Homeostasis Notes (with Answers)

Learning objective: I can plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

Definition of Homeostasis: Maintaining a stable internal balance despite external, environmental changes.

 Homeo = Constant Stasis = Stable

Examples of external changes that stimulate an internal response:

* Weather changes (temperature, wind, humidity, etc.)
* Eating food/ drinking water
* Injury of some sort (getting a cut, touching a hot surface)
* Invading virus/ bacteria

Examples of homeostasis within our body:

* pH of blood
* Levels of glucose in blood (blood sugar levels)
* Body temperature
* Water levels in cells

Negative Feedback Loop: Some external variable needs to be counteracted to return

 back to normal or the correct balance (this is most typical)

Ex. Hot temperature (variable) 🡺 Sweating to cool off

 Cold temperature (variable) 🡺 Shivering (contraction of muscles) to warm up

 Exercise 🡺 increase in blood pressure 🡺 increased heart rate

 Exercise 🡺 increase need for oxygen for muscles 🡺 increased breathing rate

Positive Feedback Loops : External variable becomes strengthened

Ex. Getting a cut 🡺 platelets adhere to site 🡺 Hormones released 🡺 more clotting to seal

 Contractions of uterus during birth 🡺 more hormones 🡺 more contractions 🡺 Baby!

Draw a comic strip to explain a negative feedback loop.

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