**MITOSIS**

* When \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(body) cells reproduce themselves the process is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Main purposes of mitosis:

|  |  |  |
| --- | --- | --- |
| 1. | 2. | 3. **Asexual** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **(bacteria)** |

* Mitosis leads to the production of two *“*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *cells.”*
* Each daughter cell has the \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cell. All cells made by Mitosis are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, containing 2 copies of each chromosome (\_\_\_\_)

**MEIOSIS**

* When \_\_\_\_\_\_\_\_\_\_\_(sperm or egg) cells reproduce themselves the process is called \_\_\_\_\_\_\_\_\_\_\_. Meiosis reduces chromosome # in \_\_\_\_\_\_\_\_. Each cell made by Meiosis contains only 1 copy of each chromosome (n).
* During meiosis, a single \_\_\_\_\_\_\_\_\_\_\_\_\_\_ cell divides and produces \_\_\_\_\_ genetically \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ cells.
* In Meiosis \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_ occurs, where the chromosomes next to each other (\_\_\_\_\_\_\_\_\_\_\_\_\_\_ chromosomes) swap genes, this \_\_\_\_\_\_\_\_\_\_\_ genetic variety in the potential offspring.

Mitosis or Meiosis? Fill in each blank using your notes:

|  |  |
| --- | --- |
| 1. Asexual Reproduction? \_\_\_\_\_\_\_\_\_\_\_\_\_2. Results in 2 identical cells? \_\_\_\_\_\_\_\_\_\_\_\_3. Results in 4 non-identical cells? \_\_\_\_\_\_\_\_\_\_\_4. Produces gametes? \_\_\_\_\_\_\_\_\_\_\_\_\_5. Results in variation? \_\_\_\_\_\_\_\_\_\_\_\_\_ | 6. Results in haploid cells? \_\_\_\_\_\_\_\_\_\_\_\_\_7. Used for growth and repair? \_\_\_\_\_\_\_\_\_8. Skin cells? \_\_\_\_\_\_\_\_\_\_\_\_\_9. Sperm cells? \_\_\_\_\_\_\_\_\_\_\_\_\_10. Makes 2n cells? \_\_\_\_\_\_\_\_\_\_\_\_ |

Sex Chromosomes: A single \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of chromosomes that determines the gender of the organism. Always put \_\_\_\_\_\_\_\_\_\_\_, as pair #\_\_\_\_\_\_.

* Female = \_\_\_\_ \_\_\_ (\_\_\_\_\_ from mom, \_\_\_\_\_ from dad)
* Male =\_\_\_\_\_ \_\_\_\_\_ (\_\_\_\_\_ from mom, \_\_\_\_\_ from dad) \*Only pair that does NOT match by \_\_\_\_\_\_\_\_\_!\*

Autosomes: All other \_\_\_\_\_\_\_\_\_\_\_\_\_\_ not involved in gender determination. Pairs #1-22, Put from \_\_\_\_\_\_\_\_\_\_to \_\_\_\_\_\_\_\_\_\_\_ (followed by sex chromosomes). -Matched by same \_\_\_\_\_\_\_\_\_\_\_\_\_, *like socks!*



1 N egg

1 N sperm

*Upon fertilization, a “N” sperm meets a “N” egg and a zygote (2N) is formed.*

2N zygote

 *+*

* Crossing Over: Homologous \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_swap some genes during \_\_\_\_\_\_\_ only. This creates variety in the gametes!
	+ This is why you don’t look exactly like any \_\_\_\_\_\_\_\_\_\_\_, even though you have the \_\_\_\_\_\_\_\_ mom and dad.

**Chromosomal Disorders**

* Humans have \_\_\_ pairs of chromosomes, with one \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_from each parent. The chromosomes are coiled up \_\_\_\_. Under normal conditions all of the chromosomes are inherited intact and in **\_\_\_\_\_**.
* \_\_\_\_\_\_\_\_\_\_\_: when cells go through meiosis, portions of the chromosome are lost.
* \_\_\_\_\_\_\_\_\_\_\_: when cells go through meiosis, parts of the chromosome are flipped.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: when cells go through meiosis, parts of the chromosomes stick together and switch.
* \_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_\_\_\_\_: when cells go through meiosis the chromosomes don’t separate correctly and either too many or not enough are passed on.

**PICK 2 of the CHROMOSOMAL DISORDERS, Take Notes below:**

|  |  |
| --- | --- |
| **Disorder name**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **How rare?** 1 in \_\_\_\_\_\_\_\_\_\_What went wrong during meiosis? Which of the 4 types of chromosome mutations?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_What are the symptoms? What genes are affected?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **Disorder name**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**How rare?** 1 in \_\_\_\_\_\_\_\_\_\_What went wrong during meiosis? Which of the 4 types of chromosome mutations?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_What are the symptoms? What genes are affected?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |