Natural History Museum and Planetarium

The Great Fossil Find

Georgia College
Georgia's Public Liberal Arts University

The Great Fossil Find

GPS

Kindergarden: SKCS1
1st Grade: S1CS1
2nd Grade: S2CS1
3rd Grade: S3CS1, S3E2
4th Grade: S4CS1, ELA4SLV1
5th Grade: S5CS1, ELA5SLV1
6th Grade: S6CS1, ELA6SLV1
7th Grade: S7CS1, ELA7SLV1

Objective: Students will connect with the exhibits in the Natural History Museum and Planetarium by completing a fictional paleontological dig and study. This activity may be done in the classroom with the provided materials or use the fossils in the Natural History Museum as comparative material.

This activity was originally designed by Steve Randak and Michael Kimmel . When using cite and for more information go to: http://www.indiana.edu/~ensiweb/lessons/gr.fs.fd.html.

Pre-visit activities: Students will better understand and learn from this activity by being exposed to the following topics *before* their trip to the Natural History Museum and Planetarium.

- fossils, geologic time scale, skeletons, paleontologist

Post-visit activities: Students will more likely connect and retain information from the resources in the Natural History Museum and Planetarium by doing post-visit activities that requires use of the information to complete certain tasks. These tasks may include:

- Have groups of students compare their findings. Discuss points made at the website about what 'science' is exactly.
- Have students complete the two page worksheet at the end of this file and discuss their answers to the questions.
- As part of the lesson complete the Poster instructions located at: http://www.indiana.edu/~ensiweb/lessons/gff.post.pdf.

Notes: The animal in the skeleton manual that most closely resembles the fossil is the pterosaur. There is a pterosaur fossil in the Natural History Museum in the "Age of Reptiles" exhibit.

The Great Fossil Find

In this activity, you and your partner will play the roles of **paleontologists** working in the field in Montana, near the town of Ekalaka. One clear crisp afternoon in October, you find four well preserved and complete fossils.

Open envelope 1 and remove 4 fossils.

Day 1: That night in camp, after dinner, around a Coleman lantern, you and your colleagues begin to assemble the 4 bones you found earlier. Since the bones were all found together in an undisturbed layer, you assume that they are all from the same animal. You spend the rest of the evening trying different arrangements of the bones in hopes of identifying the animal before you get tired.

Take 5 minutes to assemble the bones and make notes in your data chart. What kind of animal do you think this is?

Day 2: You wake up to a beautiful Montana morning and you hurry back out to the dig site. The rock layers that hold your fossils are very hard and only give up three more specimens. As the day ends you make your way back to camp for another try at assembling the mystery animal.

Open envelope 2 and remove 3 fossils.
Take 5 minutes to assemble all 7 bones and make notes in your data chart.
What kind of animal do you think this is now?

Day 3: The next morning is cold. You can tell that winter is just around the corner and you know that this will be the last day of the digging season, and your last chance to find more fossils of the mystery animal. Just as the day is about to end, one of the members of your team finds 3 final bones.

Open envelope 3 and remove 3 fossils.
Take 5 minutes to assemble all 10 bones and make notes in your data chart.
What kind of animal do you think this is now?

Day 4: Back in the lab, you meet up with some paleontologist friends. They tell you they have spent the summer working in a different location but within the same **geological period**. You show them the skeleton you found, and they tell you they have a similar one, but it looks like they have some different bones that you don't have.

