

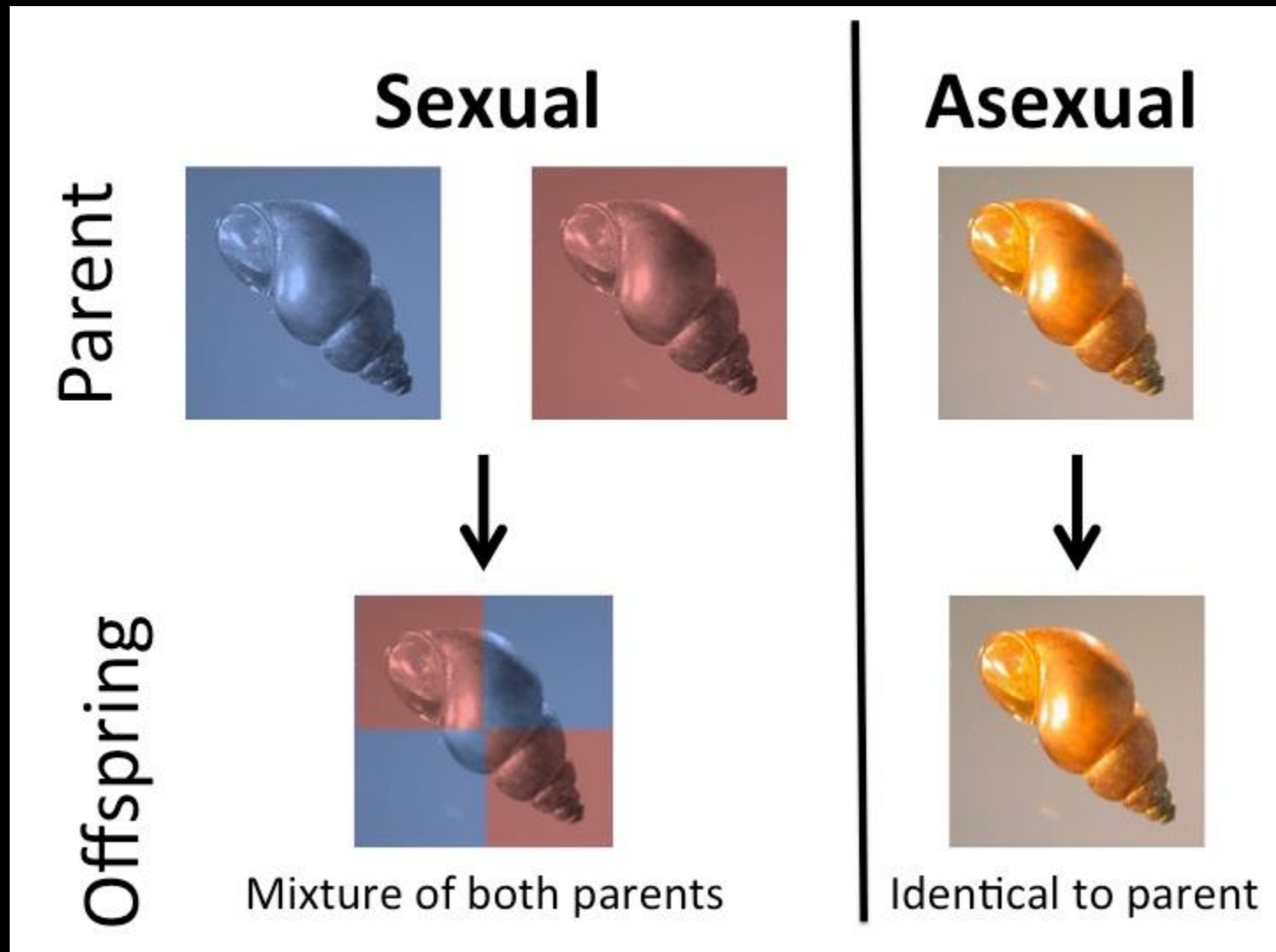
# Sexual Reproduction



# Learning Objectives

- Explain the difference between haploid and diploid cells

