

# 5.8 Reproduction and Cell Division

- Organisms of all species reproduce.
- They may reproduce sexually or asexually.



# Asexual Reproduction

- In asexual reproduction a single organism gives rise to offspring with identical genetic information.
- The cells of the human body, other than those found in male and female reproductive organs, reproduce asexually by mitosis.

# Binary Fission

- In binary fission, the organism splits directly into two equal sized offspring, each with a copy of the parent's genetic material.

# Budding

- In budding, the offspring begins as a small outgrowth from the parent.
- Eventually, the bud breaks off from the parent, becoming an organism on its own.
- Budding occurs in some single-cell organisms such as yeast.

# Fragmentation

- New organism - part breaks off from the parent
- If a starfish is cut through its central disk, each section will develop into a new starfish that contains identical genetic information.

# Spore Formation

- Organism undergoes frequent cell division to produce many identical cells called spores.
- Each spore can develop into a mature organism.

# Spore Formation

- Many spores have a tough, resistant coating that allows them to survive after the parent cell dies.
- Example: Penicillium mould reproduces by forming spores.

# Vegetative Reproduction

- Many plants make use of vegetative reproduction by producing runners that can develop into another plant.
- Example: Spider Plant and strawberries