**January Notes: Day 3 Mitosis and Meiosis**

Name: Period: Date:

**AIM: Reproduction at the Cellular level- Cell Division What is Mitosis? What is Meiosis?**

**Do now: Write down 2 ways something can grow**

**How do cells grow?**

Cells can grow in two ways:

* Cells can grow by in , (getting )
* Cell can also grow by their , ( – Mitosis)

**What is Mitosis?**

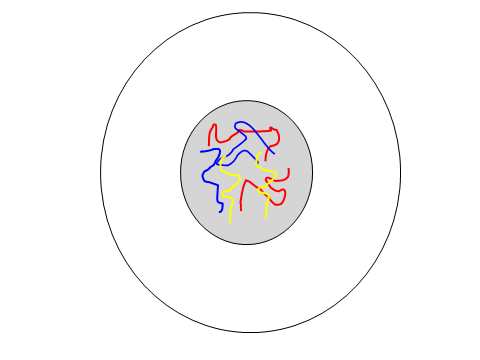
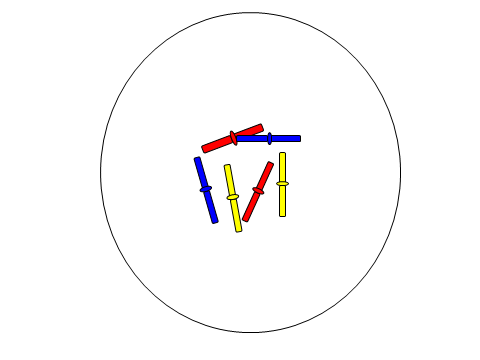
* is a type of cell where a cell reproduces itself by to form two new cells ( ).
* Mitosis produces cells from an old one.
* This is how organisms and dead or cells.

**What types of cells do mitosis?**

* Single organisms use to . , and
* cells are any cell in the body and cells. cells, cells, cells and ect.
* Cells the is formed.

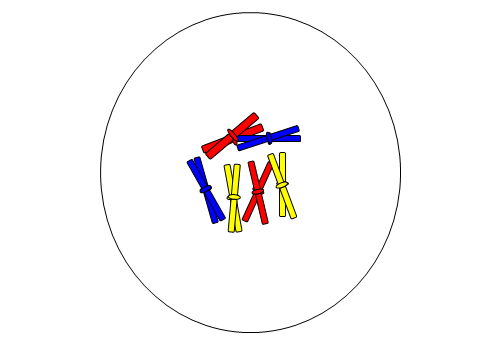
**The steps of Mitosis (step 1)**

* 1) The first step in is that cell must itself to
  + It must start all its . ( , , (plants))
  + In the ,the which is spread out in begin to (coil) to form . In humans there are 46 chromosomes.
  + The contains all the to the entire .

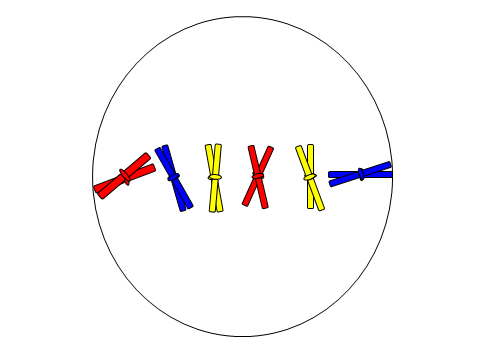
 

**The steps of Mitosis (step 2)**

* 2) The (DNA) begin to forming an “ ” like shape.

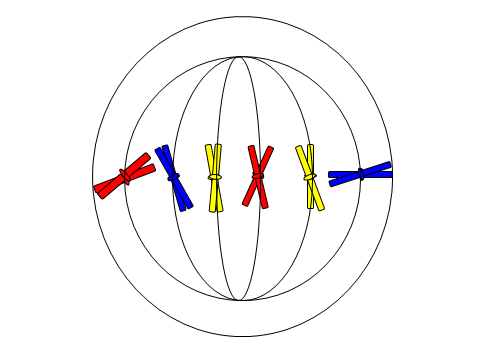
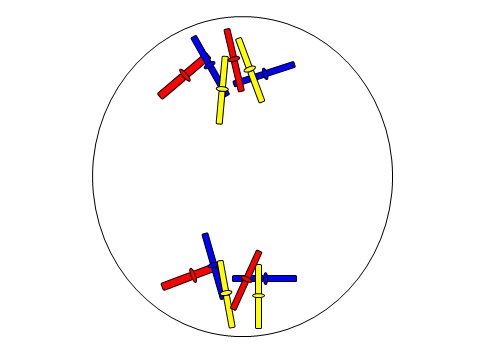


**The steps of Mitosis (step 3)**

* 3) Now that the chromosomes are , they begin to up in the of the cell.

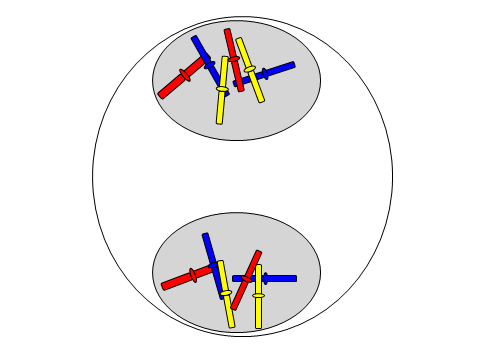
**The steps of Mitosis (step 4)**

* Small attached to the center of each begin to pull the “ ” shaped chromosomes apart and toward each of the cell.

