Regents Biology

Off Site Learning Packet

(pp.417-422, 428-435, 457-467, 441-446)

Assignment #1: ___/11

Assignment #2: ___/5

Assignment #3: ___/19

Crossword Puzzle: ___/23

North Salem High School

MISSION: *Engage students to continuously learn, question, define and solve problems through critical and creative thinking.*

Meiosis

(*Sexual Reproduction*)

(pp.417-422, 428-435, 457-467, 441-446)

Now that you know how the body makes new, genetically identical cells, we will now take look at how your body makes the cells that make a baby. Sex cells or gametes are genetically different or unique and contain only HALF the number of chromosomes normally found in body cells.

Let's get to work!

If you have any problems – please sign up for extra help after school.

Mr. Collea
Room W-19

ASSIGNMENT #1

DIRECTIONS: Please use ***complete sentences*** to answer each of the questions that follow. Please place all answers in the space provided.

1. Briefly describe the process of Asexual reproduction ***(p. 417)***

Asexual reproduction involves only ONE parent cell. The parent cell divides to produce offspring with the SAME genetic makeup.

2. Briefly describe the process of SEXxual reproduction ***(p. 417)***

Sexual reproduction requires two different parent cells from two different organisms or from two sexually different parts of a single organism. Sexual reproduction produces offspring that are genetically DIFFERENT from either parent.

3. Define each of the following terms: ***(p. 417 - 418)***

(a) **Gametes** - sex cells

(b) **Fertilization** - the fusion of the nuclei of the male and female gametes

(c) **Zygote** - the single cell formed from fertilization; fertilized egg cell

4. What does meiosis result in? ***(p. 418)***

Meiosis results in gametes (sex cells) containing half the number of chromosomes as the parent cell.

5. How are homologous chromosomes similar? ***(p. 418 - 419)***

Homologous chromosomes are similar in size and shape, and they have similar genetic content.

6. Define each of the following terms: ***(p. 419)***

(a) **Haploid** - *(monoploid)* cells that only contain ONE set of chromosomes (*n*)

(b) **Diploid** - cells that can contain TWO set or all of the homologous pairs of chromosomes (2*n*)

7. Briefly describe each of the following processes important to meiosis: ***(p. 420)***

(a) **Synapsis** - the *PAIRING* of homologous chromosomes during Prophase-I of meiosis

(b) **Disjunction** - the *SEPARATION* of homologous chromosomes during Prophase-I of meiosis

ASSIGNMENT #2

DIRECTIONS: Please use ***complete sentences*** to answer each of the questions that follow. Please place all answers in the space provided.

1. Where do the gametes of animals develop? ***(p. 428)***

   In animals, gametes develop in sex organs called gonads.

2. What are female gonads called and what special cells do they produce? ***(p. 428)***

   Female gonads are called ovaries and they produce special cells called eggs or ova.

3. What are male gonads called and what special cells do they produce? ***(p. 428)***

   Male gonads are called testes and they produce special cells called sperm.

4. Define each of the following terms: ***(p. 429)***

   (a) **Oogenesis** - the creation or formation of ova or eggs in the ovaries

   (b) **Spermatogenesis** - the creation or formation of sperm in the testes