	Snakes	Me
How Many Legs Do I Have?		
How Do I Hear?		
How Do I Taste Food?		

Help the students fill in the chart with words appropriate for their grade level.

Give each child a copy of the African rock python drawing and have them color it in. The drawing can be found at the Enchanted Learning Web site: http://www.enchantedlearning.com/subjects/reptiles/snakes/Pythonprintout.shtml.

Introductory Activities
Snakes

1. Show the class a picture of a snake. Ask the class what they know about snakes. Record their responses on the board.

2. Tell the class that they're going to learn more about snakes. Ask the class if they know how snakes smell and hear. snakes use their tongues to smell and their whole body to hear through vibrations. Ask the class the following questions:

- What does the snake use its tongue for?
- What does the snake use its whole body for?
- How do you (the students) hear?
- How do you know if food is in the area?
- Do you think that the way snakes do these things is different?
- Compare yourselves to snakes.

4. Cue the NATURE episode THE REPTILES: SNAKES to about six and a half minutes from the beginning (the end of the segment that shows the evolutionary tree of reptiles). (This video is offered free by PBS-search for Nature video The Reptiles: Snakes)

5. Ask the class if they know how a snake moves. Then, resume the video, playing the segment that shows the several ways in which snakes move. (06.53- 07.05) Pause the video after the first example of movement, "serpentine." Ask a student to demonstrate a snake in "serpentine" motion. Resume the video and pause it again after the snake moving in a "forward and back

motion" is shown. (07.05 - 07.26) Pause the video after this example of movement. Ask someone to demonstrate a snake in "forward and back" motion. Resume the video and pause it again after the snake moving in "sidewinder manner" is shown. (07.39 - 07.49) Pause the video after this example of movement. Ask someone to demonstrate a snake in "sidewinder" motion. Resume the video and pause it again after the snake "climbing a tree" is shown. (07.59 - 08.04) Pause the video after this example of movement. Ask someone to demonstrate a snake "being stiff between two branches." Resume the video and pause it again after the "swimming in the water" is shown.

6. Review with the class the different methods of snake movement. Ask several students to try each movement again. Have each child decide which method of movement he/she likes best, and then have all of the students move in their favorite ways at the same time.

The chart should look like this:

	Snakes	Me
How Many Legs Do I Have?		
How Do I Hear?		
How Do I Taste Food?		

. Revisit the initial list of the things the students knew about snakes and ask them to add to that list new things they now know.

Part II: Turtles

(one class period)

1. Show the class a picture of a turtle. Ask the class what they know about turtles. Record their responses on the board.

2. Tell the class that they're going to learn more about turtles. Cue the NATURE episode THE REPTILES: TURTLES to the place near the very beginning where the word Reptiles is on the screen. Pause the video at this point (about twenty seconds into the video).

3. Tell the class that they're going to see different kinds of turtles. Ask them how many different ways they see that turtles can move. Play the video with the sound off because the narration will be too difficult for them to understand. Play the video until the narrator says, "They and these shorter necked turtles are known as terrapins." (00.22 - 01.41) (Note: Familiarize yourself with the video before class. This will help you recognize the pause points noted since you'll be showing the video to the class without the sound.) Pause the video at this point.

4. Ask the class how many different ways the turtles moved. Ask one student to demonstrate a turtle walking on land. Ask another student to demonstrate a turtle swimming in water.

5. Ask the students how many legs a turtle has. Ask the class if they think the turtle moves better in water or on land.

6. Ask the class how many legs each of them has. Ask them if they move better on land or in the water. Ask them who would win if they had a race with a turtle on land. Ask them who would win if they had a race with a turtle in water.

7. Ask the class if they know what turtles eat. Resume the video and play it without the sound until the words THE REPTILES: TURTLES appear on the screen. (01.41 - 02.41) Pause the video at this point. (Note: There is a scene in this portion of the video where a fish is eaten by a turtle. You may want to prepare the class for this prior to showing it.)

8. Ask the class how many different things they saw turtles eating. Tell the class that some turtles eat plants while other turtles eat meat.

9. Ask the class if they eat plants, meat, or both.

10. Ask the class if they've noticed the shell on the back of the turtles they've seen. Ask them if they know what it is for.

11. Fast forward the video to the place where Galapagos tortoises are shown and where the narrator has said that the shell of the tortoise weighs over 130 kilos and is over 3 cm thick. Pause the video at this point. (10.05)

12. Tell the class that they're going to see how a turtle protects itself from a raccoon. Play the video until the elephant has kicked over the turtle in its shell. Ask the class what turtles use their shells for. (10.20 - 11.44)

13. Have the following chart prepared as a flip chart or on the board.

	Turtles	Me
How Many Legs Do I Have?		
What Do I Eat?		
How Do I Hide?		