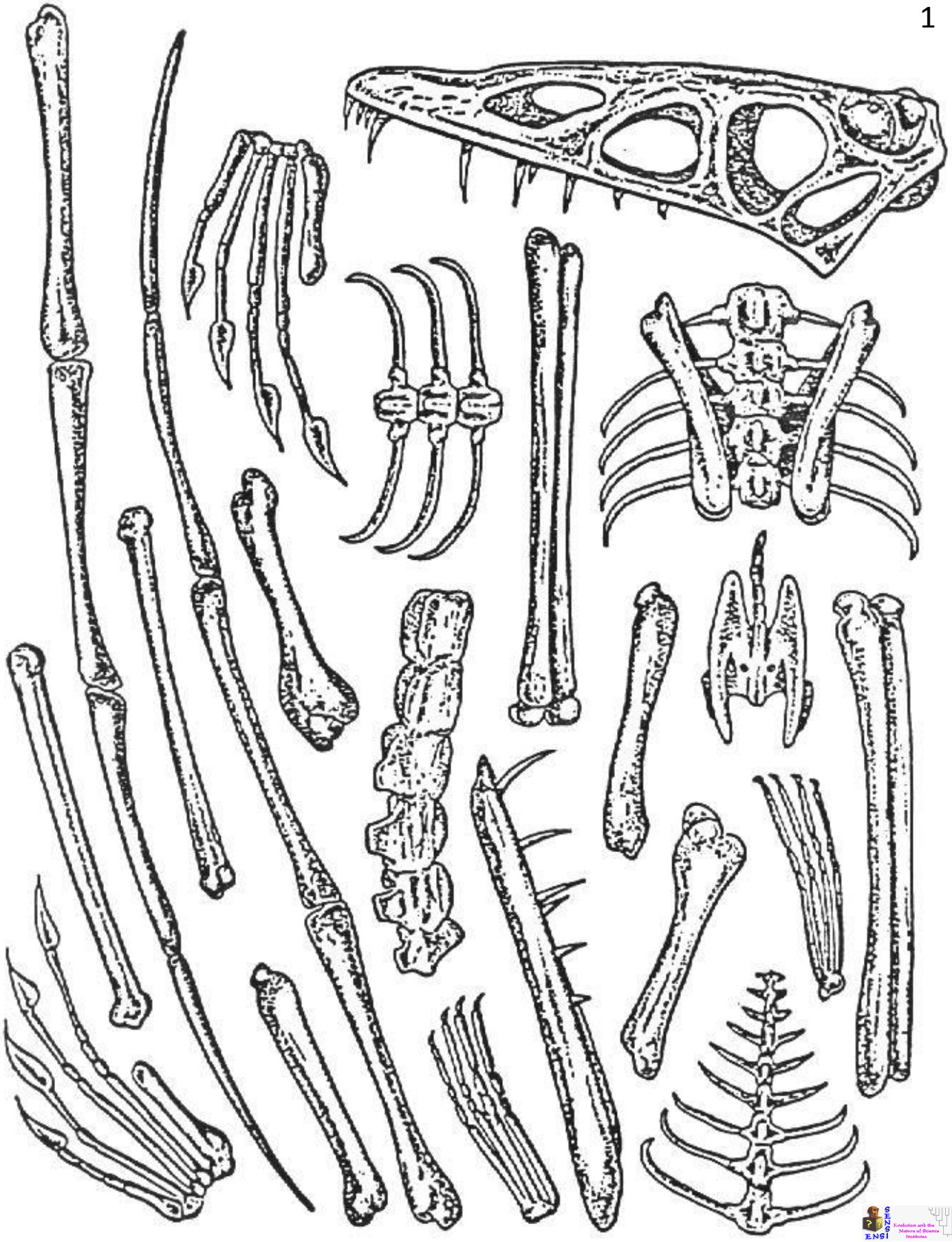
For 5 minutes, compare your fossils with those of a group near you, looking for clues that will help you assemble your fossils. Apply these clues to your interpretation of your skeleton. What type of animal do you think you have now?

Day 5: (If doing this activity in the classroom) In the library at school you find a Skeletal Resource Manual with drawings of the skeletons of some existing animals. You notice some interesting similarities between some of the drawings and your unknown fossil.

OR

Day 5: (If doing this activity in the Natural History Museum) Your research team decides to travel to the nearest Natural History Museum to compare the fossils there with the specimens that you have to try to identify the animal. You notice some interesting similarities between some of the fossils on exhibit and your unknown fossil.

Use the drawings or museum exhibits to assist you in your final assembly of the fossil skeleton. Fill in the data table with your final interpretation of the skeleton.



