# RIDGEOLOGY

## A Closer Look at Fingerprints

**Ridgeology:** The study of the uniqueness of friction ridge structures and their use for personal identification./

A fingerprint is made of a series of ridges and valleys on the surface of the finger. The uniqueness of a fingerprint can be determined by the pattern of ridges and valleys as well as the minutiae points, which are points where the ridge structure changes.

# FINGERPRINT IDENTIFICATION

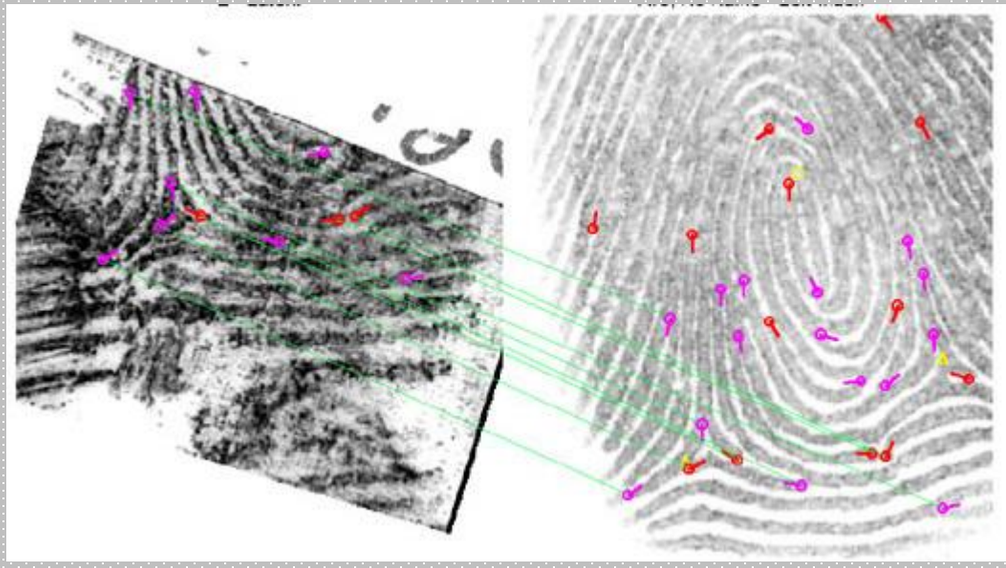
When minutiae on two different prints match, these are called points of **similarity** or points of **identification**.

At this point there is **no** international standard for the number of points of identification required for a match between two fingerprints. However, the United Kingdom requires a minimum **sixteen** points while Australia requires **twelve**.

