**Science 9**

**5.1 Sheet**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Instructions: Read pages 150-164 in BC Science 9 and answer the following questions in point form***

1. What percent of dust is typically dead skin cells?
2. How many skin cells do you shed each hour? Each month?
3. How does a snake get rid of skin cells?
4. What special purpose does the skin of the B. taitanus’ skin serve?
5. Read “did you know” on page 151. How many cells does your body have? How many new cells does your body produce very minute?
6. Why does cell division slow down after you hit puberty?

 7. What are three types of cells that take a of of “wear and tear” and need to be often replaced?

1. What are two types of cells that do not divide once you are an adult?
2. What’s the life span of a:
3. skin cell:
4. brain cell:
5. red blood cell:
6. stomach lining cell:
7. What are the three main stages of the cell cycle? Briefly describe each stage.
8. What occurs during the first phase of interphase?
9. What is replication?
10. How many base pairs of DNA information are there in the nucleus?
11. Describe how DNA replicates itself.
12. Why does DNA need to replicate itself( what does it ensure)?
13. Once the DNA is replicated, what does the cell continue to do?
14. Why is the cell making so many new organelles and proteins during this stage?
15. What form does the original DNA strand and the replicated one take as the nucleus prepares to divide?
16. Make a sketch of sister chromatids with a centromere. Label the parts. Do these two chromatids contain the same DNA?
17. Make a quick sketch of each stage of mitosis as shown in your textbook. Label each stage and briefly describe what occurs during each stage.
18. What does cytokinesis do?
19. Are parent and daughter cells the same?
20. How is cytokinesis different in animal and plant cells?
21. What is the function of checkpoints during the cell cycle?
22. What three situations will cause a cell NOT TO divide?
23. What occurs if a mutation occurs in a gene that makes a checkpoint protein?
24. Describe cancer in terms of cell division.
25. What are two specific types of cancer linked to checkpoint proteins?
26. Describe why cancer cells do not grow in single layers like healthy cells.
27. What is a tumour?
28. Why do cancer cells have large nuclei?
29. Why does a cancer cell in the lung not function like a normal lung cell?

33. Why are cancer cells able to form large blood vessels to feed them?

1. How do cancerous tumours spread to other parts of the body?
2. Describe two things cancer researchers do.

Read page 164 “Stopping the Cell Cycle Clock” and answer the questions below

1. What causes cells to stop dividing?
2. Why is telomerase important to a rapidly dividing cell like an embryonic cell?

c) How do cancer cells escape programmed cell death?