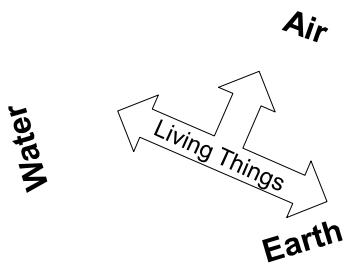


# Forces in Nature

## Feedback loops



1

# Earth's Systems

- \_\_\_\_\_
  - All rocks and minerals on or under the surface in solid or molten form.
- \_\_\_\_\_
  - Water that is on the surface of earth, underground, and in the air.
- \_\_\_\_\_
  - The envelope of gases surrounding the earth.
- \_\_\_\_\_
  - All living organisms on the planet.



2

## System Interaction

- A network of \_\_\_\_\_ among parts, elements, or components
  - They interact with and influence one another
  - They exchange energy, matter, or information
- Systems receive \_\_\_\_\_ of energy, matter, or information
  - They process these inputs and produce outputs



3

## Feedback Loops

- A \_\_\_\_\_ process in which a system's output serves as input to that same system
- Two types
  - Positive
  - Negative
- These do not mean good or bad.



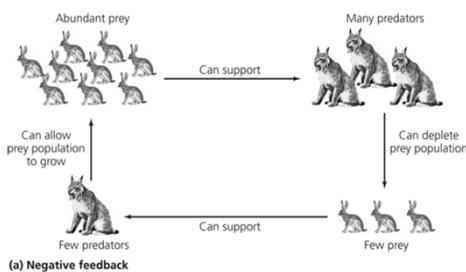
4

## Negative Feedback Loop

- Output from a system moving in one direction acts as input
  - That moves the system in the other direction
- Input and output \_\_\_\_\_ one another
  - \_\_\_\_\_ the system
  - Example:



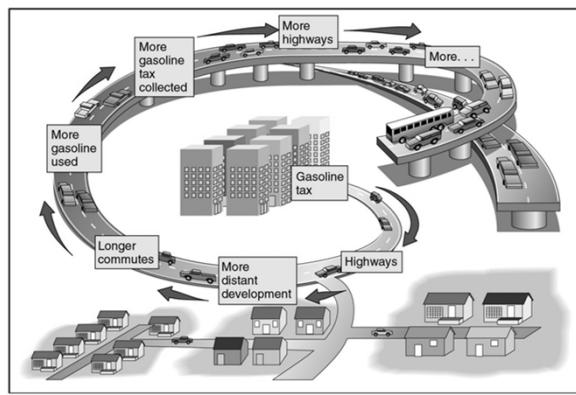
- Most systems in nature



5

## Positive feedback loop

- Instead of stabilizing a system, it drives it further toward one \_\_\_\_\_ or another
- Rare in nature, but is common in natural systems altered by humans
- Example:



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