**Cell Cycle Regulation and Cancer Video Worksheet**

Watch:

<https://www.youtube.com/watch?v=8Otn9DVkm-g&list=PLNyA4Ii5ns3Sa4j4jJspGj-1siDuOlJT6>

1) What is a membrane receptor (Include what it does)?

2) What are ligands?

3) What shape is the ligand on the screen?

4) Name one cell process controlled by the binding of a ligand to its receptor.

5) What is the name of a ligand bound to its receptor?

6) Some drugs work on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

7) Describe what happens during signal transduction:

8) How many types of ligands does one membrane receptor usually bind?

9) Describe the lock and key model.

<https://www.youtube.com/watch?v=eqJqhA8HSJ0>

1) Prokaryotes have \_\_\_\_\_\_\_\_\_\_\_ (number) DNA molecule in the shape of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2) A replicated chromosome contains 2 identical\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

that separate before the cell divides, leaving each daughter cell with a copy.

3) How many chromosomes does the bee have?

4) Humans have \_\_\_\_\_\_\_\_\_\_\_\_ chromosomes.

5) What are somatic cells?

6) When the cell is not dividing, it is in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which consists of the following 3 phases:

7) What is Gzero?

8) DNA is replicated in which phase?

9) One way the cell cycle is regulated is by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

10) List the checkpoints shown by the diagram and list what is happening during each.

11) What are the 2 categories of signaling molecules that control the cell cycle?

12) Kinases are activated by a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. These molecules get degraded (destroyed) towards the end of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

13) What is a restriction point?

14) What happens if no signal occurs at a restriction point?

15) What can growth factors do?

16) What happens when normal cells run out of room?

17) What happens when there is no regulation and cells are dividing out of control?

18) What do we call a mass of cancer cells?

19) Cancer always has its root in some \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

20) Cancer research focuses heavily on \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.