

# Characteristics of Living Things



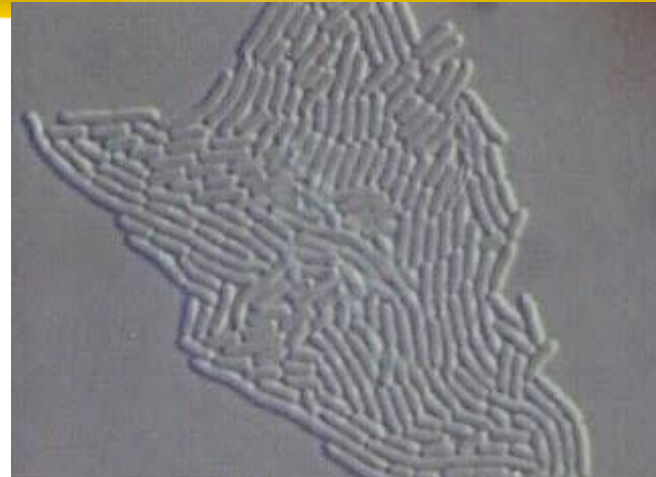
# What is biology?

- ➔ The study of living things
- ➔ All living things share certain characteristics



# 1. Made of 1 or more cells

- ➔ **Unicellular** (one cell)
  - ex. Bacteria, yeast
- ➔ **Multicellular** (many cells)
  - ex. Animals, plants





## 2. Need energy to survive

- ➔ **Autotrophs** - get energy from sun
- ➔ **Heterotrophs** - get energy by consuming nutrients from their environment





### 3. Respond to stimuli in their environment

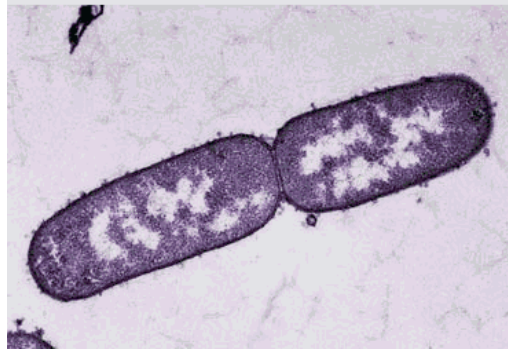
⇒ ***Stimuli*** - factors in the external or internal environment that living things react to (ex. Light, temperature, sound, hormone levels, etc.)



## 4. All living things reproduce

⇒ **Sexual** - two sex cells required (sperm and egg)

⇒ **Asexual** - only one parent cell is needed



## 5. Grow and develop

- ➔ Each cell divides to make new cells (cell division) – results in growth
- ➔ Some cells become specialized and perform different jobs than others (differentiation)



## 6. Maintain homeostasis

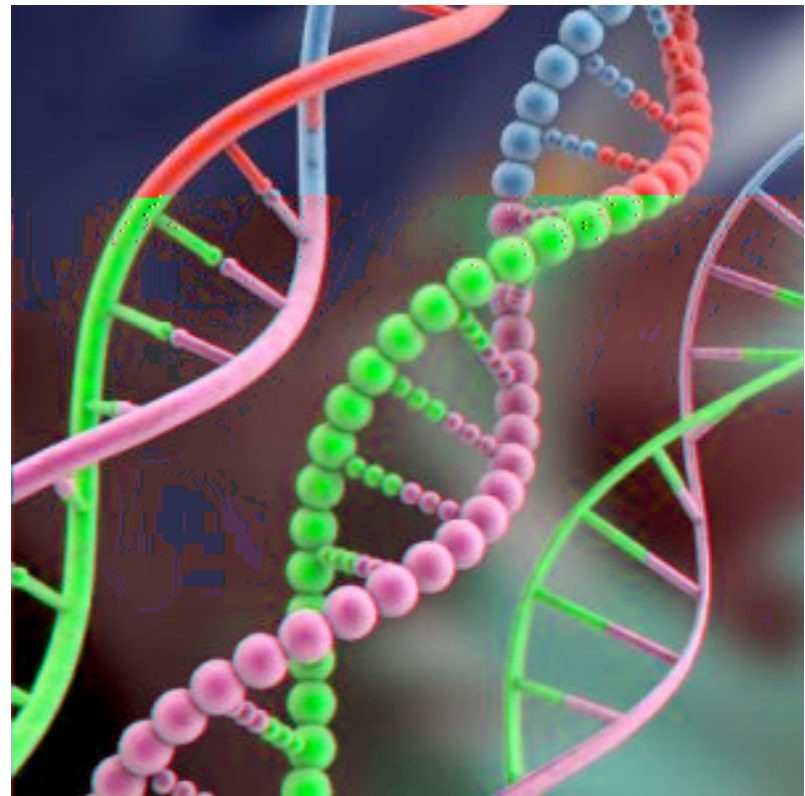
- ⇒ **Homeostasis** – a relatively stable internal environment (within a certain range)
- (ex. Human body temperature (approximately 98.6 degrees F))





## 7. Have a universal genetic code

- ➔ All living things have DNA
- ➔ DNA passes on genetic information from one generation to the next



## 8. Adapt and evolve over time

- ➔ **Evolution** - gradual change in a population of organisms over time
- ➔ Individuals DO NOT evolve

