

AP BIOLOGY – PARADE THROUGH THE KINGDOMS

Complete the questions using the chapters of your textbook Campbell's Biology (6th Edition).

CHAPTER 27 – Prokaryotes & The Origin of Metabolic Diversity

PART 1. Directions: All answers are to be completed on your own and neatly written.

1. How common are prokaryotes on earth?

2. How do bacterial cell walls differ from plant cell walls?

3. How does the cell wall aid in classifying the bacteria?

4. List the methods bacteria use to locomote.

5. Give an example of a stimulus and describe how bacteria react to that stimulus (taxis).

6. How do bacteria typically reproduce?

Name _____

Period _____ **Date** _____

7. List three methods that can modify bacteria genetically.

a. _____

b. _____

c. _____

8. Identify and briefly define the four nutritional categories of bacteria.

d. _____

e. _____

f. _____

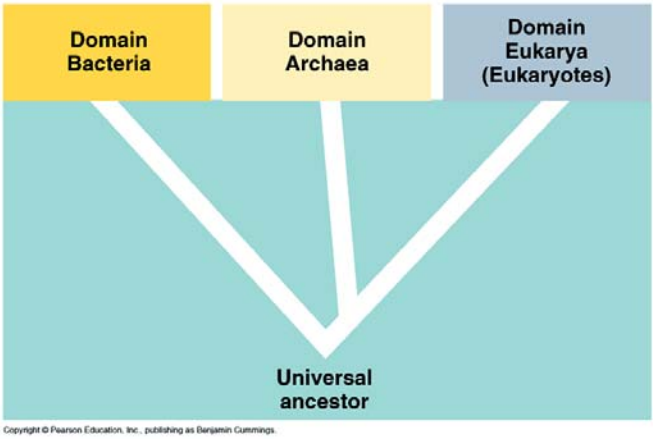
g. _____

9. How has molecular systematics lead to classifying prokaryotes into two domains?

10. What is the ecological significance of prokaryotes?

PART 2. Directions: Using Table 27.2 on page 512 and the information in the text, outline the key characteristics that distinguish the three domains. Include examples of organisms in each domain.

DOMAIN CHARACTERISTICS EXAMPLE



DOMAIN	CHARACTERISTICS	EXAMPLE

Name _____

Period _____ Date _____

CHAPTER 28 – The Origins of Eukaryotic Diversity

PART 1. Directions: All answers are to be completed on your own and neatly written.

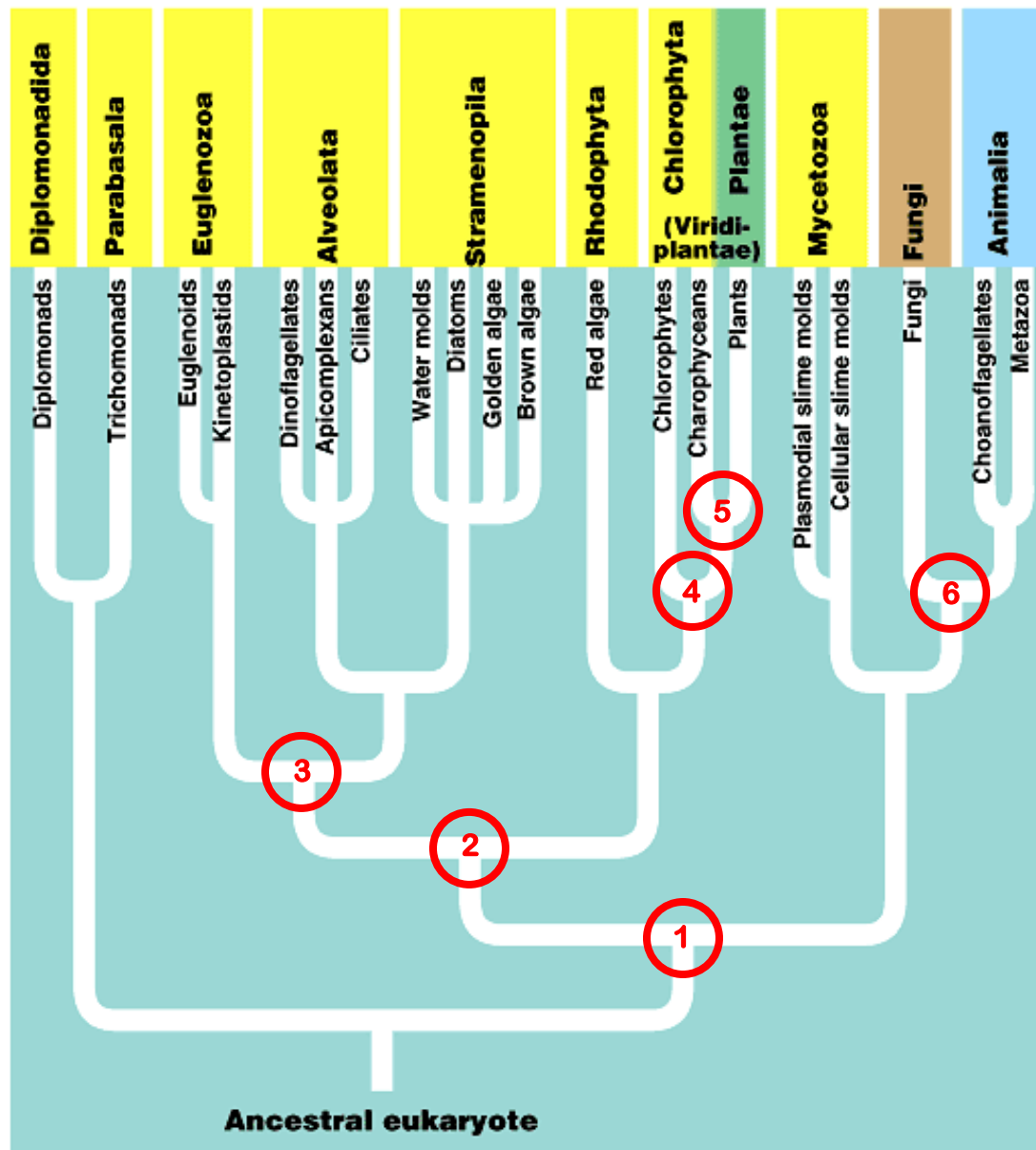
11. Why are Protists said to be the most diverse of all eukaryotes?

