

Complete in class. 10 tasks. 10 points.

1. Use the word bank to complete the table. Cross words off as you use them:

WORD BANK: ~~Less~~ ~~Less~~ ~~Less~~ ~~Even~~ ~~More~~ ~~More~~ ~~More~~ ~~Irregular~~

Characteristics of Healthy vs. Cancerous Cells.

	Healthy	Cancerous
Number of Cells	Less	More
Shape of Cells	Even	Irregular
Number of Nuclei	More	Less
Amount of Cytoplasm	Less	More

2. What is apoptosis? What happens without apoptosis? [Video](#)

Apoptosis is...

Without apoptosis, the cell..

3. How is cancer different from normal cell division? [Video](#)

Normal cell division...

Cancerous cell division...

4. Phases of the Cell Cycle. Use the phrase bank to complete the yellow boxes below. (Class slides and/or [video](#) @4:36-6:47).

WORD BANK: (resting stage) (growth)
 (growth) (dna replication) (nuclear division & cytokinesis)

	Phase	What happens?
Interphase	Gap 0 (G0)	
	Gap 1 (G1)	
	G1 checkpoint	Is the cell growing well enough? Does the cell have the resources it needs?
	Synthesis (S)	
	Gap 2 (G2)	

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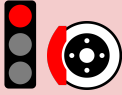
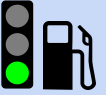
	G2 checkpoint	Was DNA replicated correctly in S?
Mitosis	Mitosis (M)	<i>(fastest stage!)</i>
	Metaphase Checkpoint	Are the chromosomes lined up correctly in the middle?

5. How do cancer cells behave differently from healthy ones? Use mitosis in your answer. [Video](#)

Cancer cells behave differently from healthy ones by...

Mitosis is connected to this because...

6. Checkpoint failures due to gene mutations allow the cell to continue dividing despite damage to its integrity. **Create a visual (drawing or video) model** to help you remember the difference between the two main mutations. (Use Google Drawing or insert a photo of your illustrated model. If you are drawing it on peardeck, please write "PEARDECK" down below.)

Tumor Suppressor Gene Mutation 	Proto-oncogene Mutation 
Loses function (can't stop). Cells continue to divide.	Gains function (goes anyway). Cell continues to divide.

7. **In your own words, explain how the cell cycle relates to cancer.** Try explaining it to someone you respect or care about. Do they understand? Do you?

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8. a) What have you learned about cancer? How does it connect to you?

b) What did you think about cancer before and what do you think about cancer now?

c) What do you still wonder about cancer?