The Great Fossil Find

Names:_____

Please complete the table below and turn in ONE for your entire group.

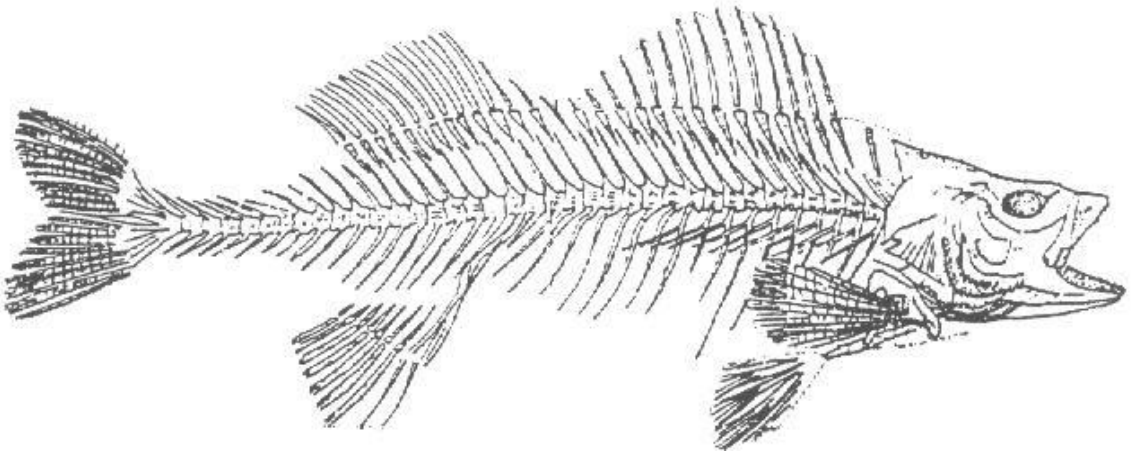
	Day 1	Day 2	Day 3	Day 4	Day 5
What do your fossils look like?					
What type of animal do you think it is?					
What about the fossil makes you think that?					