# Sexual vs. Asexual Reproduction



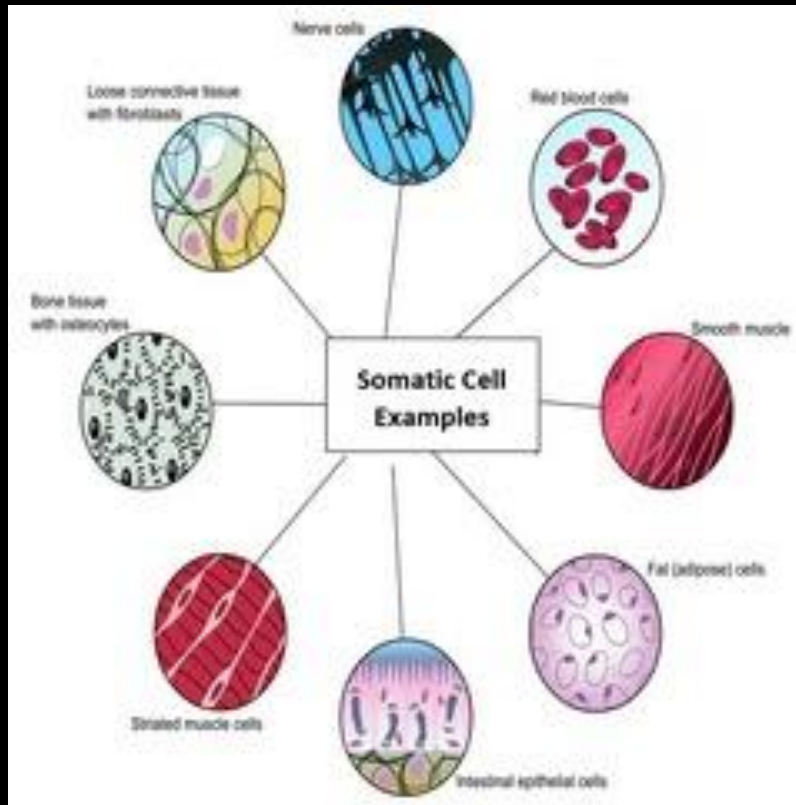
# Offspring



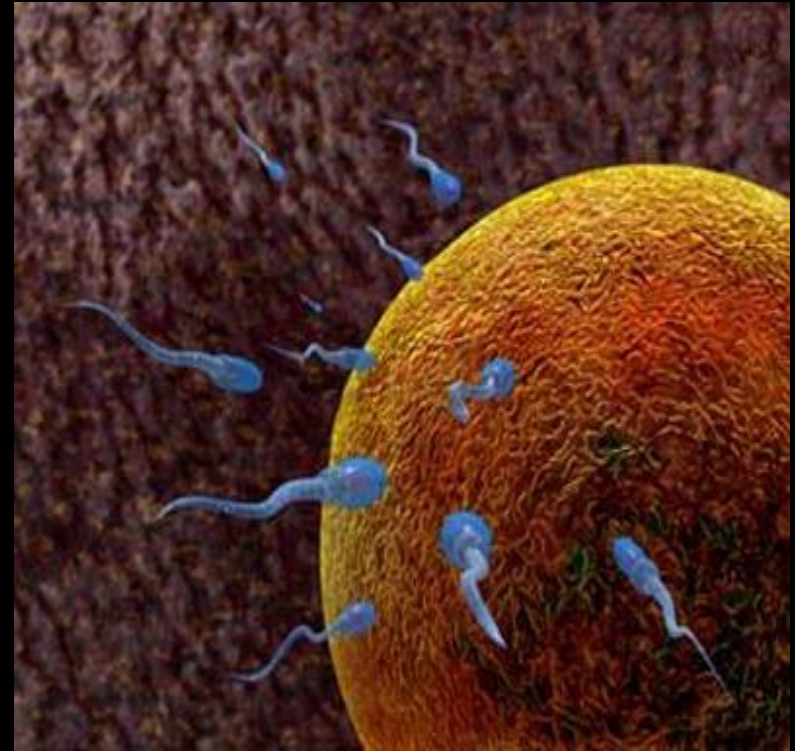
Families have resemblances, but no two are alike

