BELL WORK FOR WEEK 3/20-3/23 Quiz 3/24

March 20, 2017

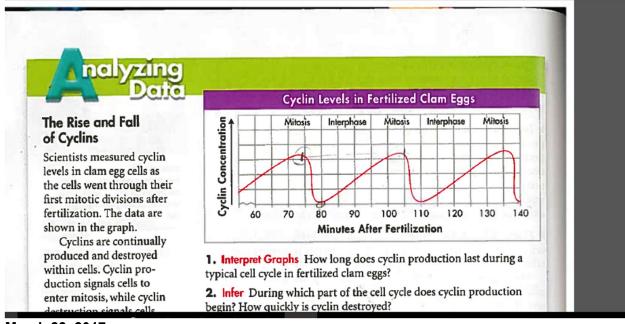
- 1. What is cytokinesis called in a plant cell?
- 2. What is cytokinesis called in an animal cell?
- 3. Look on page 294

What is meant by the vocabulary, totipotent, pluripotent, and multipotent?

4. Read pages 296-97
Why are embryonic stem cells controversial?

March 21, 2017

See book page 288 Analyzing Data answer questions 1-3



March 22, 2017



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Cellular Differentiation of C. elegans

The adult microscopic worm *C. elegans* contains 959 cells. The data table shows some of the different cell types in this worm. Copy the data table into your notebook and answer the following questions.

1. Calculate Calculate the percentage of the total cell number represented by each tissue or organ listed by using this formula:

Number of cells in adult × 100
Total number of cells

2. Calculate Find both the number of cells and the percentage of the total represented by cells in tissues or organs not listed ("other"). The category includes cells from, among other organs, the intestine. Record the

Cell Type	Number of Cells in Adult	Percent of Total
Cuticle	213	22%
Gonad (excluding germ line cells)	143	
Mesoderm muscle	81	
Pharynx	80	
Other		1

3. Infer Why does C. elegans make an ideal model for studying cellular differentiation?

4. Infer Why would it be more difficult to map the differentiation patterns in a different organism, such as a mammal?



A scientist performed an experiment to determine the effect of temperature on the length of the cell cycle in onion cells. His data are summarized in the table below.

Effect of Temperature on Length of Onion Cell Cycle		
Temperature (°C)	Length of Cell Cycle (hours)	
10	54.6	
15	29.8	
20	18.8	
25	13.3	

- 38. Interpret Tables On the basis of the data in the table, how long would you expect the cell cycle to be at 5°C?
 - a. less than 13.3 hours
 - **b.** more than 54.6 hours
 - c. between 29.8 and 54.6 hours
 - d. about 20 hours
- 39. Draw Conclusions Given this set of data, what is one valid conclusion the scientist could state?