12. What process is thought to be involved in the genesis of eukaryotes from prokaryotes?

13. Define serial endosymbiosis?

14. Why do most systematists currently working on eukaryotic relationships consider Kingdom Protista and the five kingdom system obsolete?

PART 2. Directions: Using Figure 28.8 on page 554 and the information in the text, outline the key characteristics that distinguish the major branches of the Domain Eukarya identified on the diagram.



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Name _____

Period _____ Date _____

BRANCH POINT	CHARACTERISTICS
1.	
2.	
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6.	

Name _____

Period _____ Date _____

CHAPTER 31 - FUNGI

PART 1. Directions: All answers are to be completed on your own and neatly written.

15. How do fungi acquire nutrients?

16. Because of this mode of nutrition, fungi have evolved what structure to provide for both extensive surface area and rapid growth?

17. How do the cell walls of fungi differ from the cell walls of plants?

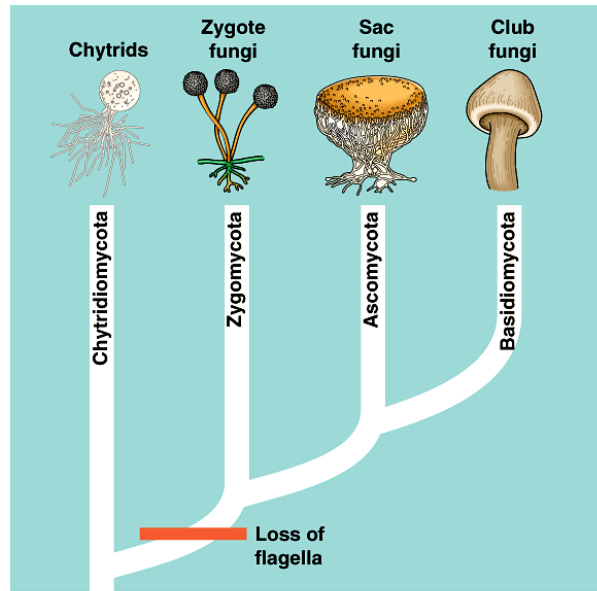
18. How do fungi contribute to an ecosystem?

19. Give some examples of how fungi are important to humans.

Name _____

Period _____ Date _____

PART 2. Directions: Using Figure 31.4 on page 619 and the information in the text, outline the key characteristics of each **branch of the Kingdom Fungi** identified on the diagram. Include several examples of organisms in each division.



