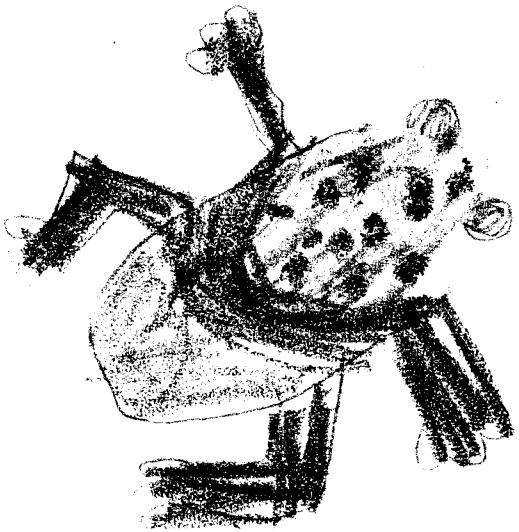


Stage

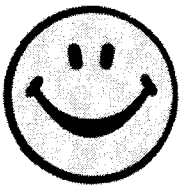
ıge 2: Tadpole

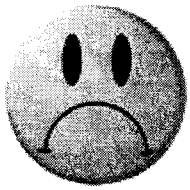
Stage 3: Frog





Life-Cycle of Frogs





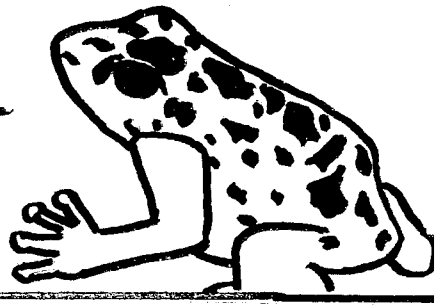
Student Participation:		✓ Student volunteered one time, answer was incorrect	
How well student worked in group setting:		✓ Not as disruptive as usual but student still had some issues involving personal space.	
How well student worked in individual setting	✓ Student worked quietly and efficiently		
Student worksheet:	✓ Student understood lesson and drew accurate pictures.		

Name:

- This student is very bright and often times quiet.
- I was impressed by how much he/she volunteered and added correct input during the class discussion.
- Student paid close attention during class discussion because he/she was the only one to draw the eggs in the bromilead plant.
- Nice illustrations and coloring
- Correct spelling for labeling each of the stages.

Date:

