***Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

**Asexual vs. Sexual Reproduction Notes**

***Houston…We have a problem…***

**Non-disjunction**: Cell division in which the sister chromatids do **NOT** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ correctly,

resulting in gametes with an abnormal number of chromosomes.

- This is how **\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** happens…the chromosomes don’t separate correctly,

and too many end up in the gamete.

- People with Down Syndrome have **47** chromosomes instead of \_\_\_\_\_\_\_.

**Meiosis Overview Web-Link Questions**

1. Before meiosis begins, DNA \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ takes place.
2. Meiosis consists of two cell divisions: Meiosis \_\_\_\_ & Meiosis \_\_\_\_\_
3. Late in Prophase I, the homologous chromosomes exchange \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ material as indicated by crossing-over points.
4. The chromosomes are now NOT genetically identical due to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-over.
5. Note that the \_\_\_\_\_\_\_\_\_\_\_ replication does not take place.

***Many Bacteria & protozoans do not need a partner to reproduce. Are they reproducing using mitosis?***

Answer: **NO**...They are using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Binary Fission** – Asexual form of reproduction used by some prokaryotes in which a cell divides into \_\_\_\_\_\_\_\_\_

**genetically identical** cells. *(creates a new individual)* SIMILAR/LIKE “cloning” themselves

**1** bacterium could become 1,000,000,000 (billion) in \_\_\_\_\_\_ hours!

***What are the advantages & disadvantages to being asexual & sexual?***

**Asexaul Reproduction**

|  |  |
| --- | --- |
| **Advantages** | **Disadvantages** |
| Can reproduce without a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_…  They don’t have to find a mate/partner. | No \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ variation…They are clones.  Its putting all your eggs in one basket. If a something kills  the parent, it WILL kill ALL the offspring too. Easily becomes extinct with little change to environment. |
| Able to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ quickly. The greater the number of offspring, the better the survival rate of the population. | Quick reproduction is also a disadvantage because too many individuals will be competing with each other for \_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_ |

**Sexual Reproduction**

|  |  |
| --- | --- |
| **Advantages** | **Disadvantages** |
| Genetic diversity!  Has the ability to create endless recombination of genes (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) coming from 2 parents, all individuals are different in some way. | Must find a partner. Very difficult if the population is \_\_\_\_\_\_\_\_ and spread out.  Difficult to recover if the species is endangered. |
| The species is more able to adapt to environmental \_\_\_\_\_\_\_\_\_\_\_ | Slow reproduction….takes time…  \_\_\_\_\_\_\_\_\_\_\_ population growth |