# Types of Body Cells

Mitosis



**Somatic cells** – all cells except gametes



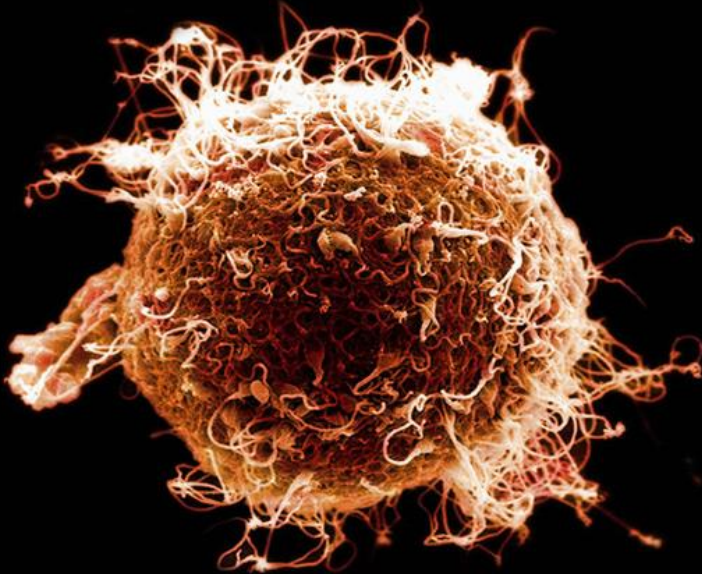
Meiosis

**Gametes** – sex cells: sperm and egg cells

# How to Make Offspring

When sperm and egg combine, they form a **zygote** (offspring). The zygote gets half of its chromosomes from Mom and half from Dad.

