MAINTAINING HOMEOSTASIS 1

1. Which of these does homeostasis most directly relate to?

A. stability

B. evolution

C. scale and structure

D. interacting systems

2. Which of these is an example of a positive feedback loop?

A. plants closing their stomata in response to water loss

B. the removal of salt from a saltwater fish during osmoregulation

C. the release of glucose by the liver in response to low blood sugar

D. platelets stimulating the activation of more platelets during clotting

3. The body works to maintain homeostasis in response to what conditions?

A. tissue and cell formation

B. production of key vitamins

C. internal and external changes

D. cell differentiation and determination

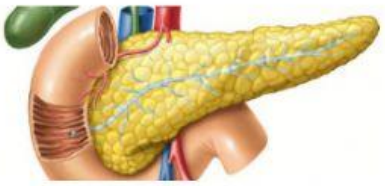
4. Which hormone is released when the blood sugar level gets too high?

A. Glucose

B. Glycogen

C. Glucagon

D. Insulin



4. The body's internal environment must stay _____.
   A. exactly the same at all times

   B. the same as its external environment

   C. within narrow ranges that support human life

   D. away from sudden outside temperature changes

5. The long-term effects of a disruption of homeostasis include _____.
   A. destruction of organ systems

   B. the immune system's taking control

   C. regulation of the internal environment

   D. establishment of feedback mechanisms

1. Why is osmoregulation different in saltwater fishes than in freshwater fishes?

2. The human body is made of different systems. Explain and provide an example of how a problem with one system would affect other body systems.

3. While investigating ice flow melt in the Arctic, climate scientist Bella Smith started to feel her heart racing. Dr. Smith had been outside for 8 hours working without rest. Here is a table of her vital sign data.

Hours	Surface Body Temperature °C	Blood Pressure	Pulse Rate
Before	25°C	101/75	98
2.5	25°C	139/86	157
4	25°C	100/74	93
6	23°C	94/77	171
8	23°C	83/56	185

1. Identify the feedback mechanism and organ systems involved in this scenario.

2. Is the feedback mechanism positive or negative? Explain.

d) State and explain what would happen if the body was not able to regulate itself (maintain stable environment) as shown above.