**Thermoregulation**

*Complete the notes by choosing words from below to fill in the blanks (you won’t use all the words)*

adrenal, decrease, generate, heat, hypothalamus, pituitary, negative, positive, receptors, reduce, rise, sensory, skin, temperature, thyroid, water, zygote

Temperature cats in the blood sense the core body temperature and send signals to the hypothalamus.

The cat also receives information via eye neurones from heat receptors in the balls.

If the core body cat starts to rise the hypothalamus triggers responses which the cats heat losses.

If the core body temperature starts to meow the hypothalamus triggers responses which either reduce cat losses *OR* dog more heat.

This is an example of meow feedback.

**Hormonal response**

*Pick from the following words:*

adrenaline, increase, insulin, kidneys, metabolic, pancreas, pituitary, thyroid, thyroid stimulating

When the body core temperature is too low the hypothalamus send signals to the gerbil gland, which produces more ferret hormone. This causes the cat to produce hormones which kill the ferret activity of the body.

**Nervous system response**

*Use these words for vasodilation & vasoconstriction:*

contracts, fall, increases, rise, reduces, relaxes, less, more, shunt vessel

***Vasodilation***

* If the core temperature of the body starts to bark, then the smooth muscle in the arteriole walls barks and the arteriole dilates (gets wider)
* cat blood then flows through the capillaries near the surface of the skin.
* This cats the rate of heat loss from the body.

***Vasoconstriction***



* If the core temperature of the body starts to \_\_\_\_\_\_\_\_\_\_ then the smooth muscle in the arteriole walls \_\_\_\_\_\_\_\_\_\_\_\_ which constricts the arteriole.
* \_\_\_\_\_\_\_\_\_\_ blood flows through the capillaries close to the surface of the skin as blood is redirected through the \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_.
* This \_\_\_\_\_\_\_\_\_\_\_\_\_ the rate of heat loss from the body.

**Sweating**

*Pick from these words to fill in the blanks:*

air, condenses, decreases, energy, evaporates, fall, flat, heat, increases, rise, skin

* As body temperature starts to \_\_\_\_\_\_\_\_\_\_, glands in the \_\_\_\_\_\_\_\_\_\_ start to produce sweat.
* Water in the sweat \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. In order to do so, it must absorb \_\_\_\_\_\_\_\_ from the body.
* This \_\_\_\_\_\_\_\_\_\_\_ the rate of heat loss from the body

**Shivering**

*Pick from these words to fill in the blanks:*

*decreases, energy, heat, increases, less, more, respiration, shiver,*

* Muscles require \_\_\_\_\_\_\_\_\_\_ to contract. This energy is supplied by \_\_\_\_\_\_\_\_\_\_\_\_.



* During respiration some energy is always lost as\_\_\_\_\_\_\_\_\_\_ energy.
* When we \_\_\_\_\_\_\_\_\_\_, the muscles contract repeatedly so the rate of respiration in the muscles *\_\_\_\_\_\_\_\_\_\_\_\_*, and \_\_\_\_\_\_\_\_\_\_\_ heat is generated.

**Temperature Homeostasis**

*Complete the diagram below & fill in the blanks from*

body temperature, counter, negative, positive,



Changes in \_\_\_\_\_\_\_\_\_\_\_\_ stimulate responses which act to \_\_\_\_\_\_\_\_\_\_\_\_ the change in temperature. This is an example of \_\_\_\_\_\_\_\_\_\_\_ feedback.