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DIVISION	CHARACTERISTICS	EXAMPLE

Name _____

Period _____ Date _____

CHAPTER 32 – INTRODUCTION TO ANIMAL EVOLUTION

PART 1. Directions: All answers are to be completed on your own and neatly written.

20. Outline the major characteristics Campbell uses to define an animal.

21. List an hypothesis for the origin of animals.

22. Describe the two forms of symmetry of the Eumetazoa.

23. What is the significance of cephalization as an evolutionary trend?

24. How do the germ layers of Radiata and the other Eumetazoa differ?

25. Define the following terms and describe their significance in classifying animals.

a. Acoelomates _____

b. Pseudocoelomates _____

Name _____

Period _____ Date _____

c. Coelomates _____

d. Protostomes _____

e. Deuterostomes _____

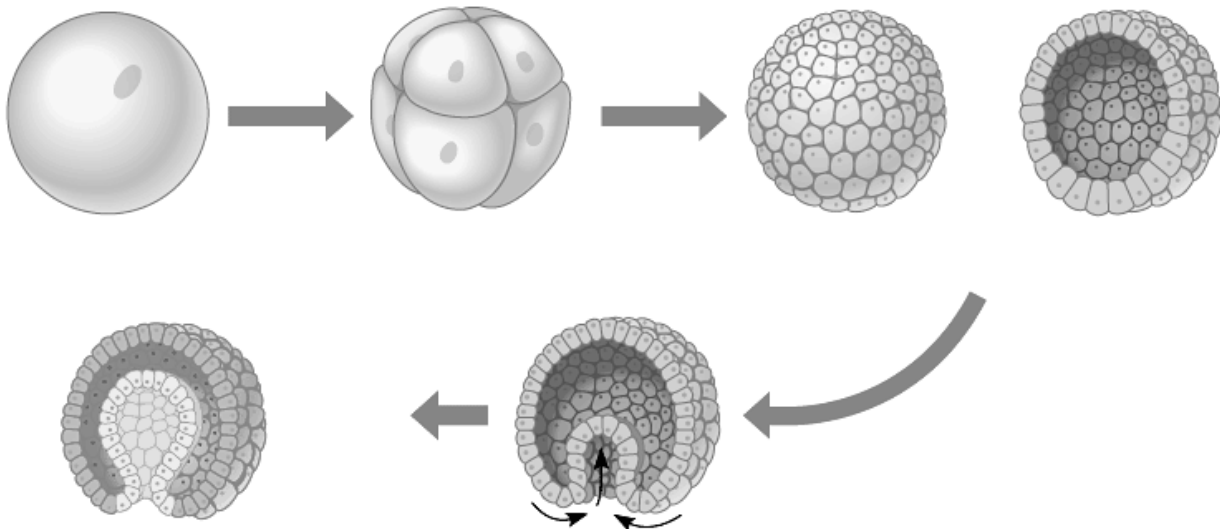
f. spiral, determinate cleavage _____

g. radial, indeterminate cleavage _____

h. blastopore _____

