Biology 211 (1) Chapter 33

Introduction to Animal Diversity Kingdom Animalia:

1. Approximately how many different animal species are alive on Earth currently? How many those species have been described and given scientific names?
   a. 
   b. 

2. List at least three characteristics of animals. What are animals cells held together by?
   a. 
   b. 
   c. 
   d. 

3. ______ has two sets of chromosomes, while ______ has one set.

4. From the beginning of the zygote formation, list and explain the actions that occur to eventually form the gastrula.
   a. 

5. What are the 3 embryonic tissue layers (germ layers) called? What adult tissues are formed from each of these 3 layers?
   a. 
   b. 
   c. 

6. All eukaryotes have __________ genes that regulate the expression of other genes.

7. Fill out the chart on the history of animal life on Earth.

<table>
<thead>
<tr>
<th>Era</th>
<th>How many years ago?</th>
<th>Major Activity</th>
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<tbody>
<tr>
<td>Neoproterozoic</td>
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<td>Paleozoic</td>
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<td>Mesozoic</td>
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<td>Cenozoic</td>
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8. What are three of the main hypotheses of the Cambrian Explosion?
   a. 
   b. 
   c. 

9. Describe the three different types of symmetry.
   a. 
   b. 
   c. 

10. Do sponges have true tissues?
11. _______ organisms only have the ectoderm and endoderm germ layers. _______ organisms have all three germ layers.

12. At what developmental stage should one be able to first distinguish a diploblastic from triploblastic embryo?
   a. 

13. What is a coelom? Draw a cross section of an acoelomate, pseudocoelomate, and coelomate animal.
   a. 

14. Compare and contrast protostome and deuterostome development from zygote to gastrulation. Does the blastopore become the mouth or the anus in a protostome animal?
   a. 
   b. 

15. In protostome animals, the blastopore becomes the _______ of the digestive system, and the cleavage is _______ and _______.
16. In deuterostome animals, the blastopore becomes the _______ of the digestive system, and the cleavage is _______ and _______.

17. Describe the difference between cleavage that is determinate and cleavage that is indeterminate.
   a. 
   b. 

18. What are the two major protostome clades?
   a. 