

Homeostasis

"Homeostasis" - ability to maintain relatively stable internal conditions

This Week

Chapter 30/Homeostasis

Goal:	HW
<ul style="list-style-type: none">Understand the role of homeostasis in the body.	<ul style="list-style-type: none">Due: TuesdayThermoregulation Reading:Pages: 646-652Outline: Main IdeasKey Terms: define

Term 'Homeostasis'

- What: The term 'homeostasis' is derived from two Greek words;
 - Homeo which means 'unchanging'
 - Stasis which means 'standing'
- Why: "**Homeostasis**"

- How: Feedback loops

What does the word "feedback" mean? With what do you associate this term?

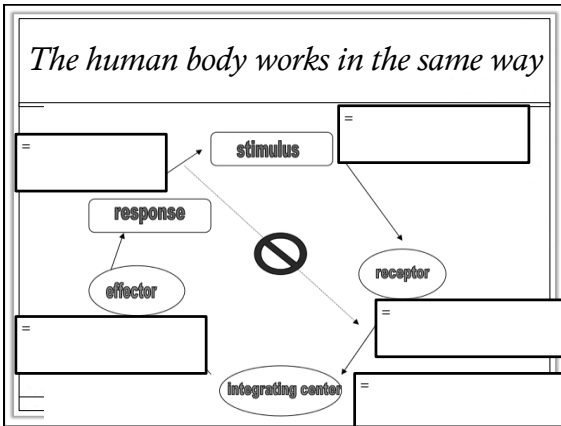
Brainstorm:

Feedback Loop

- Example: Progress Report Cards and Grades
 - Why: for students to gauge their performance in there classes.

What would you consider normal or acceptable range for your grades? What happens when you fall outside of (below) that range?

Brainstorm:



“What things / processes in the human body need to be kept within a particular range?”

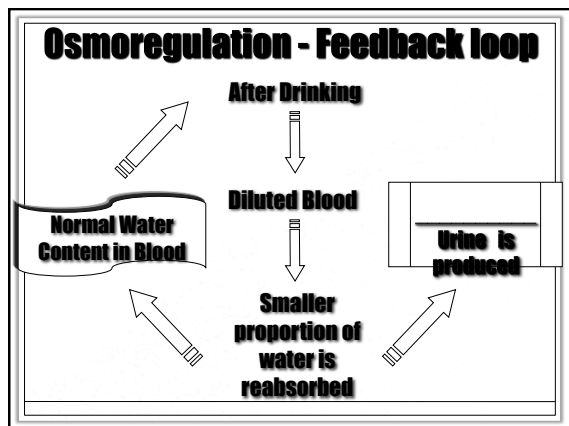
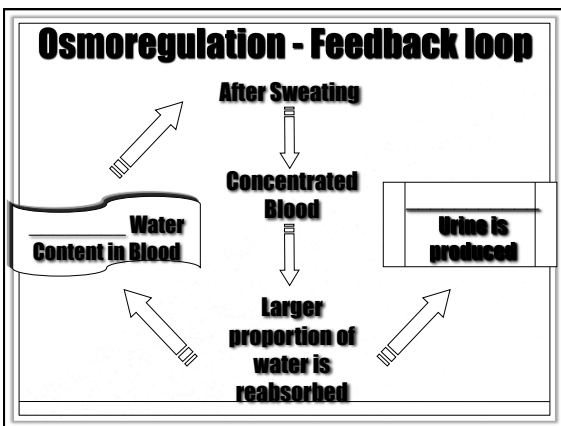
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OVERVIEW:
Parts of Body involved

- regulate water & mineral salts concentration
- regulate body temperature
- &
- regulate blood glucose level

Osmoregulation (Water & Mineral salts)

- Regulate water potential in Tissue Fluid
- Organ involved: _____



**Osmoregulation
(Water & Mineral salts)**

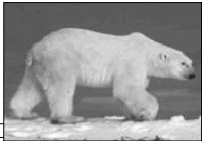

- After having a very salty meal
 - ⇒ produce _____ urine to remove excess salts in solution form
 - ⇒ extra _____ is needed to be excreted along with the excess salts
 - ⇒ sensation of thirst (drink more water to compensate for the water loss)

**Thermoregulation
(Body Temperature)**

- Regulate body temperature
- Organ involved: _____


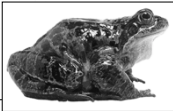
**Thermoregulation
(Regulation of Body Temperature)**

- _____ AKA warm-blooded animals
- keep body temperature constant even in winter by increasing metabolic rate
- e.g. birds, mammals

**Thermoregulation
(Regulation of Body Temperature)**

- _____ AKA cold-blooded animals
- body temperatures vary with that of the environment
- e.g. reptiles, fish, amphibians

Mechanisms for Thermoregulation

- Insulation
 - _____
 - _____
 - _____
 - _____
- Evaporative cooling
 - _____, panting, bathing
- Shivering
- Nonshivering thermogenesis & brown fat
- Circulation adaptations
 - Countercurrent exchange
 - Vasodilatation (cooling)
 - Vasoconstriction (heat conservation)
- Behavioral responses

**Glucoregulation
(Sugar)**

- Regulate body sugar
- Organ involved: Liver & _____

