CLASSIFICATION WORKSHEET

Directions: Answer all the questions on a scantron and turn in the scantron. Save the actual worksheet for your notes as a study supplement.

CRITTER CHART ONE

<table>
<thead>
<tr>
<th></th>
<th>CRITTER I</th>
<th>CRITTER II</th>
<th>CRITTER III</th>
<th>CRITTER IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phylum</td>
<td>Echinodermata</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td></td>
<td></td>
<td>Asteroidea</td>
<td></td>
</tr>
<tr>
<td>Order</td>
<td>Forcipulata</td>
<td>Forcipulata</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td>Heliasteridae</td>
<td>Asteriidea</td>
<td>Heliasteridae</td>
<td></td>
</tr>
<tr>
<td>Genus</td>
<td>Pisaster</td>
<td>Orthasterias</td>
<td>Pisaster</td>
<td>Evasterias</td>
</tr>
<tr>
<td>species</td>
<td>ochraceus</td>
<td>koehleri</td>
<td>brevispinus</td>
<td>trochelii</td>
</tr>
</tbody>
</table>

Procedure: Using only the information in the chart above fill in as many boxes as you can. For items 1 - 5 use the Key below to answer the questions posed. Note that two letters precede some choices. If you select one of these, you must mark both letters. Key choices may be used once, more than once, or not at all.

KEY:  
A. Critters I and II  
B. Critters I and III  
C. Critters I and IV  
D. Critters II and III  
E. Critters II and IV  
AB. Critters III and IV  
AC. Critter I and any other Critter.  
AD. Critter II and any other Critter.  
AE. Critter III and any other Critter  
BC. Critter IV and any other Critter.

1. According to the chart ABOVE which critters are most closely related?
2. According to the chart ABOVE which critters are most DISTALLY related?
3. According to the chart ABOVE which critters have the most structural characteristics in common?
4. According to the chart ABOVE which critters have the least structural characteristics in common?
5. According to the chart ABOVE which critters have the most genes in common?
CRITTER CHART TWO

<table>
<thead>
<tr>
<th></th>
<th>Lion</th>
<th>Cat</th>
<th>Dog</th>
<th>Man</th>
<th>Catbird</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phylum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td></td>
<td>Chordata</td>
<td>Mammalia</td>
<td>Mammalia</td>
<td>Aves</td>
</tr>
<tr>
<td>Order</td>
<td>Carnivora</td>
<td>Carnivora</td>
<td>Primates</td>
<td>Passiformes</td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td>Felicidae</td>
<td>Canidae</td>
<td>Homaridae</td>
<td>Minidae</td>
<td></td>
</tr>
<tr>
<td>Genus</td>
<td>Felis</td>
<td>Felis</td>
<td>Canus</td>
<td>Homo</td>
<td>Dumatella</td>
</tr>
<tr>
<td>species</td>
<td>leo</td>
<td>silvestris</td>
<td>familiaris</td>
<td>sapiens</td>
<td>carolinensis</td>
</tr>
</tbody>
</table>

For items 6 - 9 use the Key below to answer the questions posed. Note that two letters precede some choices. If you select one of these, you must mark both letters. Key choices may be used once, more than once, or not at all.

**KEY:**
A. Phylum  
B. Class  
C. Order  
D. Family  
E. Genus  
AB. species

6. At which level of classification would you first describe differences between a lion and a cat?  
7. The first level of classification that would differentiate a cat from a dog is?  
8. What is the lowest classification level at which structural similarities between a cat and a catbird can be described?  
9. A Lion and a dog are similar in some structures. What is the lowest level at which these similarities can be described?

For questions 10 - 19 choose the lowest level of classification in the key below which would include both organisms mentioned. Note: the Kingdom level would be the highest level and the class level would be the lowest level in the key. Example: for "Frog and Salamander" the answer would be "C". Note the term **Division** is used for the term **Phylum** when you are dealing with the plant kingdom. Key choices may be used once, more than once, or not at all.

**KEY:**
A. Kingdom.  
B. Phylum (Division)  
C. Class.  
D. None of the above.

10. Starfish and Sea Urchin.  
13. Sand dollar and Beetle.  
14. Sea Anemone and a sponge  
15. Sand dollar and sea urchin  
17. Gymnosperms and Angiosperms.

For the next items 20 - 29 decide which animal is least related (according to biological classification) to the other three. Mark the least related letter of your choice on your scantron.

22. A. Wasp  B. House fly  C. Clothes moth  D. Black widow spider.
27. A. Skate  B. Hagfish  C. Dogfish  D. Manta ray
28. A. Snake  B. Salamander  C. Alligator  D. Turtle.

For items 30 - 43 use the Key below to match the following organisms to their Phylum. Note that two letters precede some choices. If you select one of these, you must mark both letters. Key choices may be used once, more than once, or not at all.

KEY:  A. Porifera  AB. Annelida
B. Cnidaria  AC. Arthropoda
C. Platyhelminthes  AD. Echinodermata
D. Nematoda  AE. Chordata
E. Mollusca  BC. None of the above.

32. Starfish and Sea urchin.  40. Nudibranch (Sea slug)
33. Planaria.  41. Organisms that show radial symmetry and have a gastrovascular cavity.
34. Snail, Clam, and Octopus.
35. Leech.  42. Organisms that contain choanocytes (collar cells) and spicules
36. Organisms that contain a medusa stage.
37. Tapeworm.                      43. Organisms with a chitinous exoskeleton.

For items 44 - 50 use the Key below to match the following organisms to the group to which they belong. Note that two letters precede some choices. If you select one of these, you must mark both letters. Key choices may be used once, more than once, or not at all.

**KEY:**

A. Agnatha          
B. Chondrichthyes  
C. Osteichthyes    
D. Amphibia        
E. Reptilia        
AB. Aves           
AC. Monotreme      
AD. Marsupial      
AE. Eutherian      
BC. None of the above.

44. A jawed fish with a cartilaginous skeleton. 48. Trout.
45. A jawless cartilaginous fish like a lamprey. 49. Great White Shark.
46. An echidna that lays a leathery egg. 50. Human.
47. Frog.

For items 51 - 60 use the Key below to match the following organisms to their Phylum. Note that two letters precede some choices. If you select one of these, you must mark both letters. Key choices may be used once, more than once, or not at all.

**KEY:**

A. Hepatophyta       
B. Bryophyta         
C. Pteridophyta      
D. Sphenophyta      
E. Coniferophyta    
AC. Anthophyta       
AD. None of the above.

51. Moss
52. Sword fern
53. Pseudotsuga menziesii (Douglas Fir)
54. Grass
55. Rhododendron
56. Horsetail
57. Liverwort
58. Dandelion
59. Western Red Cedar
60. Maple tree
Future Questions.

For the next items 61 - 64 decide which plant is least related (according to biological classification) to the other three.

61. A. Rose  B. Alder tree  C. Dandelion  D. Pine
62. A. Fir tree  B. Cycad  C. Ginkgo  D. Maple tree
63. A. Monocot  B. Dicot  C. Daisy  D. Western Red Cedar
64. A. Ulva  B. Deer Fern  C. Sword Fern  D. Bracken Fern