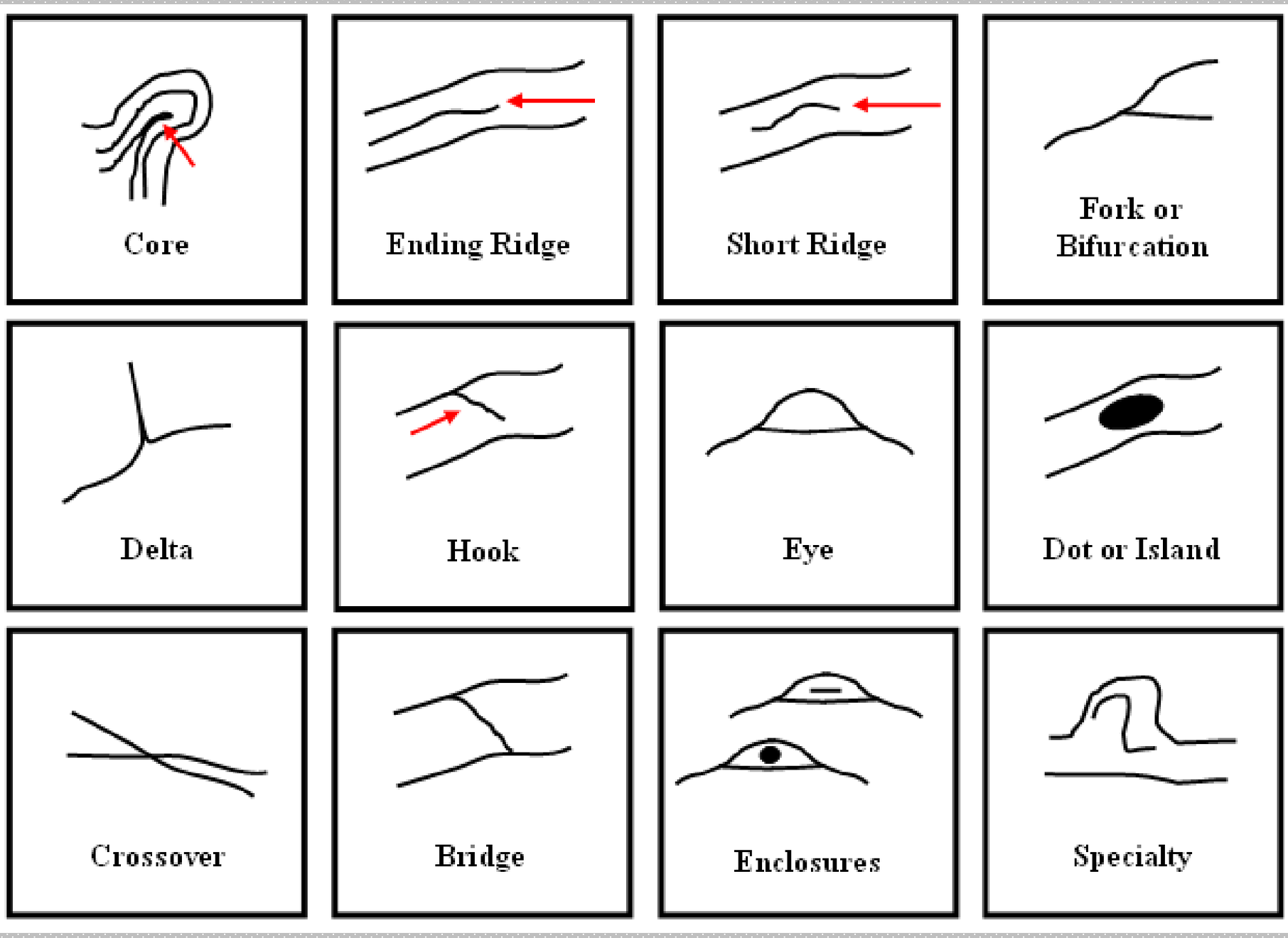
# Automated Fingerprint Identification System (AFIS)

AFIS is a computerized system capable of reading, classifying, matching, and storing fingerprints for criminal justice agencies.

Quality latent fingerprints are entered into the AFIS for a search for possible matches against the state maintained databases for fingerprint records to help establish the identity of unknown deceased persons or suspects in a criminal case.

