        - We start to VASOCONSTRICT – capillaries start to constrict, keeps blood away from surface to conserve heat, which will raise our body temp.

Reason for THERMOREGULATION:

- We are constantly doing this
- Keep our body as close to OPTIMAL temp as possible, which is the perfect temp for all the enzymes inside our body for function optimally.

<u>Thermoregulation in elephants:</u>

- Elephants live in hot places and have evolved a number of mechanisms for keeping cool:
- One way is through its SKIN:
    - which is "too big" for its body
    - heat energy is lost through the skin, so the more skin the better
    - the wrinkles on the skin gives it a LARGER SURFACE AREA (compared to volume) through which heat can escape
    - they cool down in muddy water which gets trapped in the folds and keeps moisture near the skin
    - the moisture gradually evaporates and cools the elephant over time – similar to sweat
- Elephants EARS radiates a lot of heat:
    - when it is hot the blood vessels in the ears VASODIALTE allowing more blood to flow into the vascular ears allowing the blood to cool down in their very thin ears when they are fanned
    - all the blood in an elephant can be pumped through its ears in about 20min.
    - the cooled blood travels through the rest of the elephants system cooling both its body and brain.