

## Organisms and their environment

### Energy flow and food chains

#### Sun: principal energy source

Light energy    Photosynthesis

#### Energy flows, not cycled

Chemical energy in organisms    Heat to environment

#### Food chain

Transfer of energy    Starts with producer

Arrows: food to feeder

#### Food web

Interconnected food chains

#### Consumers

Primary    Secondary    Tertiary    Quaternary

#### Herbivore, carnivore, decomposer

Eats plants    Eats animals    Feeds on dead material

#### Human impact **Supplement**

Overharvesting    Introduced species

### Nutrient cycles

#### Carbon cycle

Photosynthesis removes CO<sub>2</sub>    Respiration adds CO<sub>2</sub>

Feeding passes carbon on    Fossil fuels and combustion

#### Decomposition

Bacteria and fungi    Release CO<sub>2</sub> by respiration

### Populations

#### Population

One species    Same area    Same time

#### Community

All populations    Different species

#### Ecosystem

Community plus environment    Interacting together