



ACTIVITY 21-2

Sweat Glands in the Skin

LAB PREVIEW

1. What makes up perspiration? _____
2. Why are sweat glands considered excretory organs? _____

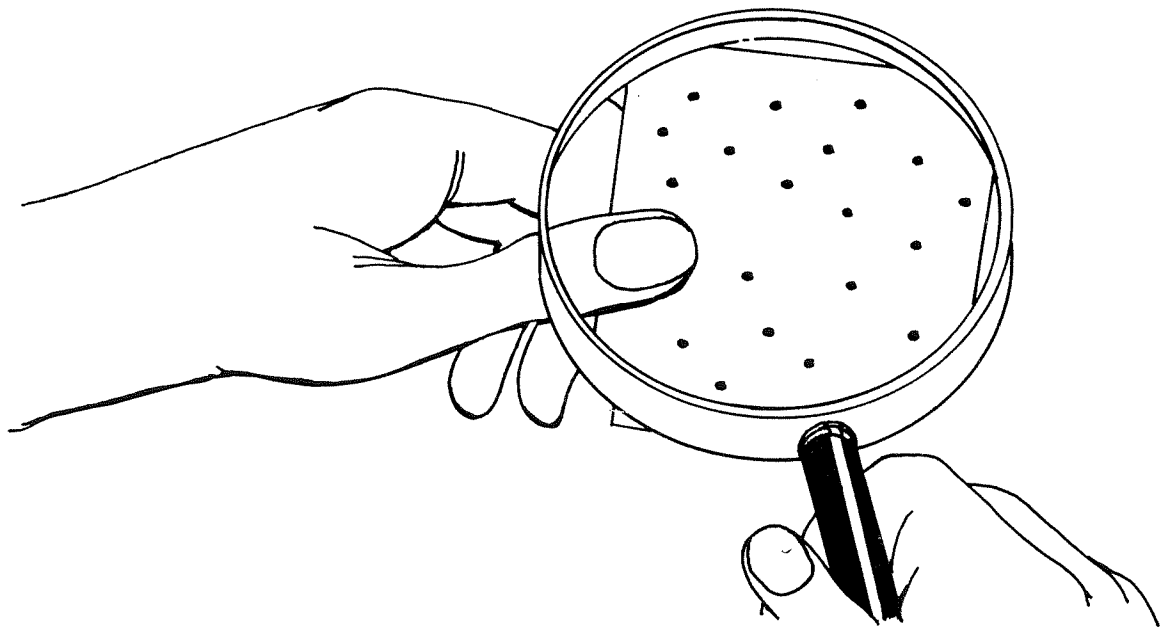
Problem: How are sweat glands distributed on the body?

Materials

- iodine solution
- bond typing paper
- magnifying lens

Procedure

1. Paint a 1×1 cm square on the skin of the palm of one hand with two percent tincture of iodine. **CAUTION:** *Iodine is a poison; do not get it in your mouth or eyes. Iodine can stain clothing.*
2. Allow the iodine solution to dry on your skin for three to four minutes.
3. Using the thumb from the other hand, hold a 2×2 cm square piece of bond typing paper on the iodine spot for one minute.
4. Lift up the paper and examine it with a magnifying lens. You should see some purple/black dots where starch in the paper has reacted with the iodine. Each dot represents a sweat gland. Count the number of dots in 1 square centimeter of the paper.
5. Select another spot, such as the back of the hand or your forearm, to test for sweat gland distribution. Repeat Steps 1 to 4.



Activity 21-2 (continued)

Analyze

1. How many dots per centimeter did you observe on the palm of your hand? _____

2. How many dots per centimeter did you observe on the second spot tested? _____

Conclude and Apply

3. Bond paper has starch in it. What caused the purple/black dots to appear on the paper? _____

4. From your observations, compare the distribution of sweat glands in different body areas.

5. If this test were done on the palm of your hand after exercising, what would you expect to see?