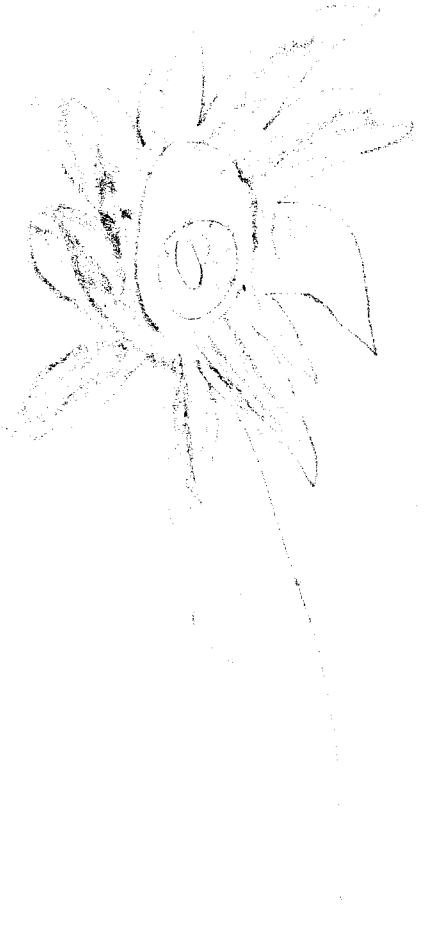
ecycle

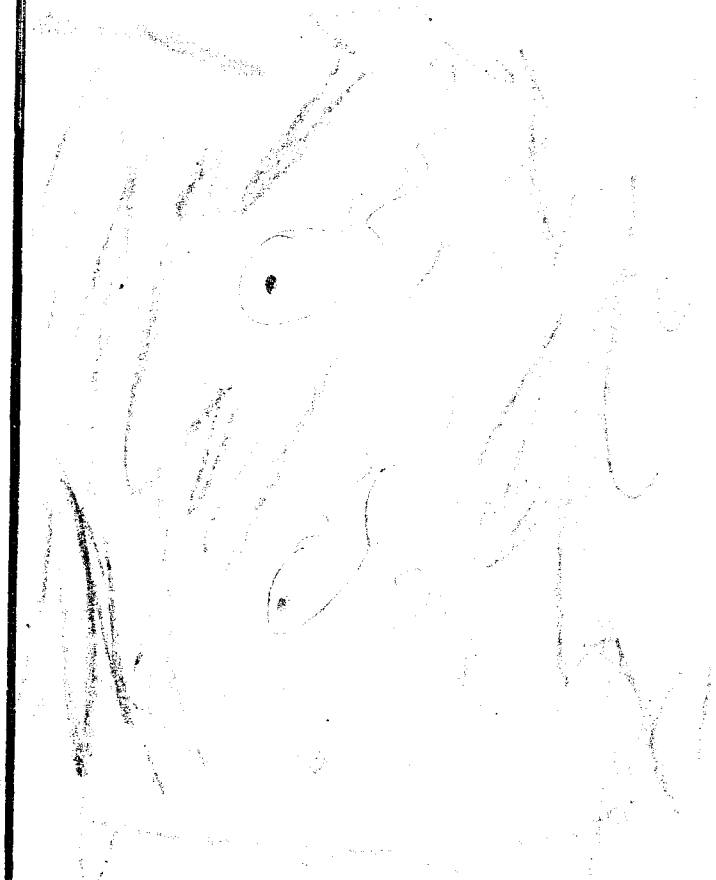


Stage 1

Stage 2:

Stage 3:

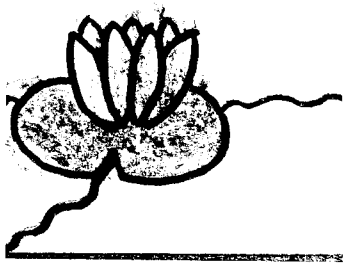




Name:

-This student has many behavior issues that affect how well he/she performs.
-This student tends to rush through their work which is evident by the way the student colored in their illustration.
-In the future if the student rushed through their work I would have them write out a sentence describing their illustration.

Date:



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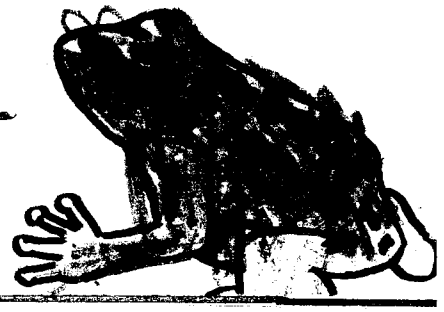

Stage 1

je 2: tadp

Stage 3: frog

Final Reflection

Final Reflection

After teaching this mini-unit on frogs and specifically rainforest frogs, I have learned a lot about teaching science and have grown more as a teacher. I found that the students really seem to enjoy the sciences and learn a lot from certain lessons when they are interested in the topic.

If I were to teach this unit again I would continue to use the variety of books to show the pictures instead of simply read the information to the students. In the future I might write down some of the more important facts so that the students have a reference to look for when they are doing work on the subject later on. With the first worksheet I did I think that I would have the students write a sentence to describe their illustrations since sometimes it is hard to tell what the pictures are supposed to be about. Another area that I would change would be to teach the KWL chart appropriately and to not mix up the columns. It did not affect or disrupt the flow of the lesson too much but I feel that not having this slight misunderstanding would make the lesson go even better.

After teaching this unit on science I have a new found appreciation for it. It is a generally fun topic to teach and the students truly benefit from it. I learned that when the students enjoy what they are learning about they are much more apt to pay attention to the lesson and focus on what

they are being taught. I also feel that it is imperative to a successful lesson that the students have a chance to be creative in their work because this gives them a sense of security and allows them to be more free with their thinking and confident in their learning abilities.

I feel that I followed these project guidelines well and that they really helped me plan and prepare to teach science for the first time. The lesson plans that we had to teach were beneficial in that they helped prepare me for each specific lesson that I was teaching and allowed me to organize my thoughts. I also liked doing the research for the project because learning so much about the frogs made it easier for me to teach the students about the subject and made me more confident in how I approached the lessons and the class while teaching the lesson.

