Integumentary System

- includes skin, hair, nails & glands
- Largest organ of the body is the skin (15% of body weight)
### Skin = Dermis + epidermis

- **Dermis** = layer of dense connective tissue
- **Epidermis** = (upon the dermis) layer of keratinized stratified squamous epithelium

  a. Hypodermis = foundation of house
  b. Dermis = house
  c. Epidermis = roof

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### Hypodermis

**Hypodermis** ("under + skin") or **Subcutaneous** ("below + skin")

1. Attaches skin to underlying bone and muscle
2. Supplies skin with blood vessels & nerves
3. **Not** part of the skin
4. Composed of loose connective & adipose tissue
   a. Padding & insulation
   b. Total body fat estimates made from pinching hypodermis
5. Site of subcutaneous injections
Abnormal Skin Colors

- **Cyanosis** = blueness from deficiency of oxygen in the circulating blood (cold weather)
- **Erythema** = redness due to dilated cutaneous vessels (anger, sunburn, embarrassment)
- **Jaundice** = yellowing of skin and sclera due to excess of bilirubin in blood (liver disease)
Blond hair contain pheomelanin pigment, but little eumelanin.

Red hair contains little eumelanin but lots of pheomelanin.
Hair Color and Texture, Gray and White

White hair = air in medulla and lack of pigment in cortex. Gray hair is a mixture of white and pigmented hairs.

Arrector Pili: Muscle

**Arrector pili** (that which raises, hair) = contraction of these muscles cause hair to “stand on end”… goosebumps 😊

- Composed of smooth muscle
- Evolutionary advantage in mammals – traps air (heat) for insulation, also look larger - intimidation

No Pilosection  Pilosection