

## I. Organisms

- A. number of cells
  - 1. single-celled
    - a. organisms made of just one cell
    - b. bacteria, amoeba, algae, paramecium
  - 2. multi-celled
    - a. organisms made of more than one cell
    - b. plants, animals, fungi
- B. reproduction
  - 1. **Asexual reproduction** (mostly single-celled organisms)
    - a. organism copies self, then splits in half (no male/female parts)
  - 2. **Sexual reproduction** (mostly multi-celled organisms)
    - a. male and female parts combine

## II. Cells: key parts

- A. **cell**: building block of all organisms
- B. **nucleus**: control-center of cell
- C. **chromosomes**: thin fibers in nucleus (“blue prints” for cell)
- D. **genes**: tiny segments of chromosomes
- E. **DNA**: material genes and chromosomes made of

## III. Human Genetics at Cellular Level--Chromosomes

- A. 23 pairs (46 total—non-sex cells)
- B.  $\frac{1}{2}$  chromosomes from mom;  $\frac{1}{2}$  from dad
- C. 23 individuals in sex cells
- D. cells copy selves and divide as organism grows

(\*\*Complete product before continuing.)

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## IV. Punnett Square

- A. model used to predict possible traits in offspring

## V. Changing Traits

- A. mutation
  - 1. occurs when DNA damaged or changed so that genetic message carried by that gene changed