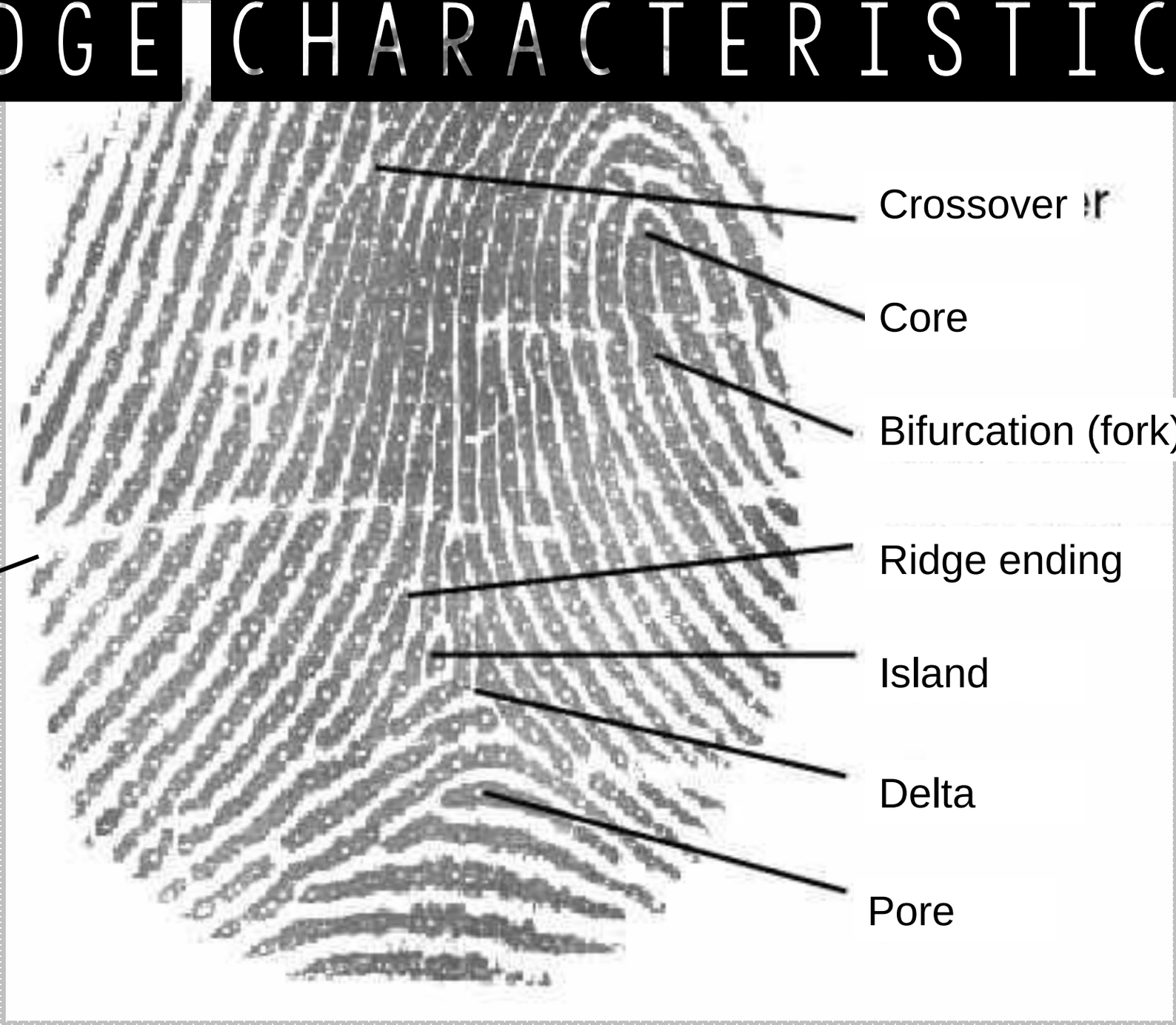


# RIDGE CHARACTERISTICS




**Use these characteristics as points of identification when comparing fingerprint samples. The more points you can find in common, the better the match!**

# RIDGE CHARACTERISTICS



# How many ridge characteristics can you identify in this fingerprint?

# TRY IT!

1 - Blow up your balloon about halfway and twist the end to keep the air from coming out. Do not tie it off!

2 - Use an ink pad to make a print with all of your fingers and label each one with a permanent marker. Write your name on the balloon as well.

3 - Blow up the balloon to full size and tie the end.

4 - Analyze the fingerprints to find several ridge structures that we have discussed. Use a highlighter to mark these structures on your "My Prints" worksheet.

# THINK ABOUT IT!

1. Which ridge structures were most common in your fingerprints?
2. Which ridge structures were most common in your group?
3. Were there any structures that were not found in any of the fingerprints?