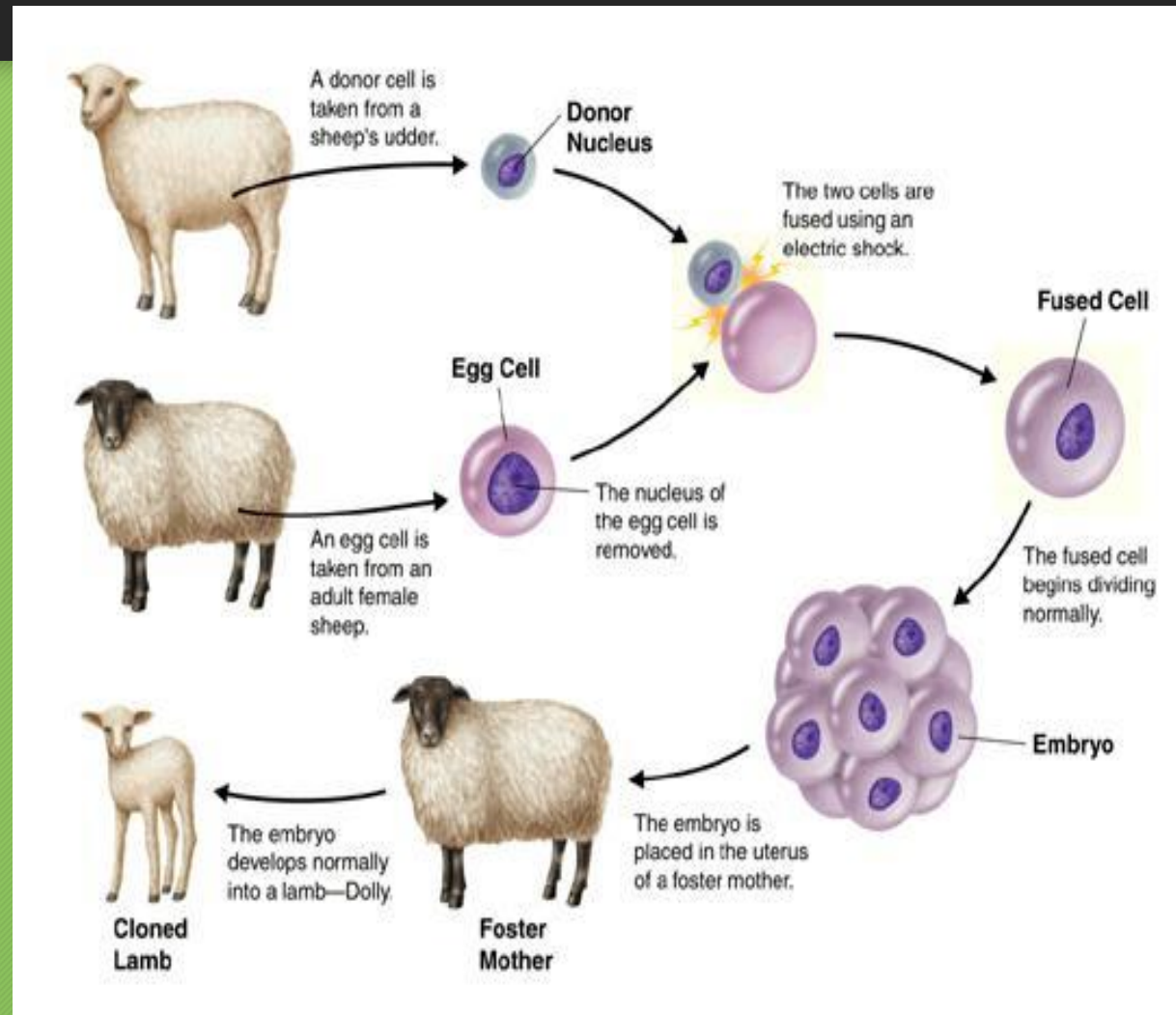


# Meiosis

Mr. Erick Santizo 4A

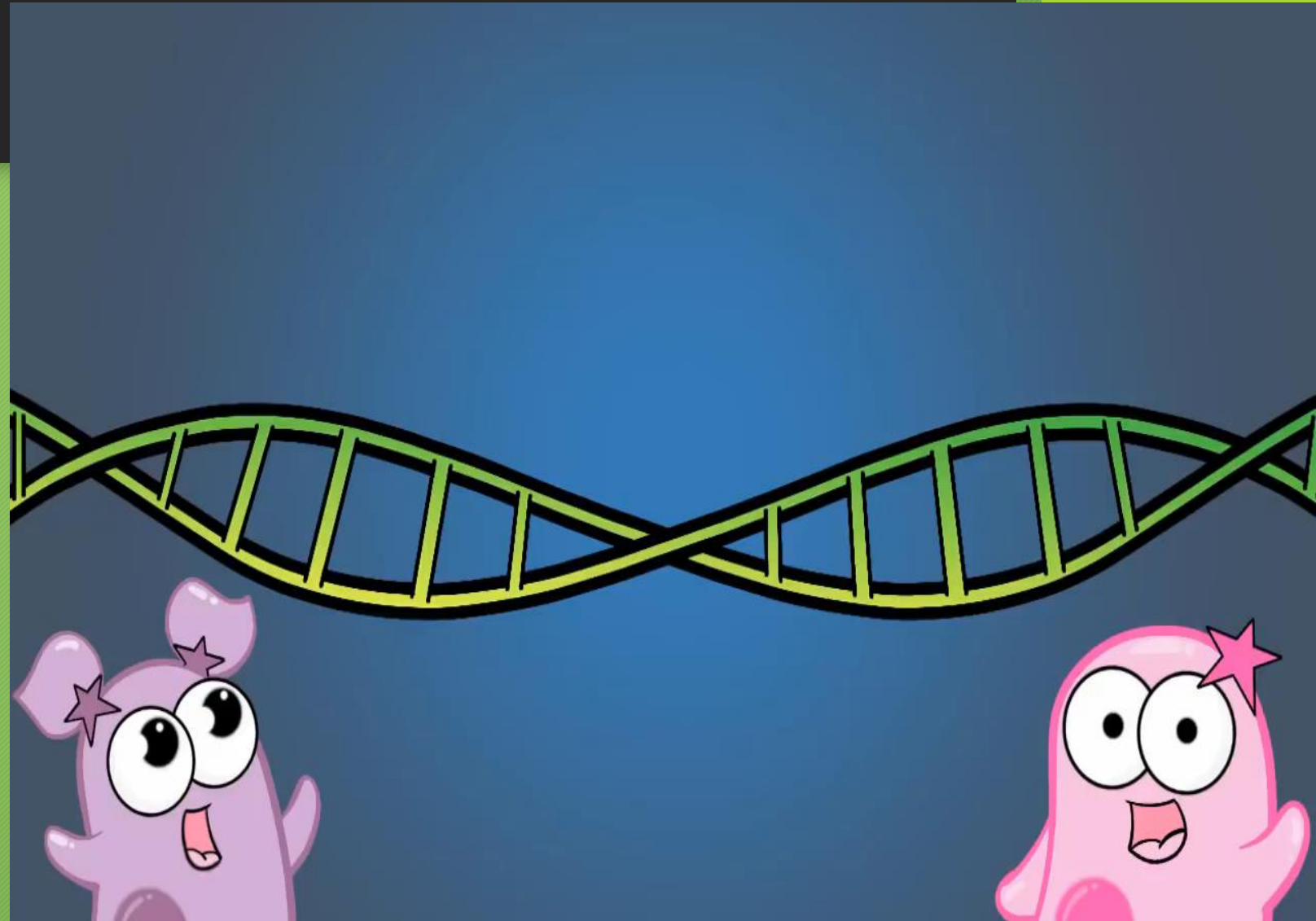
# Introduction: Mitosis clones



# Explore: Meiosis

## Questions:

- What does meiosis contribute to?
- What two human cells doesn't have 46 chromosomes?
- What is interphase?
- There \_\_\_\_\_ cell divisions in meiosis.
- At Prophase 1 (p1) what happens that create variation?
- What is the difference between Metaphase 1 in mitosis and meiosis?
- - What pulls the chromosomes away to each side?
- - In metaphase 2 chromosomes arrange in a \_\_\_\_\_ line. Not in pairs.
- - This time \_\_\_\_\_ are pulled away by spindle fibers.
- - when chromosomes don't separate correctly, its called \_\_\_\_\_.