[redacted]

EDUC 322 - Science Project Rubric

	Needs Improvement	Slightly Below Expectation	Meets or Exceeds Expectations
STEP I. PLANNING AND PREPARATION **A. Select the topic.** **Points earned:** ____	More than one part missing or not covered fully: explanation of topic including review of meeting with cooperating teacher and alignment with state standards, general description of project includes content and organization, description of how it fits with science program. **0-6 points**	Some required parts may be brief or missing: explanation of topic including review of meeting with cooperating teacher and alignment with state standards, general description of project includes content and organization, description of how it fits with science program. **7-9 points**	Thorough explanation of topic including review of meeting with cooperating teacher and alignment with state standards. General description of project includes content and organization. Description of how it fits with science program. **10-11 points** (11)
B. Research the topic. **Points Earned:** ___	Summary shows minimal new learning. Content is lacking in depth. **0-6 points**	Summary articulates some new understandings. Content not as in depth or may not include material above and below grade level. **7-9 points**	Summary articulates new understandings in depth. Content contains material above and below grade level researched. Research paper shows thorough knowledge of subject. **10-11 points** (6)
C. Annotated References **Points Earned:** ___	References are minimal and are not completed in correct APA style. Did not use all the required resources. **0-6 points**	Used fewer than: 3 teacher resources (not from the Internet), 1 children's book, and/or 3 web sites. Web sites have little connection to project development. References may have errors in APA or in annotations. **7-9 points**	Used: 3 teacher resources (not from the Internet), 1 children's book, and 3 web sites. Evidence that web sites contribute to project development. References completed in correct APA style with annotations. No web sites **10-11 points** (9)
D. Developing lesson plans. **Points earned:** ____	Some components of the Lesson Plan format missing and little detail included. Scientific method of inquiry is weak. May not include good reflection. **0-6 points**	Most components of the Lesson Plan format addressed, using a scientific method of inquiry. Includes reflection. **7-9 points**	All components of the Lesson Plan format addressed using a scientific method of inquiry. Includes thoughtful reflection. **10-12 points** 11
STEP II. INSTRUCTION **A. Micro-teach your lesson to your peers.**	Micro-taught a lesson to peers. Summary is lacking in depth and does not show evidence of reflection. May not have included peer feedback forms. **0-6 points**	Micro-taught a lesson to peers. Wrote a brief summary of this experience, may not have included adjustments made based on peer feedback. Included peer feedback forms. **7-9 points**	Micro-taught a lesson to peers. Wrote a thoughtful, in- depth summary of this experience, including adjustments made based on peer feedback. Included peer feedback forms. **10-11 points** (11)

No speech summary/outline. Some excellent photos but no citations listed.

Points Earned: _____			
B. Teach your lessons and collect work samples. **Points earned: ____**	Student met minimal requirements for teaching lessons and little, if any, evidence of students' emerging scientific literacy. Fewer than 3 work samples collected and comments about student's work product attached to sample with sticky note. Rubric not applied to all three samples. **0-6 points**	Some of the requirements for teaching lessons and some evidence of students' emerging scientific literacy met. Fewer than 3 work samples collected and/or comments about student's work product attached to sample with sticky note are missing. Rubric may not be applied to all three samples to determine students' learning. **7-9 points**	Required lessons taught, with evidence of students' emerging scientific literacy. Three or more work samples collected. Comments about students' work product attached to sample with sticky note. Rubric applied to all three samples to determine students' learning. **10-11 points** 11
C. Rubric **Points earned: ____**	Rubric developed is not appropriate to age group and does not match lesson objectives. Provides a poor assessment of students' learning. No evidence of before/after interview w/one student to assess learning. **0-6 points**	Rubric developed may not be appropriate to age group and/or match lesson objectives. Provides a fair assessment of students' learning. Before/after interview w/one student to assess learning is minimal. **7-9 points**	Rubric developed is appropriate to age group and matches lesson objectives. Provides a good assessment of students' learning. A before/after interview w/one student to assess learning. 10 **10-11 points**
STEP III. PROFESSIONAL CONSIDERATIONS **A. Presentation and self-assessment rubric completed.** **Points earned: _____**	Did not meet project expectations and requirements. Project needed editorial work. Poorly organized. Scoring rubric not completed. **0-6 points**	Met most project expectations and requirements. Several editorial issues. May not be well organized. Self-scoring rubric may not be completed. **7-9 points**	Met and/or exceeded project expectations and requirements. Few editorial errors. Well organized with table of contents and tabs. Self-scoring rubric completed. **10-11 points** 11
B. Final Reflection **Points earned: _____**	Discussion of the value of the Science Project experience is minimal and does not include comments on the effect of the lessons on student and/or candidate growth. **0-6 points**	Includes analysis of effectiveness of the development and teaching of the lessons in light of student learning. Analysis of candidate's own growth as a science educator examined. **7-9 points**	Includes in depth analysis of the development and teaching of the science lessons in light of student learning. Reflection of candidate's own growth as a science educator fully explored. **10-11 points** 10

Points earned: 90 /100 ____/20 **Grade =** AB