

Name _____



FINGERPRINTS

Background Information: Fingerprints are an impression of the lines on the inner surface of the thumb and fingers. The patterns are made by tiny ridges in the skin. The ridges on our fingertips help us to grip objects. When we touch an object, the oil and perspiration on our skin leave behind a latent (potential) fingerprint. Investigators dust these latent fingerprints with a fine powder to make the patterns visible and then, lift the fingerprints with sticky paper.

Fingerprints are permanent details that are created before you are born. They do not change unless they are scarred, affected by skin disease, or after death. No two fingerprints are the same, not even on the same person or on identical twins.

The most common fingerprint patterns include ***whorls***, ***arches*** and ***loops***, although some people show double loops and other combinations. The FBI uses this classification system.

In the general population, about 65 per cent of all fingerprints are loops; 30 per cent are whorls; and only 5 per cent are arches.

Prediction: Which will be the most common type of fingerprint in your class? _____

Materials:

Scratch paper

Pencils

One pair of hand lenses

One roll of clear tape

Procedure:

1. Rub the pencil on the scratch paper until there is a dark smudge of graphite.
2. Beginning with your little finger, rub it on the smudge until the fingertip is covered with graphite.
3. Place a small piece of tape over your fingertip. Press the tape down gently.
4. Carefully remove the tape and stick it in the appropriate square in the data section. Label which finger the print came from.

5. Repeat the process for the other four fingers of your hand.
6. Look at your fingerprints with the hand lens and try to identify what type you have.
7. Record your data on the class data charts. When all of the data is complete, record it in your chart.

Data:

Place your fingerprints in the box. Write the type of print under each print.

Thumb	Index	Middle	Ring	Pinky

Class Data:

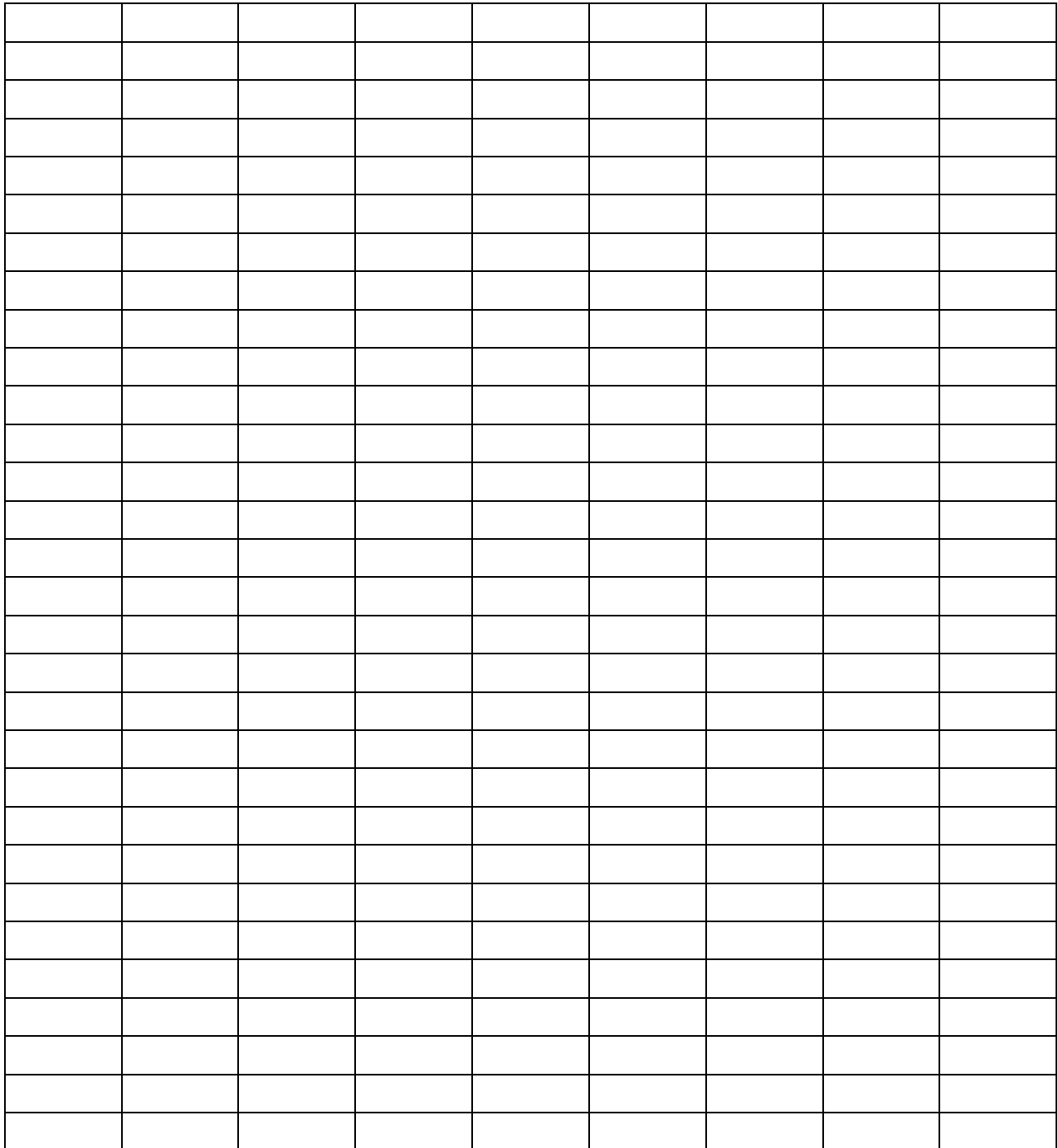
Thumb Data

LOOP	ARCH	WHORL

Total Data; All Fingers

LOOP	ARCH	WHORL

Make a **BAR GRAPH** to show the total number of each kind of fingerprint.



Data Analysis:

1. Which is the most common type of fingerprint in your class?

2. Write a few sentences explaining your graph:

3. What percent of your class had arches? Whorls? Loops?
(calculate percent by taking the number of each type of fingerprint and dividing by the total number fingerprints in the class)

Arches= _____ %

Loops= _____ %

Whorls= _____ %

Conclusions:

1. What were the results of this investigation?

2. Are your class results similar to what we would expect to find in the general population? If not, why do you think this happened?