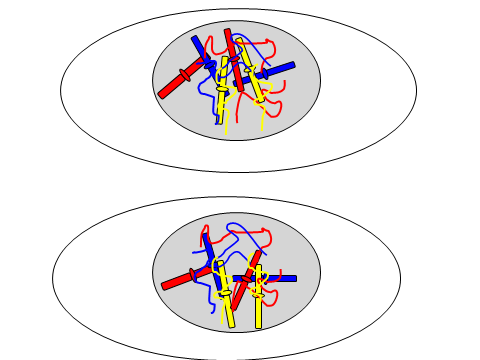
 

**The steps of Mitosis (step 5)**

* form around the newly and the cell begins to at the .

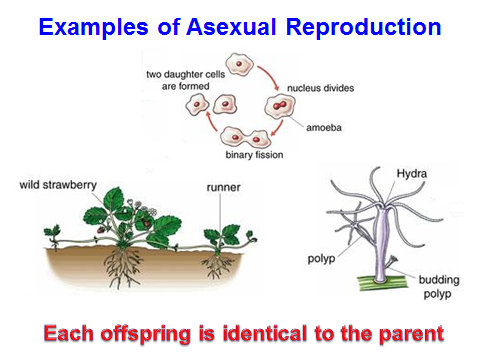
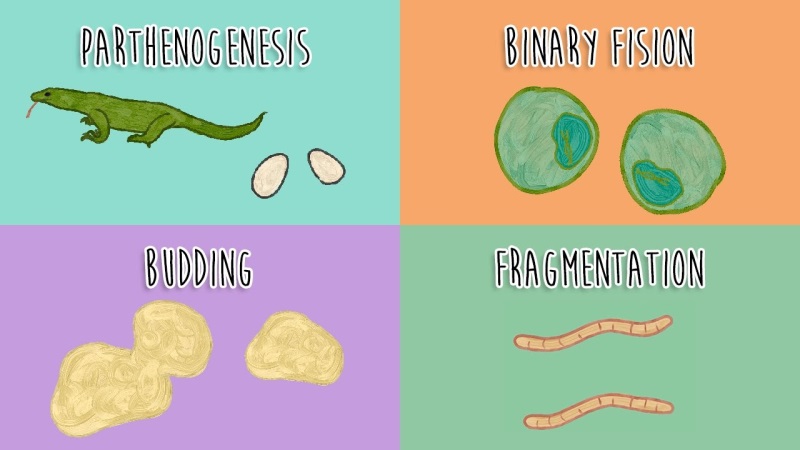


**The steps of Mitosis (step 6)**

* Finally a membrane forms at the “ ” and are formed.
* The itself.

**Mitosis and Asexual Reproduction**

* In organisms, is a way to make more . Mitosis in
* In many (single cell) organisms, is the way they .
* Using mitosis as a means of reproducing is a form of ( parent) reproduction.
* Each is a and contains exactly the .

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**What is Meiosis?**

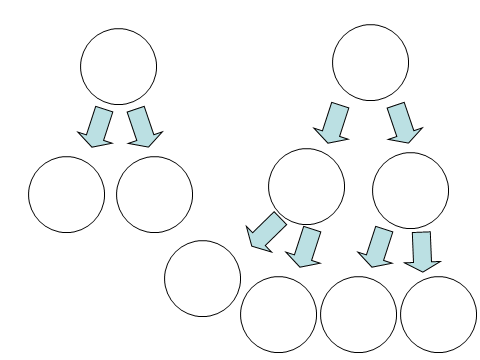
* is another type of .
* of two cells in respect to the parent, the cell(s) will have the number of
* Meiosis occurs in the - and cells.
* Meiosis occurs in the sex ( in males, in females)
* Sex cells are called

**Why do the daughter cells have half the chromosomes?**

* The purpose of the sex cell in meiosis is to be able to with another sex cell to form a new cell “ ”.
* By having only the number of chromosomes, the of the two sex cells will result in a containing the of

( = whole)- one set of chromosome from the and one set from the .

* cells have chromosomes or therefore human gamete cell have\_\_\_\_ non paired chromosomes.
* Because gametes are to make an , this form of reproduction is called reproduction.



**Steps of Meiosis**

* The part of Meiosis follows the steps as in Mitosis, except instead of the DNA when the cells splits, the cell a time.
* This leaves the gamete cells a chromosome

**Fertilization: The meeting of the Gametes**

* A is a .
* Once the zygote is , the new will have some of the from the and some from the .
* This means that the contain some from the and some from the .
* For this reason, the developing will have (characteristics) of the mother and the father.
* **How can I remember which cell division is which?**
* use to make own cells
* My used to make .

**Fertilization: The meeting of the Gametes (continued)**

* Because creates cells with only chromosomes, when to (fertilization) the new cell (zygote) will have the number of ( pair or total).
* As a results of the gametes combining, the offspring will have ( features) from parents.
* In a human cell, the nucleus contains of chromosomes (a set of chromosomes from the and a set of chromosomes from the or a of chromosomes)
* Each of the 23 chromosomes are from each other and they are 1 through 23.
* When the chromosomes are (example: mother’s chromosome 5 & father’s chromosome 5), they are said to be (same)