**Meiosis: The Process of Making Sex Cells**

**Sexual Reproduction**

* Most organisms reproduce sexually.
* This means \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ parents are needed to produce offspring.
* This requires a \_\_\_\_\_\_\_\_\_\_\_\_\_ cell from each parent.

**What are sex cells?**

* Sex cells are the cells that produce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The sex cell produced by males is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The sex cell produced by females is the \_\_\_\_\_\_\_\_\_\_\_.

**What are chromosomes?**

* They are found in the nucleus of cells and are made of \_\_\_\_\_\_\_\_\_\_\_
* They determine all of the physical characteristics of organisms.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or genes, are on the chromosomes.
* Different organisms have different numbers of chromosomes. Humans have \_\_\_ pair for a total of \_\_\_.

**Sutton & Grasshoppers**

* Walter Sutton used a microscope to count the chromosomes in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells.
* He counted \_\_\_ chromosomes in every cell, except the sex cells. Those cells only had \_\_\_ chromosomes.

**What did Sutton learn?**

He figured out that grasshoppers must get \_\_\_\_\_ their chromosomes (and alleles) from the female parent and \_\_\_\_\_\_\_\_ from the male parent.

**12** chromosomes in the egg

+ **12** chromosomes in the sperm

**24** chromosomes in the cells of the fertilized egg or \_\_\_\_\_\_\_\_\_\_

**What is meiosis?**

* The process where the number of chromosomes in body cells is reduced by \_\_\_\_\_\_\_\_\_\_ in sex cells.
* This gives all other cells the number of chromosomes they should have.
* This happens through a series of stages.

**Asexual Reproduction**

* Asexual reproduction is where offspring are produced by only \_\_\_\_\_\_\_\_\_ parent.
* Since offspring receive all of their genes from that one parent, they are \_\_\_\_\_\_\_\_\_\_\_\_ to that parent.
* Two examples of asexual reproduction are \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.