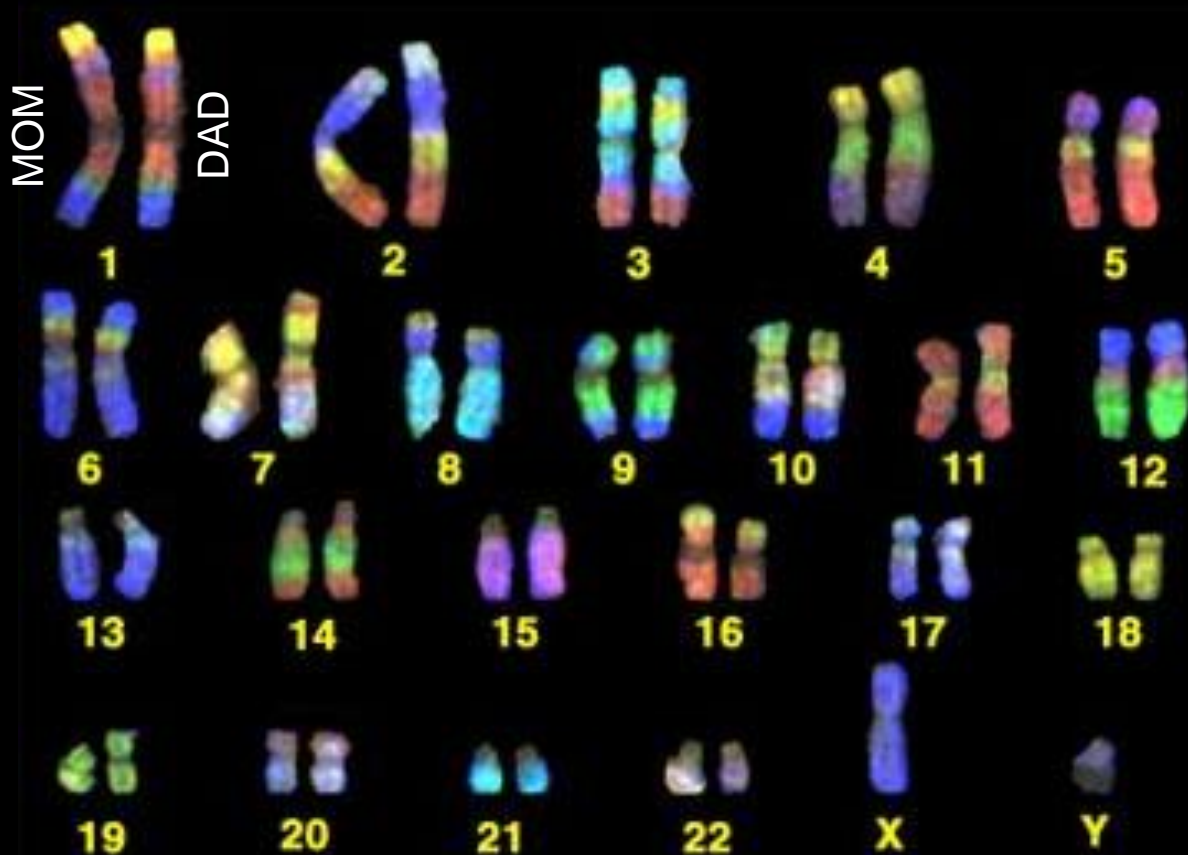
Sperm & Egg



Zygote











# Chromosomes



Every human cell has 23 pairs of chromosomes.  
1 set from Mom and 1 set from Dad

# Chromosome # in Different Species

Species		Chromosome number (2n)	Species		Chromosome number (2n)
	human being	46		tobacco	48
	fruit fly	8		barley	14
	rat	42		water-melon	22
	fen duck	80		bean	22

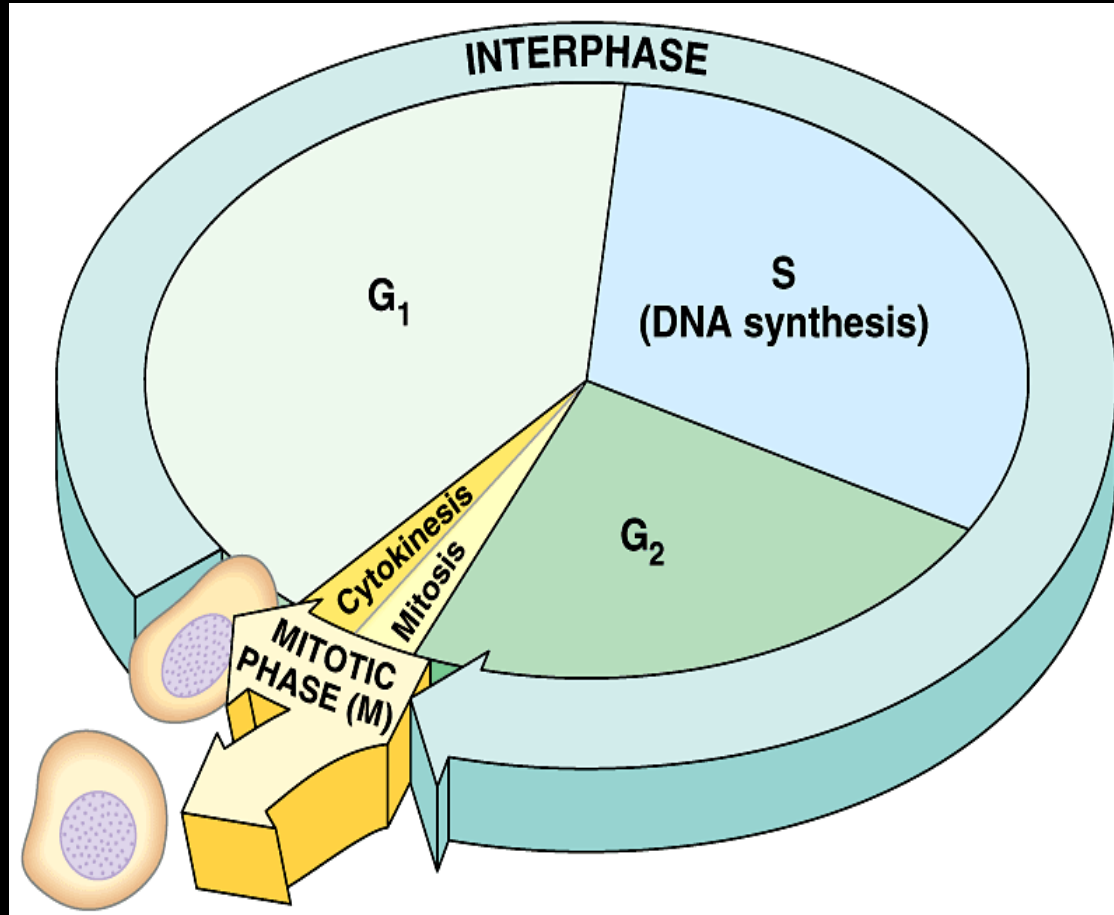


# Chromosomes



Chromosomes are made of two identical **sister chromatids**, which are joined at the **centromere**.