THE GREAT FOSSIL FIND

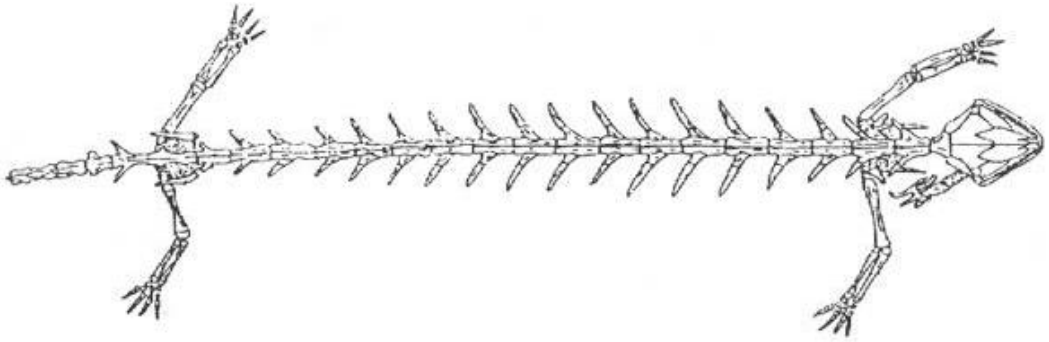
SKELETAL RESOURCE MANUAL

ENSI SENSI Evolution and the Nature of Science Institutes

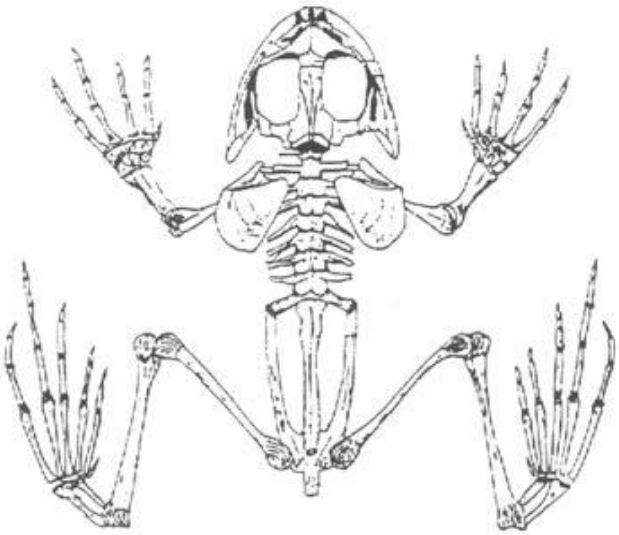
FISH *(PERCA)*



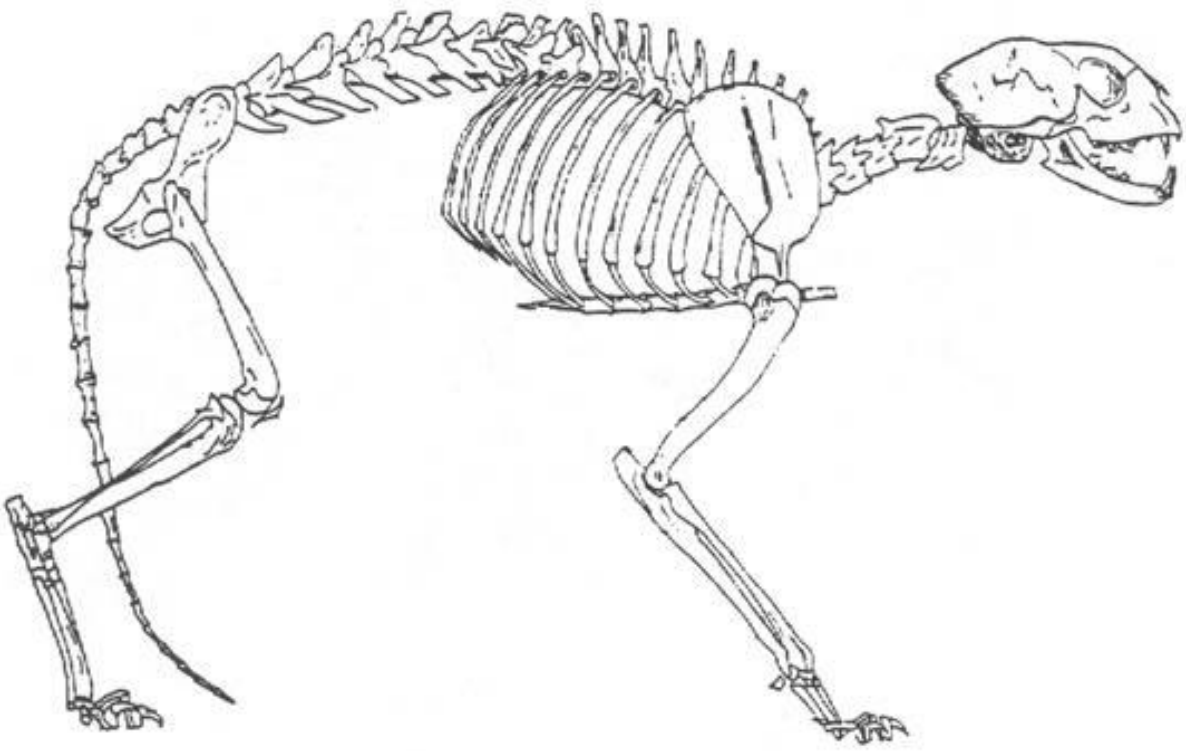
SALAMANDER (NECTURUS)



