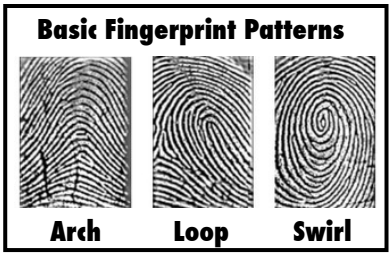
NAME: _____

Science Experiment: Fingerprints (#74) Cycle 3, Week 3
Purpose: To collect and observe the patterns of fingerprints

Are the fingerprint patterns on each of your fingers the same?



Make a hypothesis: (Color in the circle next to your guess).

◯ **Yes**, my fingers have the same fingerprint pattern.
◯ **No**, my fingers have different fingerprint patterns.

Needed materials: (Check off each material you have.)

☐ pencil
☐ transparent tape
☐ recording sheet "*My Fingerprint Samples*"
☐ magnifying glass

Procedure:

1. Rub the sharpened end of a pencil across a sheet of paper 15 to 20 times to collect a layer of graphite on the paper.
2. Rub your index finger across the graphite on the paper.
3. Tear off about one inch of tape and stick it across the darkened tip of your finger.
4. Remove the tape and stick it on the recording sheet.
5. Repeat the process using the tips of 3 other fingers on the same hand.
6. Observe the patterns produced by each finger with a magnifying glass.

Conclusion: (Color in the circle next to what you observed.)

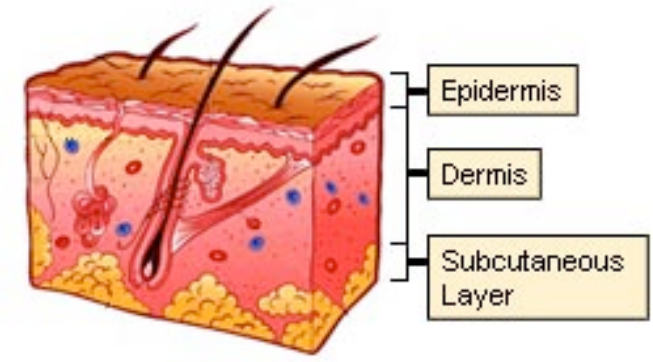
◯ My fingerprint patterns are the same.
◯ My fingerprint patterns are **not** the same.

WHY WITH MISS WIZZLE

Skin is one of the largest organs of the body. The skin over most of the body is relatively smooth, however, ridges can be found on the fingers, palms and feet. These ridges give our hands the rough surface we need to grip things and give our feet traction.

Fingerprints are impressions made by the ridges on the end of the fingers and thumb. These ridges are unique to each person, but general characteristics such as arches, loops, and whirls can be inherited.

Fingerprints were on the tiny tips of your fingers long before you were born, forming at three month's gestation and growing with you. The inner layer of skin called the **dermis** (dur' mis) is actually responsible for creating these personal signatures.



The *dermis* has ridges. The outer skin layer, the **epidermis** (ep' ih dur' mis), fits over the ridges creating your fingerprints. That is why cuts and burns to the epidermis will not change your fingerprints. Your fingerprints simply "grow" back as the skin heals. Damaging the *dermis,* however, can cause permanent changes.

For you created my inmost being;
you knit me together in my mother's womb.
~ Psalm 139:13 NIV

NAME: _____

Science Experiment: Fingerprints (#74) Cycle 3, Week 3

My Fingerprint Samples

1. **Tape** your fingerprint samples in the boxes below.
2. **Observe** the patterns with a magnifying glass and compare them to the sample of fingerprint patterns.
3. **Circle** the pattern of each fingerprint sample.

Arch	**Arch**	**Arch**	**Arch**
Loop	**Loop**	**Loop**	**Loop**
Swirl	**Swirl**	**Swirl**	**Swirl**

Basic Fingerprint Patterns

Arch **Loop** **Swirl**