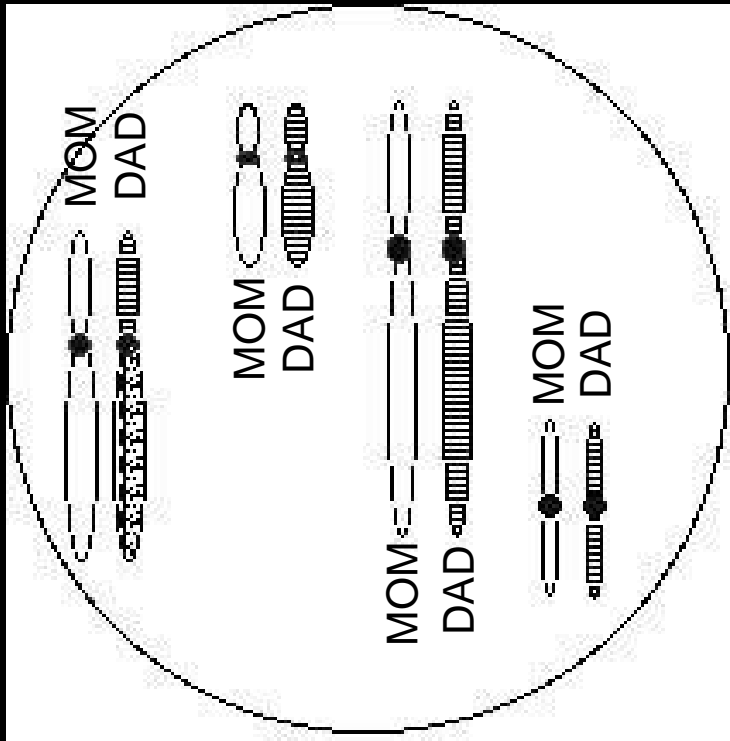
# Sister Chromatids



Sister chromatids are made during **S phase** of the cell cycle.

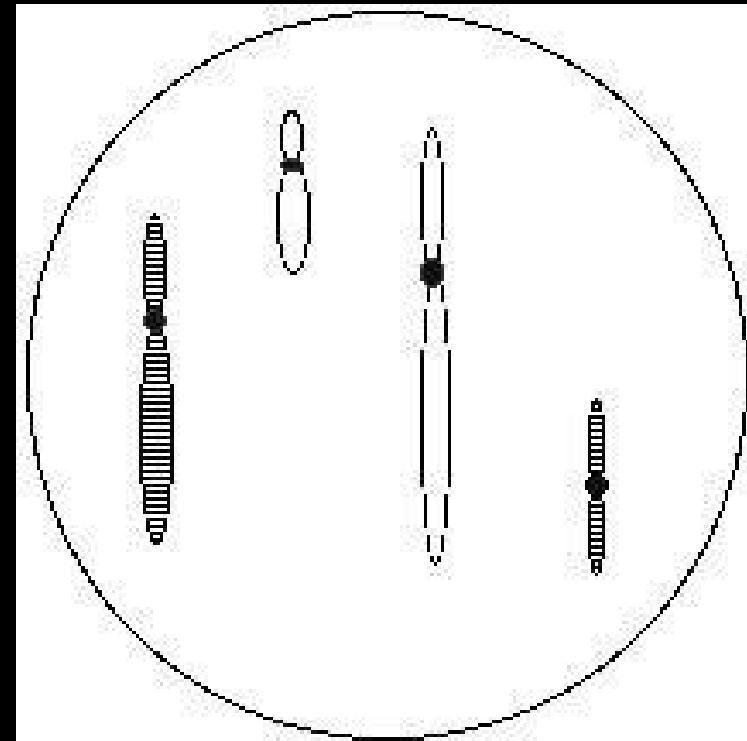
# Diploid (2n) vs. Haploid (1n)

## Somatic Cells



**Diploid** - Cells with 2 copies of each chromosome

## Sperm & Egg



**Haploid** - Cells with only 1 copy of each chromosome

How Do You Make  
Haploid Cells (sperm &  
egg cells)?

Meiosis!

YouTube Video

Meiosis Animation

Stop Here

