Cancer Unit Standard 2 Concept Map

Your task is to show how you understand the connections between the terms and concepts used in this unit for Cancer Standard 2. Your concept map should be a web of many paired terms, not straight lines. No two concepts maps are the same, as this is a "mind map" of how you connect the information, and no two brains work the same way.

Cancer Standard 2: Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.

Steps to constructing a Concept Map

1. ***Brainstorming Phase*:**
    - Use your notes and your labs identify key facts, terms, and ideas that you have learned this unit including the vocabulary below.
    - Make a list of these items and print them neatly on small pieces of paper.

2. ***Organizing Phase*:**
    - Spread out your concepts on a flat surface so that all can be read easily.
    - Start to create groups and sub-groups of related items.
    - Feel free to rearrange items and introduce new items.
    - Note that some concepts will fall into multiple groupings; this will become important later.

3. ***Layout Phase*:**
    - On a large sheet of paper, try to come up with an arrangement (layout) that best represents your collective understanding of the interrelationships and connections among groupings.
    - Feel free to rearrange things at any time during this phase.
    - Place closely related items near to each other.
    - Do not expect your layout to be like that of other groups.

4. ***Linking Phase*:**
    - Use lines with arrows to connect and show the relationship between connected items.
    - Write a short phrase by each arrow to specify the relationship *(linking words).*

5. ***Finalizing the Concept Map*:**
    - After your group has agreed on an arrangement of items that conveys your understanding, you need to convert the concept map into a permanent form that you will turn in individually.
    - If you have a smartphone, it would be a good idea to take a photo of your groups map before

making anything permanent.

- Turn in your own individual copy, that you will base off your group's map. This can be on a 8 x 11 piece of paper (preferred) or up to 11 x 17 in size.

Examples:

- Global Climate Change
- Energy
- Weather

Assessment

	Exceeds	Proficient	Nearly Proficient	Not Proficient
Cancer Standard 2: *Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.*	***All conditions of proficient and the following:*** ❑ Model provides at least two examples of cell differentiation with clear images to represent the process ❑ Model provides examples of cells combining complex organisms with explanation of process of emergent properties ❑All vocabulary terms included and correctly explained with clear relationships	❑ Model illustrates overall process of ceullar division (mitosis) ❑Model illustrates how cells are differentiated (made different from one another) ❑Model illustrates how many cells combine to maintain complex organisms ❑ 7-10 vocabulary included and correctly explained with clear relationships ❑Attention to details: spelling, organization, use of graphics and symbols to enhance understanding	Model mostly illustrates accurate process of ceullar division (mitosis) but contains misconceptions or errors Model mostly illustrates accurate process cell differentiation (made different from one another) but contains misconceptions or errors Model mostly illustrates accurate process of how many cells combine to maintain complex organisms but contains misconceptions or errors Less than 7 vocabulary included and/or incorrectly explained relationships Attention to detail is minimal	Model of ceullar division (mitosis) is missing and/or contains major misconceptions or errors Model of cell differentiation is missing and/or contains major misconceptions or errors Model of how many cells combine to maintain complex organisms is missing and/or contains major misconceptions or errors Less than 5 vocabulary included and/or incorrectly explained relationships Attention to detail is significantly lacking

Unit Vocabulary:

Mitosis	*Genes*	*DNA replication*
Cell Differentiation	*DNA*	*Lymph System*
Chromosomes	*Nucleus*	*Cancer*
Metastasis	*Benign*	*Malignant*
Oncogenes	*Tumor suppressor genes*	