Cell Division Guided Notes

Learning Target: use a model to explain the process of cell differentiation and specialization

Cells need to divide for three main reasons:

1.

2.

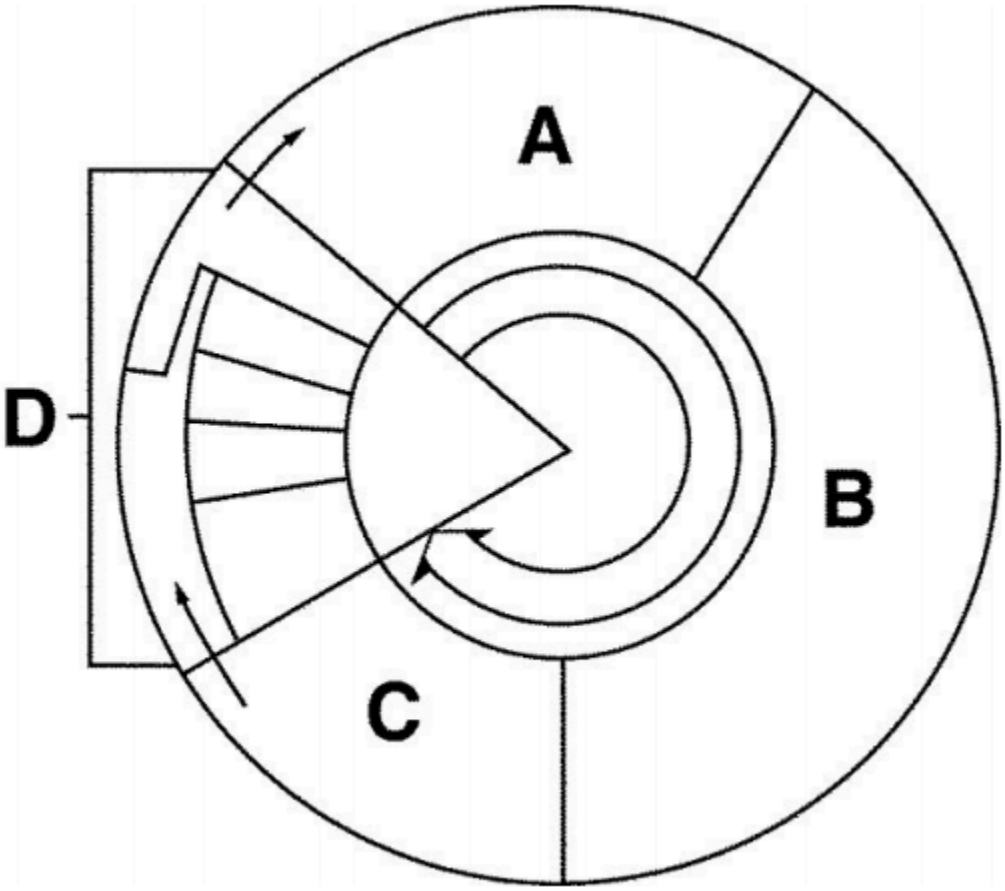
3.

Differentiation is:

Examples:

Learning Target: develop and use a model of the cell cycle, including interphase, mitosis, and cytokinesis

Label the cell cycle below:



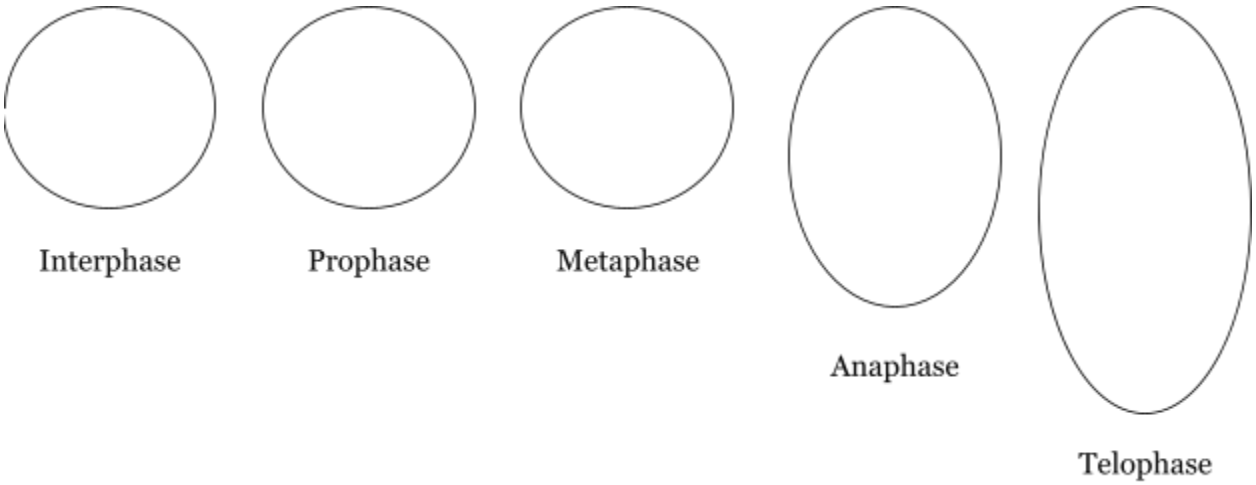
A:

