

Homeostasis

"Homeostasis" - ability to maintain relatively stable internal conditions

This Week Chapter 30/Homeostasis

<p style="text-align: center;">Goal:</p> <ul style="list-style-type: none">• Understand the role of homeostasis in the body.	<p style="text-align: center;">HW</p> <ul style="list-style-type: none">• Due: Tuesday• Thermoregulation Reading:• Pages: 646-652• Outline: Main Ideas• Key Terms: define
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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?

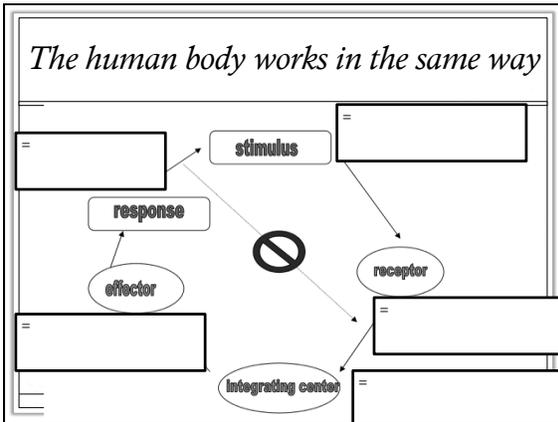
Brainstorm:

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?”

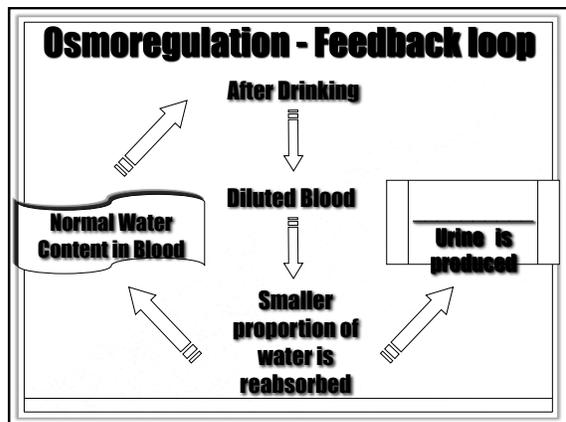
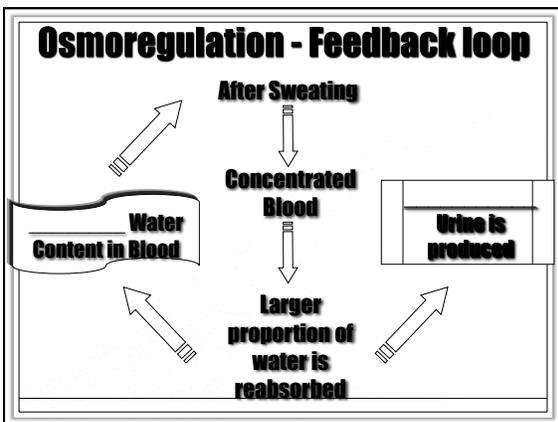
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OVERVIEW:
Parts of Body involved

- 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: _____

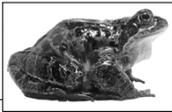
**Thermoregulation
(Regulation of Body Temperature)**

- _____ 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 & _____