14. Help the class fill in the chart with language appropriate to their abilities.

15. Give each child a copy of the painted turtle drawing, and have them color it in. You can find the drawing at the Enchanted Learning Web site: http://www.enchantedlearning.com/subjects/turtle/Paintedturtle.shtml.

16. Revisit the initial list of the things the students knew about turtles and ask them to add to that list new things they now know.

Part III: How Do We Compare?

(Four to five class periods)

1. Tell the class that they've done a fine job learning the basics about snakes and turtles. Tell them that now they'll be learning about some specific reptiles. They'll be writing and producing a "show" later on. Their "show" will introduce their reptile to the rest of the class.

2. Review with the class what they've learned about snakes and turtles. How many legs does each have? Ask them to cite other differences between these two groups of animals.

3. Have the following chart prepared as a flip chart or on the board.

	Snakes	Turtles
How Many Legs Do I Have?		
What Do I Eat?		
Where Do I Live?		
How Do I Reproduce?		

4. Help the class fill in the above comparison chart using the charts they previously filled out about snakes and turtles. Tell the class that they'll be doing some research to find out some of the missing information.

5. Tell the class that snakes and turtles belong to a group of animals called reptiles. Other members of this group include lizards, alligators, and crocodiles. Tell the class that all of these types of animals have some things in common and they will be discovering some of the

similarities in their research.

6. Have the following Web site bookmarked for the class:

http://www.yahooligans.com/content/animals/reptiles/

This link will take you to a page titled "Reptiles" and has a list of many specific kinds of reptiles.

7. Tell the class that half of them will become "snake experts" while the other half of the class will become "turtle experts." (Note: You know your class best. Divide them into teams that you know will work.)

8. Assign or have each student select one specific snake or turtle from their list. Give each person a Reptile Information Sheet to fill out. Tell the class that each person is responsible for finding out the information called for on their sheet for their specific animal.

If your class has access to the Internet at home, this assignment could be done as homework. If your class does not have Internet access at home, then form small groups to research specific reptiles. You should allot 3 to 4 class periods for this section if the research is to be done in school.

9. Once each person has filled out their Reptile Information Sheet, form groups of three or four students from each team. Have them share what they found out about their specific reptile with each other. Have each group fill out the Same and Different organizer.

10. Tell the class that they should put one fact in each box of the organizer. Tell them that they do not have to fill in every box. Circulate around the room and make suggestions if groups experience difficulty. After about 15 minutes, tell the groups to stop.

11. If your class is small enough, have all "snake" groups get together and compile one list of similarities and differences. Have the "turtle" groups do the same. If your class is too large for this to be done effectively, then this part of the lesson should be done as a whole-class activity.

12. Bring the class back together and have both groups share what they've found out.

13. Have the following chart prepared on a flip chart or on the board.

Snake Similarities	Turtle Similarities

Add more boxes to the chart as needed.

14. Help the class summarize their findings on the above chart.

Part IV: Reptile Characteristics

(four to five class periods)

1. Tell the class that they've become experts on two types of reptiles, turtles and snakes. Remind them that they've found similarities among all snakes and similarities among all turtles. Ask the class to recall what the similarities are.

2. Ask the class if they've discovered any similarities between snakes and turtles. These similarities may not be obvious, so if the class struggles to see any, tell them that they'll be doing some more research to find what those similarities are.

3. Divide the class into their "snake" and "turtle" groups again. Refer them to this Web site once more: http://www.yahooligans.com/content/animals/reptiles/.

4. The opening paragraph on this link gives them information about reptile characteristics. There are three characteristics named: cold blooded, dry and scaly skin, and laying eggs or giving birth live. Give the Reptile Word Search to each student and tell them to find the ten words or phrases that relate to reptiles.

5. Ask the class if they know what the term "cold blooded" means. Refer a student volunteer to the following Web site: http://sirtf.caltech.edu/Education/Zoo/coldwarm.html and have him/her report back with what she/he found.

6. Have the following chart prepared on a flip chart or the board:

Reptile Characteristics

Type of Skin	
Type of Blood	
Method of Birth	
Other Characteristics	

Help the class complete the chart.

7. Ask the class if they think they are reptiles. Ask them to explain why.

8. Tell the class that they belong to a group of animals called mammals. Ask them what they know about mammals and list their responses on the board.

9. Prepare the following chart on a flip chart or board:

Reptile vs. Mammal Characteristics

	Reptiles	Mammals
Type of Skin		
Type of Blood		
Method of Birth		
Other Characteristics		

10. Refer a volunteer student to this Web site:
http://www.yahooligans.com/content/animals/mammals/.

Ask the student to report what she/he found out about mammals. Record that information in the chart above.

