

# Introduction to Traits

- Traits are characteristics inherited from parents or acquired.
- Physical: eye color, height
- Behavioral: language, nest-building
- Visual: diagram showing humans, plants, and birds

# Inherited Traits

- Passed via genes; examples: eye color, hair type, dimples, genetic disorders.
- Visual: family tree showing inheritance of eye color.
- Source: Byju's

# Acquired Traits

- Develop through environment or experiences; examples: learning to ride a bike, wearing glasses, muscle development.
- Visual: newborn vs. child learning skills.
- Source: Wikipedia

# Natural Selection

- Organisms with advantageous traits survive and reproduce.
- Examples: giraffes' long necks, peppered moths.
- Visual: peppered moth before-and-after; giraffe feeding.
- Source: Natural History Museum

# Stabilizing Selection

- Favors average traits.
- Examples: human birth weight, medium bird eggs.
- Visual: graph showing survival rates.
- Source: Study.com

# Directional Selection

- Favors one extreme phenotype.
- Examples: antibiotic-resistant bacteria, finch beak size during drought.
- Visual: timeline of bacterial resistance; graph of finch beak sizes.
- Source: Berkeley Evolution

# Disruptive Selection

- Favors extreme traits over intermediates.
- Examples: birds with very large or small beaks, rabbits with dark or light fur.
- Visual: rabbits in snowy vs. forest habitats; graph with two peaks.
- Source: Berkeley Evolution

# Acquired Traits & Epigenetics

- Environmental factors can alter gene expression.
- Example: stress or diet affecting offspring gene expression.
- Visual: flowchart Environmental factor → Gene expression → Offspring.
- Source: Teach Genetics, University of Utah



# Misconceptions About Inheritance

- Acquired traits cannot be inherited.
- Example: muscle gained through exercise is not passed on.
- Visual: Lamarck vs. Mendel inheritance diagram.
- Source: Wikipedia

# Summary

- Inherited vs. acquired traits.
- Natural selection shapes evolution.
- Examples: moths, giraffes, finches, bacteria, humans learning skills.
- Visual: collage of examples; concept map linking traits and evolution