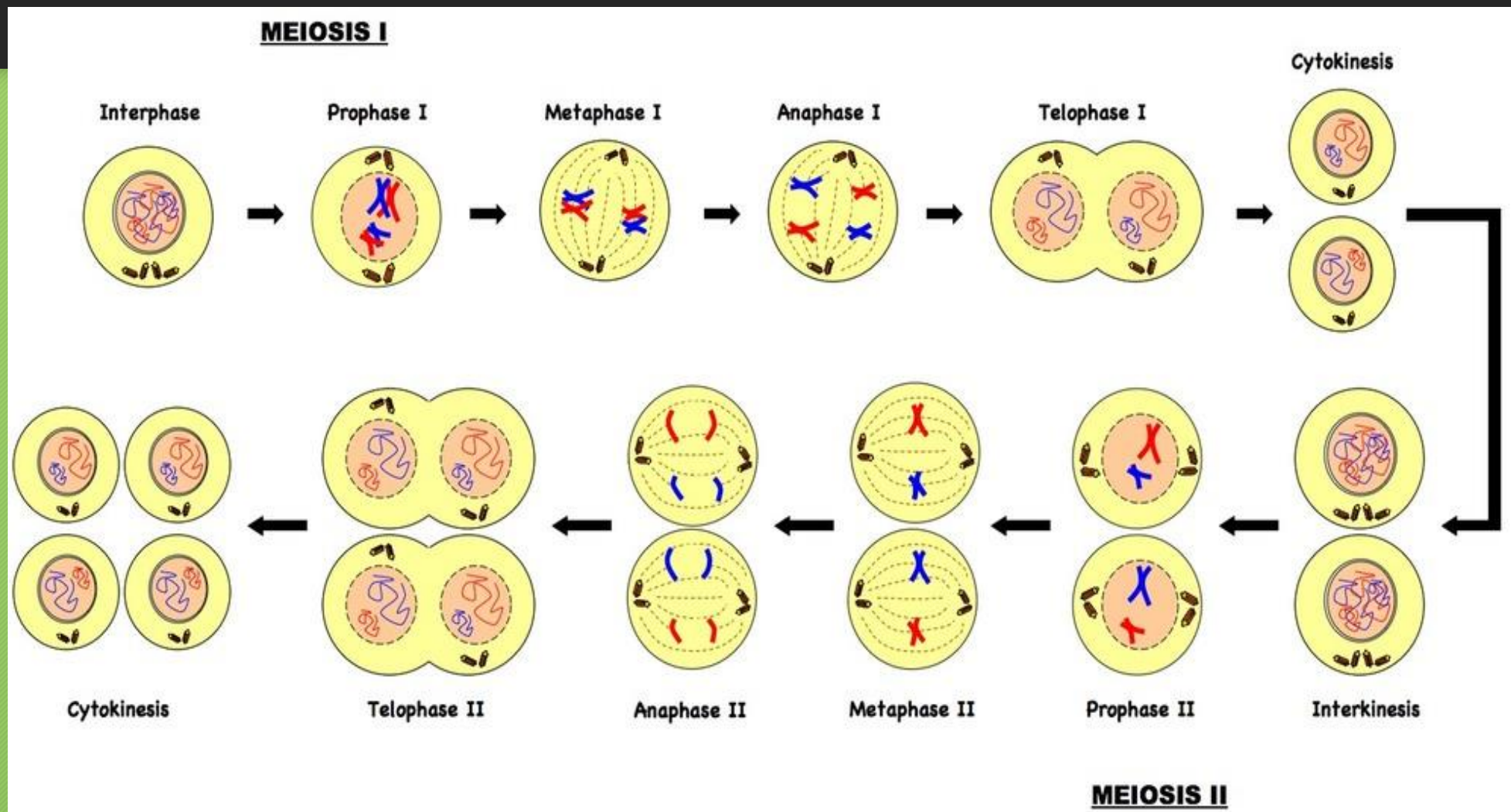




# Explain:

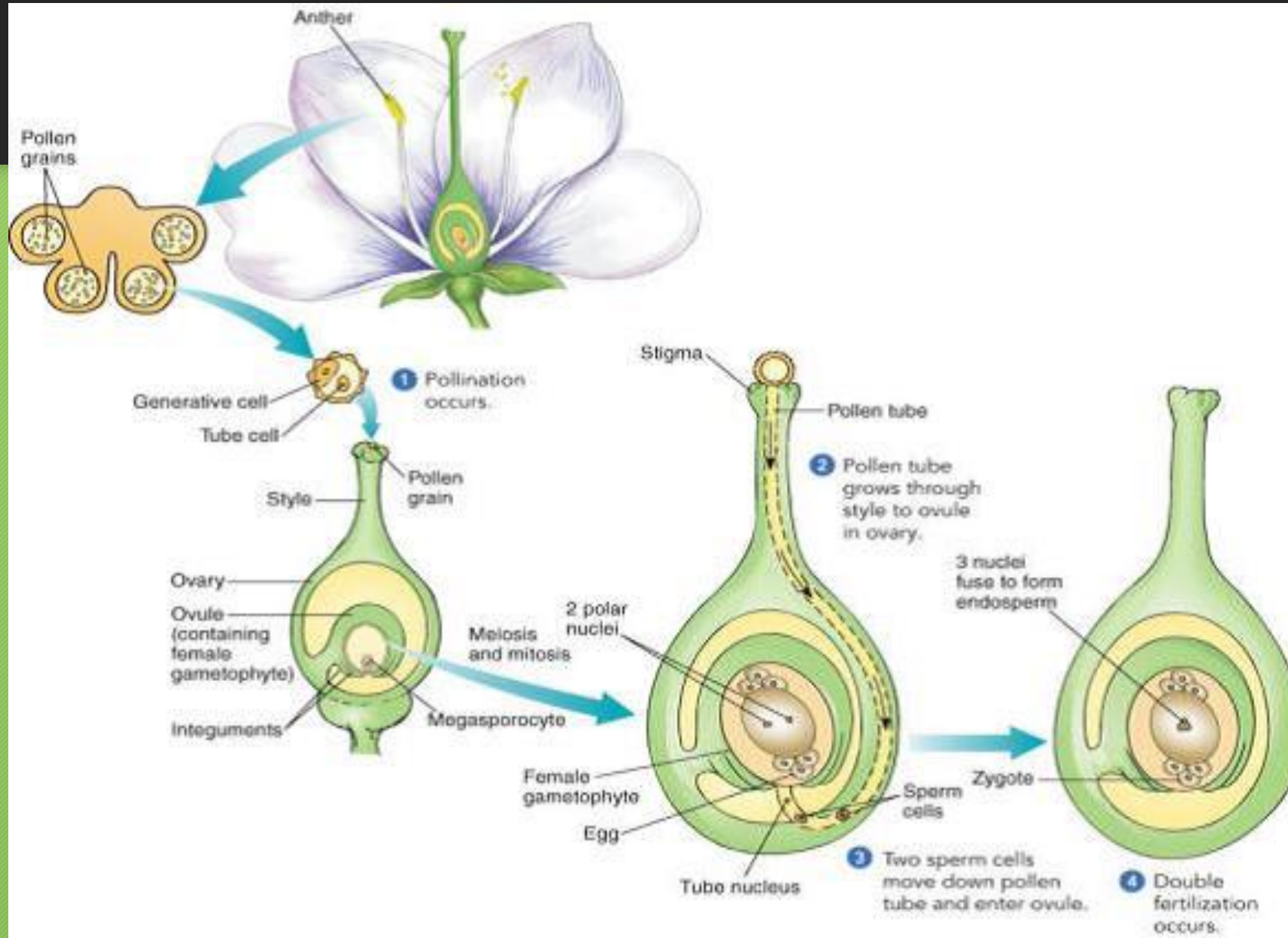
- - Meiosis produces nuclei that have half the number of chromosomes as the parent nucleus. The number of chromosomes in daughter nuclei is the haploid number.
- - Haploid gametes fuse together to form zygote that has the diploid number.
- - There are two divisions in meiosis. Homologous chromosomes pair in the first division and then separate. In the second division the chromatids of each chromosome separate.
- - In animals, meiosis produces haploid gametes; in flowering plants, pollen grains and embryo sacs are the products.
- - Gametes differ from each other as they have different combinations of chromosomes as a result of the random assortment of homologous pairs in the first division of meiosis.
- - Crossing over occurs in meiosis and involves the swapping of DNA between chromosomes in a homologous pair.

# Meiosis





# Plant fertilization: Self fertilization



# Elaborate:

Feature	Mitosis	Meiosis
Number of division of the nucleus		
Pairing of homologous chromosomes		
Crossing over		
Number of daughter nuclei produced		
Genotypes of daughter nuclei		
Roles in organisms		
Chromosome numbers of daughter nuclei		

# Elaborate:

Feature	Mitosis	Meiosis
Number of division of the nucleus	1	2
Pairing of homologous chromosomes	NO	YES
Crossing over	NO	Yes
Number of daughter nuclei produced	2	4
Genotypes of daughter nuclei	Identical to the parent nucleus and to each other	All are different from each other and to the parent nucleus.
Roles in organisms	Growth, replacement of cells, tissue, wound repair, asexual reproduction	Production of gametes in animals; production of pollen grains and embryo sacs in flowering plants
Chromosome numbers of daughter nuclei	Same as the parent nucleus	Half the number as the parent nucleus