Learning Activities:

The Reptile Experience

1. Remind the class about the clips of NATURE they saw in previous activities. Ask them what they know about the show, whether they've seen other episodes, and what they've seen in them. Students may try to imitate the narrators' style of speaking. This is exactly what you want. Tell the class that they will be performing their own episode of NATURE. The only difference is that they'll be doing it live!

2. Refer the class back to the research they did on their specific snake or turtle. Review with them the specific names and characteristics they discovered. Tell the students that they'll be

presenting what they've learned to the class as a narrator for NATURE.

3. Refer the class to the Reptile Information Sheet. Tell the students that the information they must convey in their final project is the information from this organizer. They must present the information in a way that mimics a typical narrator from NATURE. Some of them have wonderful accents that the students can try to copy. Encourage students to have fun with this so as to make them more comfortable with presenting to their classmates.

4. When they come to the section of the organizer that says "Draw a Small Picture of Me," tell the class that each person will have to make a small model of their animal. The animal must resemble an actual specimen, must be the correct color(s), and must have the correct design on its skin or shell.

5. When they come to the section of the organizer that says "What is my habitat?" tell the class that they must create a model of that habitat and place their animal in it. Shoe boxes or other small boxes make good diorama displays, but you might consider using the bottom third of a brown paper grocery bag as well.

6. Tell the class that they'll need to write scripts for their "show." Tell them that a presentation should be between five and ten minutes long. (Note: This time frame is only a suggestion. You should determine the appropriate length for your own students' presentations.) Give the class no more than three class periods to write their scripts. They should build their diorama and model animal at home. Tell the class that you must approve their script before they proceed with learning their lines.

7. On presentation day, each child in turn will present their animal in their best imitation of NATURE. Extra points may be awarded for arriving in costume or for doing a particularly good job of mimicking the style of narration.

(Note: Some children are hesitant to get up and perform in front of the class. For some students, seeing and hearing an exaggerated personality such as the Crocodile Hunter, a performer on Animal Planet network, may make them less reluctant to perform. You may want to show a short video clip of the Crocodile Hunter to familiarize the students with his accent and vocal inflections. The Crocodile Hunter can be found at http://animal.discovery.com/fansites/crochunter/crochunter.html.)

Culminating Activity/Assessment:

Because this lesson is designed for a wide range of grade levels, consider the following suggested forms of assessment, organized in grade bands.

Grades 1 and 2:

Since the goals of the first two parts of the lesson are for the children to know the characteristics of snakes and turtles, assessment should be centered on those themes. Literature may be a good tool to find out if the students have learned the characteristics. There are many excellent books

and stories that have snakes and turtles as protagonists.

These include:

- For snakes, VERDI by Jannell Cannon, SNAKES ARE NOTHING TO SNEEZE AT by Gabrielle Charbonnet, and CRICTOR by Tomi Ungerer.
- For turtles, THE DANCING TURTLE, a folktale from Brazil by Pleasant DeSpain; BOX TURTLE AT SILVER POND by Susan Korman; BOX TURTLE AT LONG POND by William T. George.

Choose one story for snakes and another for reptiles. Read the story aloud to the class, asking leading questions about the characteristics mentioned in the story. For example: What do you think the snake is using its tongue for? How do you suppose the turtle heard that? How is that snake moving? As a final assessment, you may have the class write a story together about a snake and a turtle.

You may want to have individual students with greater abilities do some independent work. For example, some students could be encouraged to write a story at home with their parent(s). The child could dictate the story while the parent writes what the child says. The child could then illustrate the story. Individual stories could be compiled in a class book about snakes and turtles.

Grades 3 and 4:

Because students of this age are better readers and writers, variations on the Grade 1 and 2 assessment above could be employed. Instead of reading the story aloud to the class, have individual students read stories on their own and ask them to answer such questions as, "What characteristics did the snake (or turtle) in the story have?" "Did the author of the story say anything about snakes (or turtles) that wasn't correct?" "Could you change the story so that the main character was the other reptile we studied? If the main character was a snake, could you write the story so that the main character was a turtle?"

If both a first grade class and a fourth grade class were studying reptiles at the same time, having the older children helping the younger children learn about reptiles would be an effective strategy for both classes to learn about these animals. The fourth graders could be assessed based on the "lesson plans" they developed.

Extension Activities

1. Plan a visit to a local zoo or nature center that has a reptile house. Students could be asked to answer specific questions about the reptiles they're seeing. Many zoos and nature centers have such question sheets available to teachers.

2. Some zoos and nature centers have outreach programs that bring live reptiles to the classroom. This is always a hit with the students, and the naturalists have expert information to share.

Cross-Curricular Extensions

1. Students could write a more extensive NATURE episode involving larger scenery, and costumes of snakes and/or turtles.

2. Students could write and illustrate a book about snakes and turtles.

3. Students could make a hallway, gymnasium, or other large space into a Reptile House where the models they've built and surroundings they've made could be supplemented with signage describing their creatures.