

## What is Life? (H6)

- **Purpose:** Summarize the common characteristics of life (organisms) as recognized by scientists.
- **Guiding Question:**
  - What is an organism?

## Obtains/uses energy, creates/removes waste

- **Description:** Energy (ATP) is required for life functions
- **Examples:**
  - **Heterotrophs:** eat other organisms
  - **Autotrophs:** make own food within cells

## Responds to the Environment

- **Description:** Reacts to stimuli (input)
- **Examples:**
  - **Stimuli:** input from environment/others
  - **Behavior:** reaction to the stimuli

## Reproduce

- **Description:** Create genetically similar offspring.
- **Examples:**
  - **Asexual:** reproduction through self (e.g. fragmentation, parthenogenesis, budding); creates a genetically identical offspring.
  - **Sexual:** Two organisms combining genetic material to create a similar offspring.

## Cells/Organization

- **Description:** Cells are the basic structure of all living things. They carry out the functions of life.
- **Examples:**
  - **Eukaryote:** cell with a nucleus
  - **Prokaryote:** cell without a nucleus (bacteria)
  - **Unicellular:** made of one cell
  - **Multicellular:** made of many cells

## Grows/Develops

- **Description:** Growth = getting larger. Develop = changing over time.
- **Examples:**
  - **Puberty:** human's body changes to allow for reproduction
  - **Metamorphosis:** organism undergoes many body changes from larva/nymph to adult