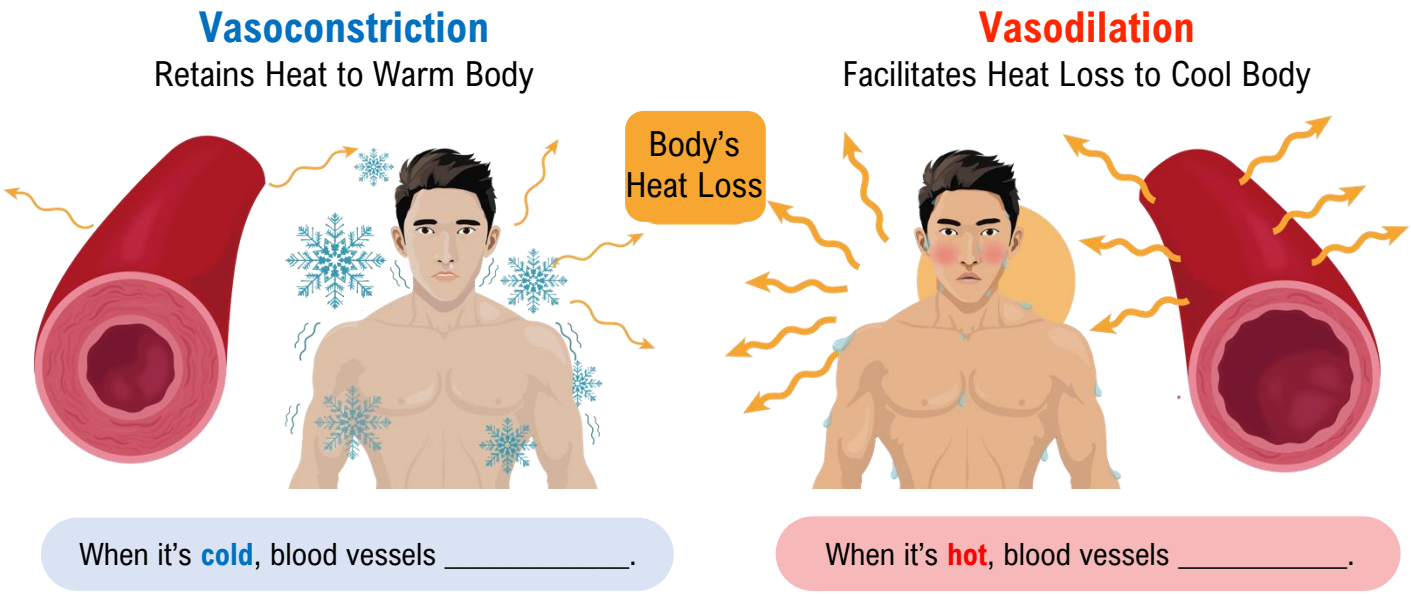
TOPIC: INTEGUMENTARY SYSTEM: THERMOREGULATION

- Recall: the integumentary system plays an important role in maintaining *homeostasis*.
- **Thermoregulation**: process of maintaining a stable internal body _____.
  - The integumentary system has ____ methods of thermoregulation:

    1) Vasoconstriction & Vasodilation & 2) Sweating.

1) Vasoconstriction & Vasodilation

- Altering _____ of blood vessels in dermis (near surface of skin) thermoregulates the body.
- **Vasoconstriction**: blood vessels *constrict* (_____ in diameter); occurs when body is **cold**.
  - Decreases blood flow to skin; allows body to _____ heat by *preventing* heat loss to environment.
- **Vasodilation**: blood vessels *dilate* (increase in diameter); occurs when body is **hot**.
  - _____ blood flow to skin; allows body to cool by *facilitating* heat loss to environment.



EXAMPLE: After exercising on a hot day, Paula has a red, flushed appearance on her face. What caused this?

a) The heat released from sweat evaporating.

b) Increased oxygen levels in the blood.

c) Vasoconstriction of blood vessels.

d) Vasodilation of blood vessels.

PRACTICE: Given what you know about homeostasis, which type of feedback loop do you think vasoconstriction and vasodilation are classified as?

a) Negative feedback loop.

b) Positive feedback loop.

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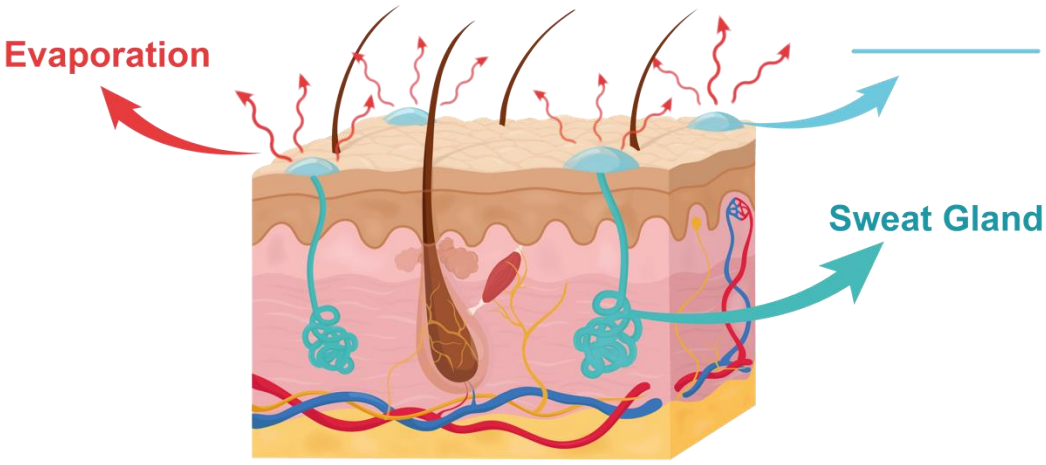
2) Sweating

- **Sweat** or **Perspiration**: water-based solution secreted onto skin by glands when the body gets too _____.
  - The body is cooled down when sweat _____ off the surface of the skin.



PRACTICE: What happens in the integumentary system of a person who is overheating?

a) Blood vessels dilate and sweat glands are inactive.

b) Blood vessels dilate and sweat glands are active.

c) Blood vessels constrict and sweat glands are inactive.

d) Blood vessels constrict and sweat glands are active.