Name: _____

Date: _____ Period: _____

Eukaryopolis – The City of Animal Cells

Crash Course Biology #4

1. Animals are made up of eukaryotic cells, meaning they have a _____ which contains the DNA.
2. Animal cells also have _____ with specific functions and are surrounded by the cell _____.
3. What are two major differences between plant cells and animal cells?
4. Besides animals, what three other categories of living things (kingdoms) have eukaryotic cells?
5. Cells walls give plants _____ but prevent them from having complicated _____ structures and _____ cells.
6. What is an ability unique to Kingdom Animalia?
7. _____ move with cilia and flagella, not specialized muscle.
8. What scientist discovered cells? When?
9. _____ are multiple short projections, while a _____ is one, long projection.
10. What are functions of the cell membrane?
11. The cell membrane has _____ meaning only certain molecules come in and out.
12. Each eukaryotic cell is filled with a water and nutrient solution called _____, and a scaffolding called the _____ to reinforce the cell.
13. The solution in the nucleus is called the _____.
14. The endoplasmic reticulum (ER) are organelles that create a network of _____ that carry stuff around the cell.
15. The smooth ER contains enzymes that help in synthesis of _____ (phospholipids and steroids), detoxifies substances, and store _____ in solution.

16. The rough ER has _____ attached to it and helps in the synthesis and packaging of _____.

17. Ribosomes can float freely throughout the _____ or attached to the _____ envelope. Ribosomes assemble _____ into polypeptides.

18. As the ribosome builds an amino acid chain, the chain is pushed into the ER, and then sent to the _____, which is is made up of stacks of membranous layers sometimes called Golgi _____.

19. The Golgi bodies can cut large proteins into smaller _____ and combine proteins and _____ to make various molecules.

20. Products of the Golgi bodies are packaged into sacs called _____ and sent to other parts of the cell or outside the cell wall.

21. _____ are sacks of enzymes that break down cellular waste and debris.

22. The nucleus is a highly specialized double-_____ organelle which uses the information in _____ to build proteins.

23. DNA and proteins is a web-like substance called _____. The chromatin gathers into rod-shaped chromosomes when it is time to _____.

24. Humans have ____ chromosomes.

25. The main job of the nucleolus is to create ribosomal RNA (_____), which combines with some proteins to form the basic units of ribosomes.

26. The nucleus then sends the instructions for protein synthesis in the form of _____ (mRNA) to ribosomes.

27. The mitochondria are where cell _____ takes place, turning energy from foods into adenosine triphosphate or _____.

28. What kinds of cells might have many mitochondria?

29. Mitochondria replicate themselves and even contain a small amount of _____.

30. Your mitochondrial DNA is exactly the same as your _____.

31. Identify the organelle that is analogous to each of these parts of a city:
    a. _____ – the power plants, converting energy from carbohydrates, fats, and other fuels into ATP
    b. _____ – the beloved leader; makes the laws and instructs other organelles
    c. _____ – waste treatment plants and recycling centers
    d. _____ – post office, processing proteins and packaging them up before sending them where they need to go
    e. _____ – the cell's highway system, a network of membranes
    f. _____ – swampland landscaping
    g. _____ – Encloses the city; border police