B:

C:

D:

Phases of Mitosis:



Interphase:

Prophase:

Metaphase:

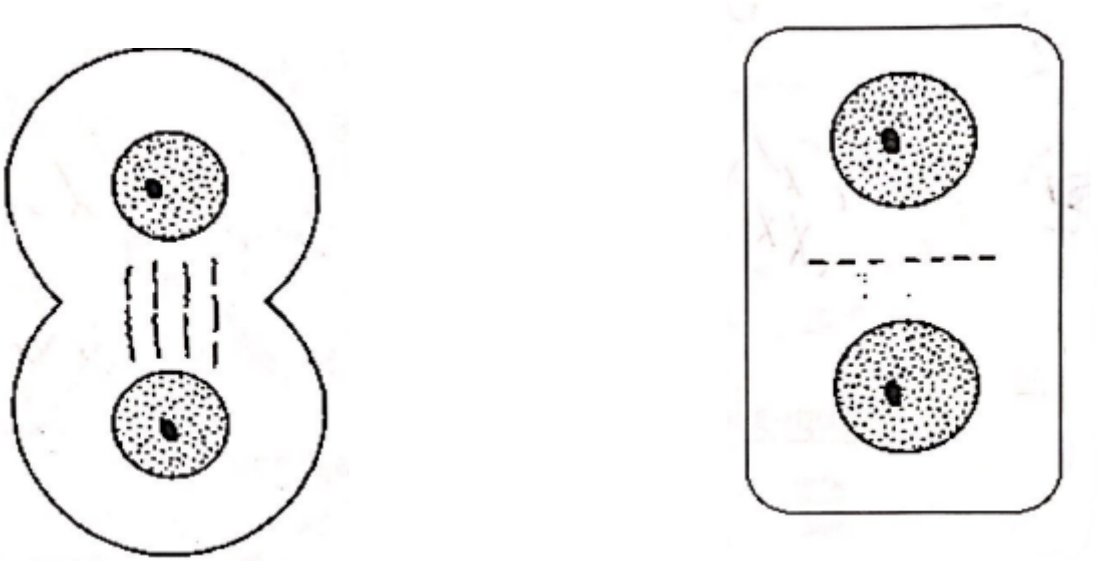
Anaphase:

Telophase:

ALL EUKARYOTIC cells divide by mitosis.