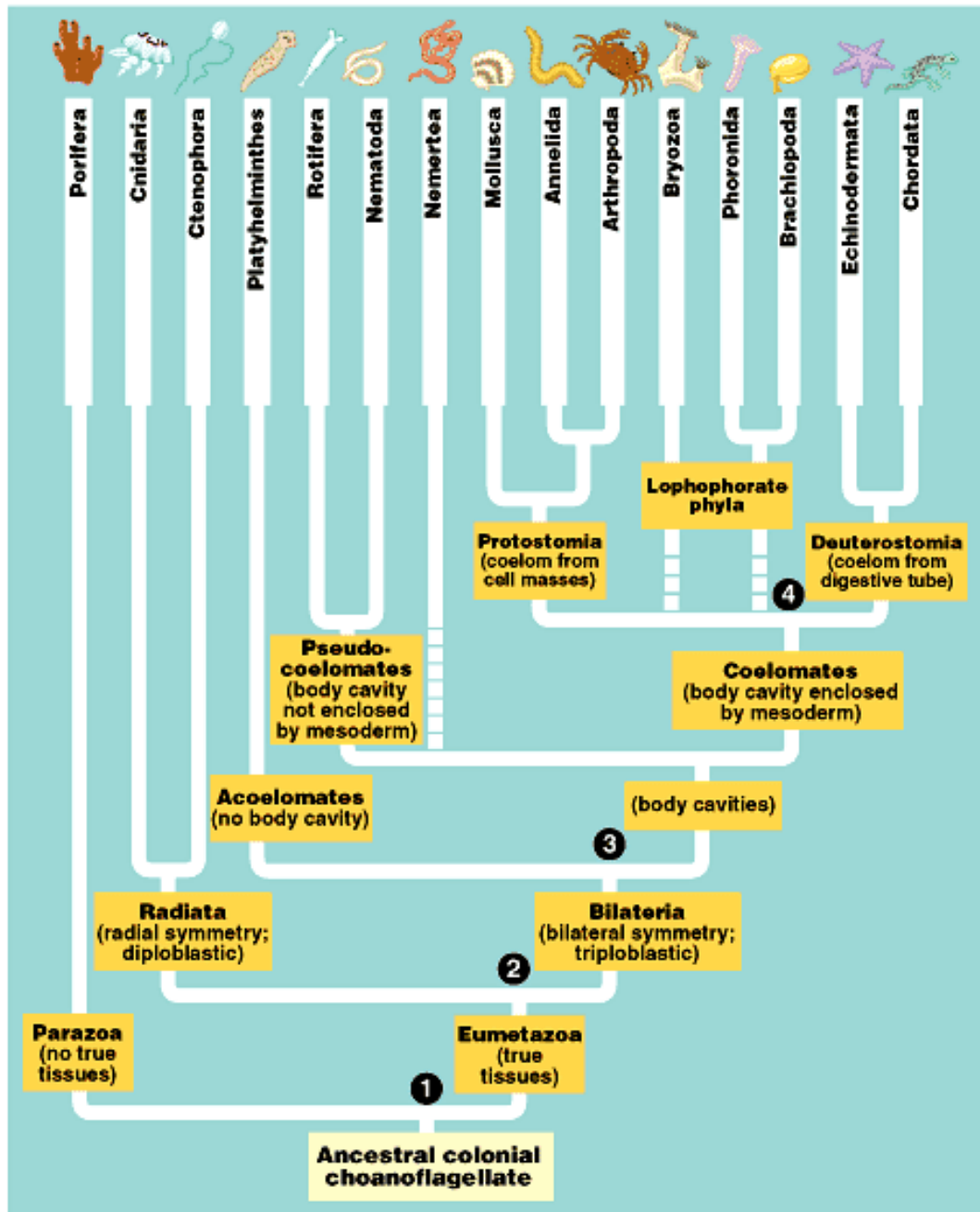
26. List a number of the major differences between the Protostomes and Deuterostomes.

27. Label the stages of early embryonic development of animal.



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PART 2. Directions: Using Figure 32.4 on page 636 and the information in the text, outline the key characteristics of each branch of the Kingdom Animalia identified on the diagram. Use definitions from Question 25 to supply the details in your chart. Include examples of organisms in each division.



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Name _____

Period _____ Date _____

DIVISION	CHARACTERISITICS	EXAMPLE
1.		
2.		
3.		
4.		
5.		
6.		
7.		

Name _____

Period _____ Date _____

DIVISION	CHARACTERISTICS	EXAMPLE
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		

Name _____

Period _____ Date _____

CHAPTER 33 - INVERTEBRATES

PART 1. Directions: All answers are to be completed on your own and neatly written.