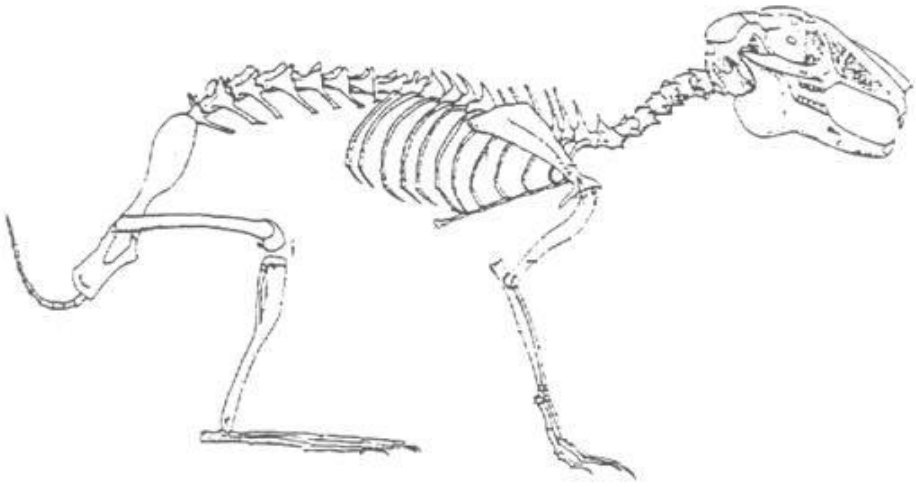
FROG *(RANA)*



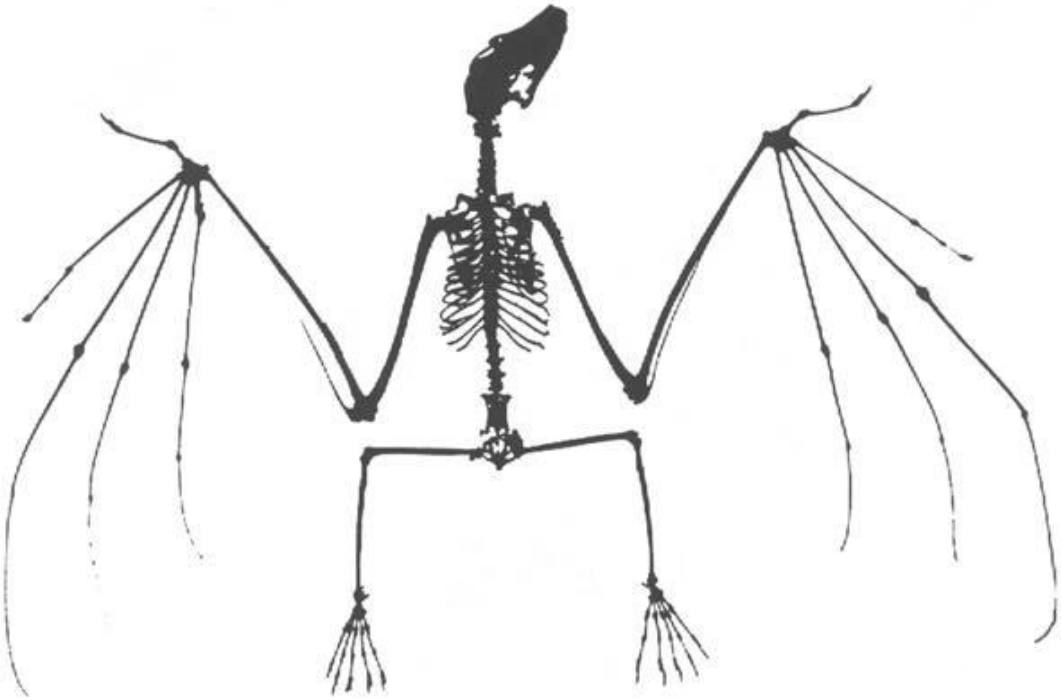
CAT *(FELIS)*



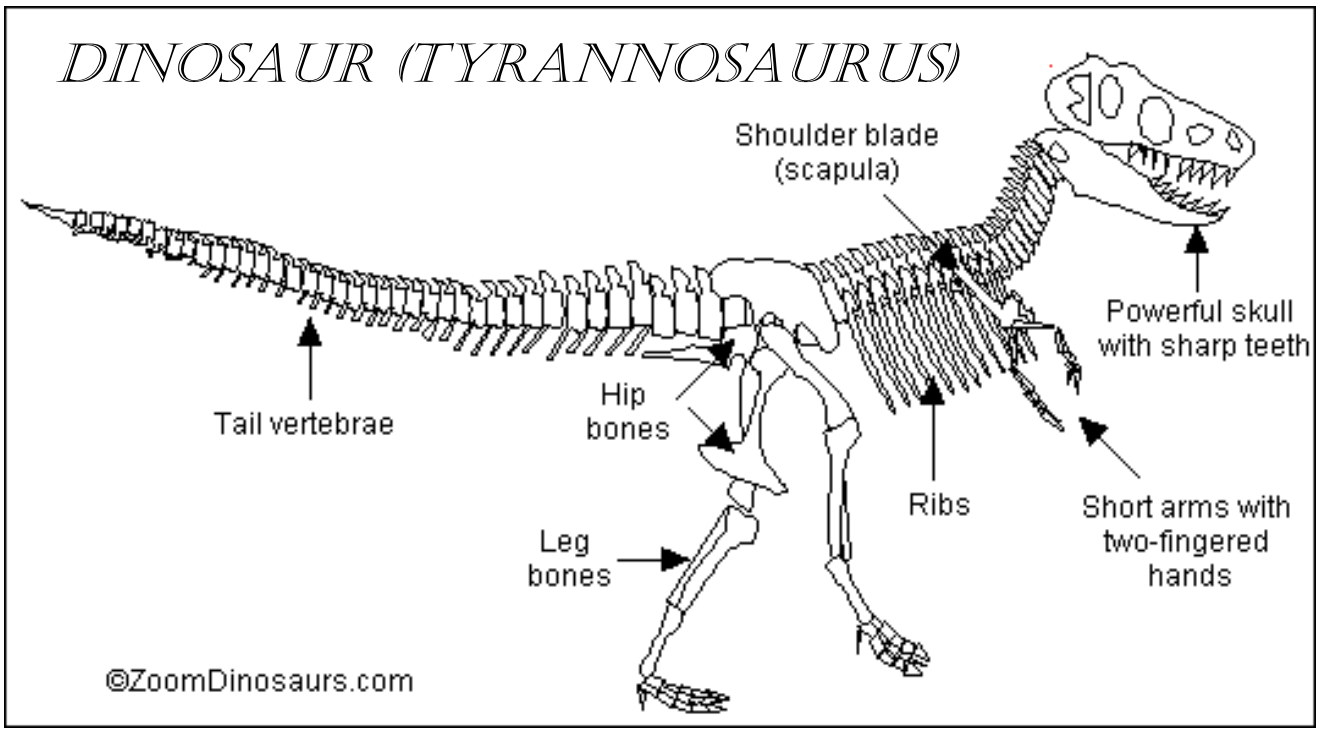
RABBIT *(LEPUS)*



FRUIT BAT *(PTEROPUS)*



BIRD *(COLUMBA)*



PTEROSAUR (PTERODACTYL)

The Great Fossil Find

Names:_____

Each person in your group must complete this worksheet *individually.*

1. What does a paleontologist do?

2. What assumptions did you make at the beginning of the activity that made it more difficult for you to assemble your final interpretation of the fossils?

3. Did the discovery of new bones cause any conflict within your group? Why or why not?

4. Did any of your group members resist changing their interpretation in light of the new information? Why did they do this?

5. What information did you get from another group? How did it influence your assumptions?

6. Did the information in the resource book confirm your group's ideas, or did it cause you to rework your arrangement of the fossil parts? Explain how.

7. Do you think this activity would have been easier or harder to do by yourself? What about with more than 2 people?

8. Do you think this scenario is typical of how scientists create and revise hypotheses?

Names:_____

9. What does your experience with this scenario tell you about the work of scientists?

10. From looking at the resource manual or natural history museum exhibits, what could you say about how and where this animal lived?

11. How is it possible for scientists to do studies about things that happened millions of years ago?

12. What do you think were the 3 main goals of this activity?