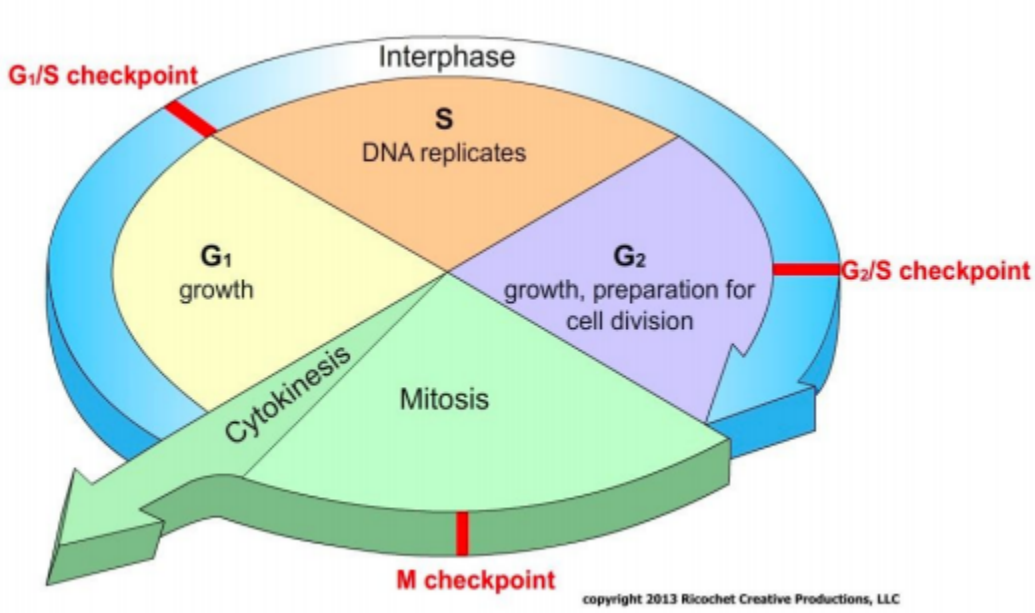
Learning Target: use a model to compare and contrast the process of cytokinesis in plant and animal cells

Identify the type of cytokinesis in the diagram below (animal or plant).
Label the *cleavage furrow* and *cell plate*.



Learning Target: model how a normal cell regulates the cell cycle

Identify what is occurring at the three red checkpoints in the cell cycle:



Learning Target: predict what might happen if a cell does not progress through the cell cycle correctly; communicate the consequences of continued cycling of abnormal cells; explain the difference in malignant and benign tumors

When a cell does not go through the cell cycle correctly, the result can be _____.

<u>There are two types of cancerous tumors:</u>

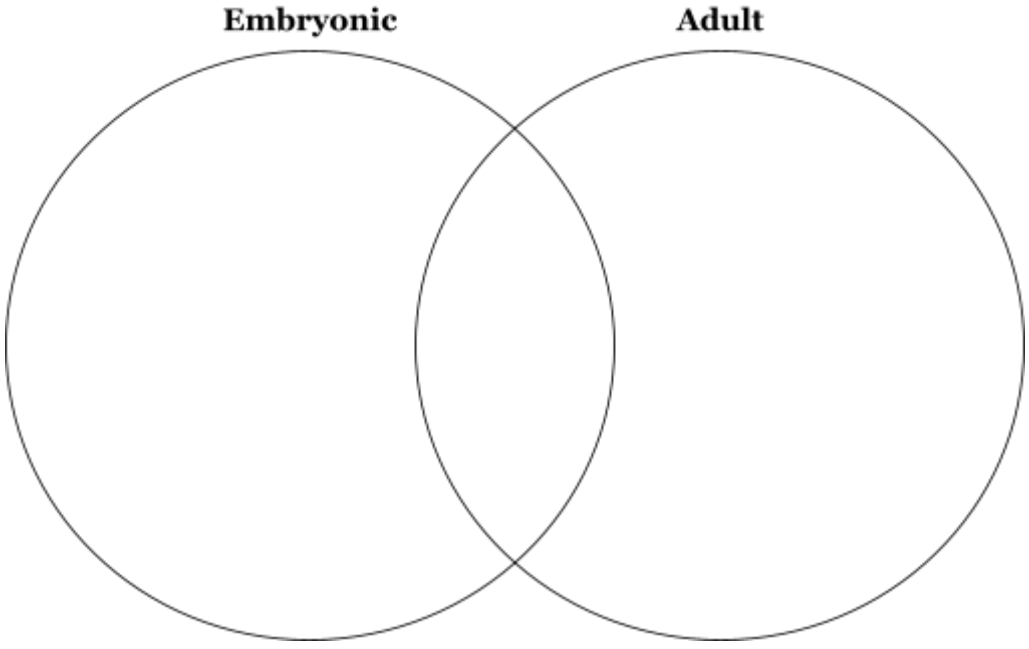
Malignant:

Benign:

How do the checkpoints in the cell cycle relate to cancer?

Learning Target: compare and contrast the various stem cell types

There are two types of stem cells: embryonic and adult.



Stem cells can be used to:

-
-
-
-

Arguments *for* scientific use of stem cells include:

Arguments *against* the use of stem cells include