28. How does the structure of a sponge relate to its method of nutrition?

29. What is a unique characteristic common to the Cnidarians?

30. What are the two forms of shape within the Cnidarians?

31. What are some evolutionary advancements we see in the Platyhelminthes?

32. In what way are Platyhelminthes significant to humans?

33. Define parthenogenesis.

34. What is unique in the structure and function of the Pseudocoelomates?

Name _____

Period _____ **Date** _____

35. List ways in which Nematodes impact humans.

36. List common examples that could be classified as Coelomate Protostomes.

37. What are the three major body regions of a Mollusk?

38. Why do zoologists debate the relationship of Mollusks and Annelids?

39. What is the evolutionary significance of the coelom as seen in the Annelids?

40. What is the importance of segmentation?

41. Why are the Arthropoda regarded as the most successful of all animal phyla?

Name _____

Period _____ **Date** _____

42. Identify a characteristic that was most significant to Arthropod success.

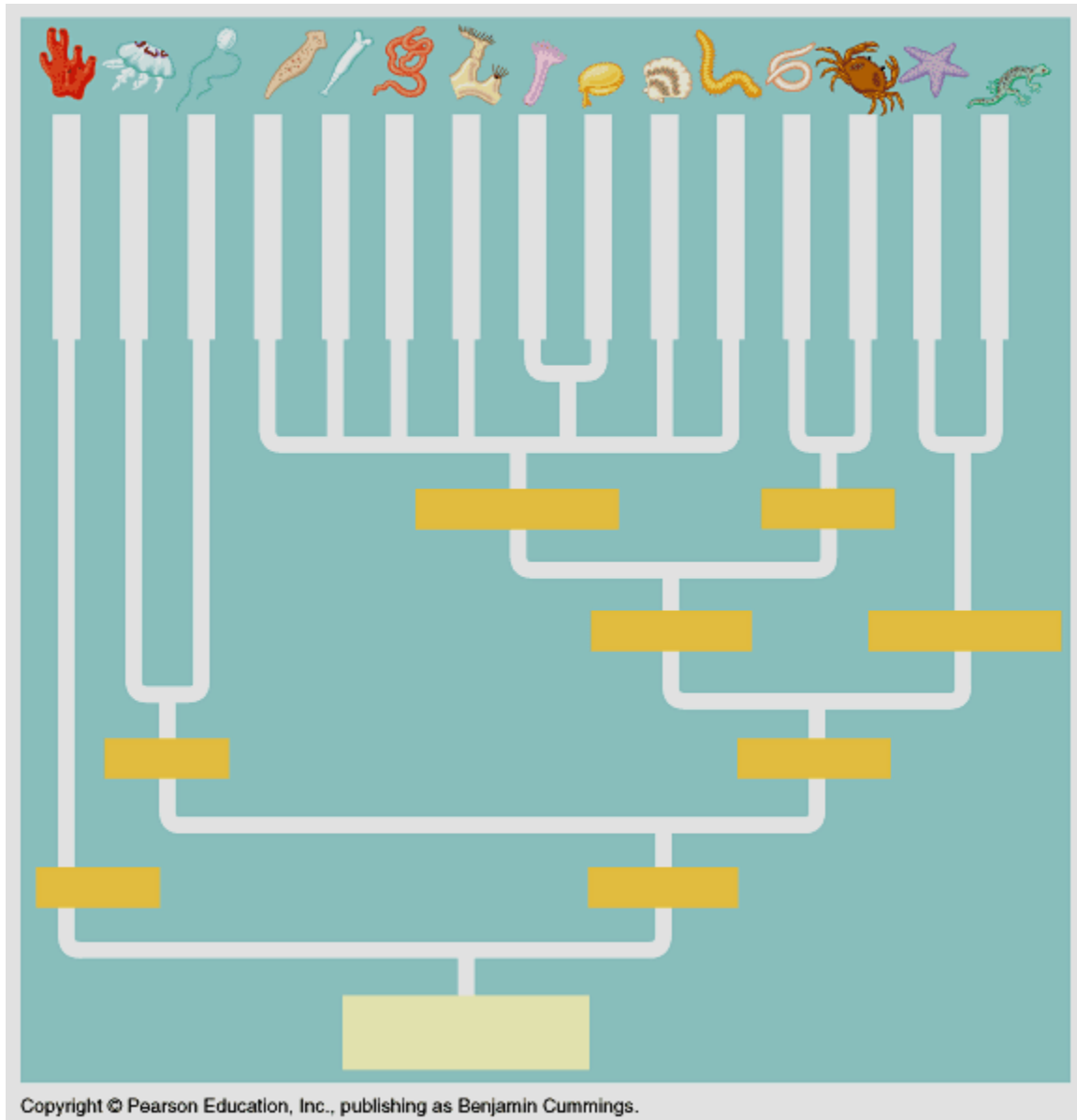
43. List common examples that could be classified as Coelomate Deuterostomes.

44. What traits are particularly unique to the Echinoderms?

Name _____

Period _____ Date _____

PART 2. Directions: Using Table 32.4 on page 636 and Table 33.7 on page 675 and the information in the text, label the phylogenetic diagram of animals with significant characteristics that distinguish major branches.



Name _____

Period _____ Date _____

CHAPTER 34 – VERTEBRATE EVOLUTION & DIVERSITY

PART 1. Directions: All answers are to be completed on your own and neatly written.

