

M3 Science Semester 1, Midterm Exam Review

1. What is a cell?

2. Why are cells important?

3. What are three functions of cell division?

1.

2.

3.

4. What is the scientific name of cell division?

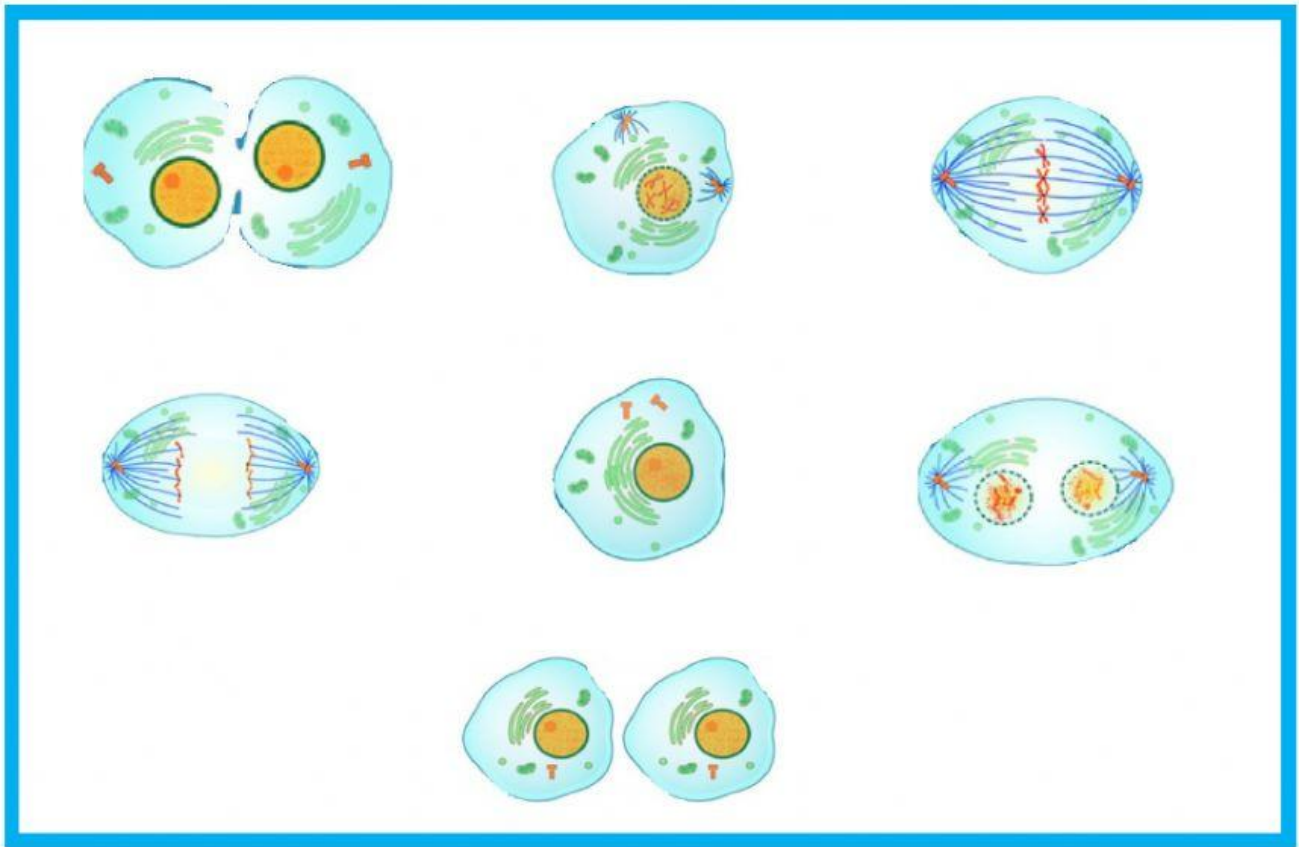
5. Draw three different examples of things that use cell division.



6. Describe and draw each stage of mitosis.

For each stage of the cell cycle, draw a cartoon and briefly explain what happens.

<u>Interphase</u>	<u>What Happens?</u>
<u>Prophase</u>	<u>What Happens?</u>
<u>Metaphase</u>	<u>What Happens?</u>
<u>Anaphase</u>	<u>What Happens?</u>
<u>Telophase</u>	<u>What Happens?</u>
<u>Cytokinesis</u>	<u>What Happens?</u>



DNA is replicated. The cell spends most of its time here.

Chromatin are formed. Nucleolus starts to disappears.

Nucleus dissolves. Chromosomes move to the center.

Chromosomes break and chromatids moved to opposite ends of cells.

Chromosomes break and chromatids moved to opposite ends of cells.

Nuclear envelop appears. Chromosomes are at opposite site.

This is the division of the cytoplasm. Two daughter cells are formed.

7. Define meiosis and state the number of cells it produces.

8. How many chromosomes does the average human have?

9. What is the difference between homozygous and heterozygous?

10. What are genes? Where do we get them from?

11. What is phenotype?

12. What is genotype?

13. A) The offspring of the P generation are called _____

B) Complete the chart below. Simon crossbreeds a purebred tall-stemmed plant with a purebred short-stemmed plant.

	Generation	Type of Stem
	F1 Generation	
	F2 Generation	

C) A _____ is a factor that controls a trait.

D) _____ are different forms of genes.

E) A _____ allele is one whose traits always shows up in an organism.

F) A _____ allele is hidden whenever the dominant allele shows up.

G) If plants inherit one dominant allele and one recessive allele, this plant will be

_____ .

14. A) Who was Gregor Mendel and why was he famous?

15. Complete the table below:

Name	Oviparous	Hermaphrodites	Marsupials	Viviparous
Meaning				

16. In humans, being a tongue roller (R) is dominant over non-roller (r). A man who is a non-roller marries a woman who is heterozygous for tongue rolling.

What is the genotype and phenotype of the father and mother? Draw a Punnett square to show the results of a crossing between the parents.

17.

A) What is the menstrual cycle?

B) How long does a normal menstrual cycle last?

C) If an egg is not fertilized, what happens to it?

18. Define genetic disorders and give three examples.

19. Briefly explain the concept of cloning.