45. What are the four characteristics of the Chordates?

46. List and describe an example of an invertebrate chordate.

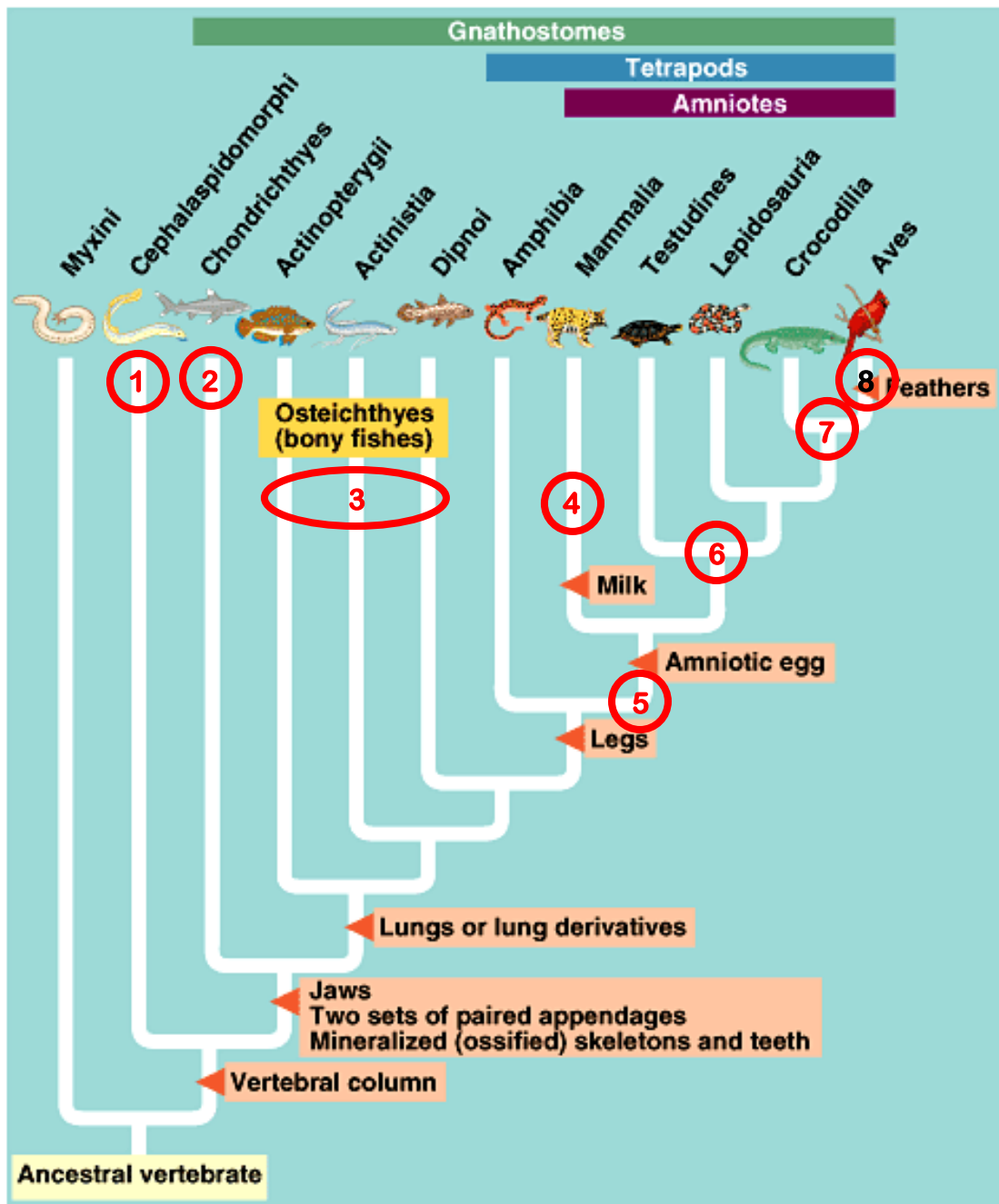
47. Define paedogenesis.

48. What characterizes the subphylum Vertebrata?

49. In the evolution of vertebrates, identify the significance of being tetrapod?

50. Identify the significance of the amniotic egg and the amniote?

PART 2. Directions: Using Table 34.7 on page 684 and the information in the text, outline the key characteristics that distinguish **the major branches of the subphylum Vertebrata** identified on the diagram. Include examples of organisms in each class.



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Name _____

Period _____ Date _____

CLASS	CHARACTERISTICS	EXAMPLE
1.		
2.		
3.		
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6.		
7.		
8.		