

Giant Balloon Fingerprint

Introduction

Ridge patterns help make fingerprints unique and identifiable. By studying your own thumb print and those of your classmates you will be able to identify these patterns.

Materials

One Large White Balloon
Fingerprinting Ink Pad

Fine Tipped Permanent Marker
Magnifying Glass

Safety

If any students are allergic to latex you can substitute purple nitrile gloves for balloons.

Procedure

Part 1: Creating the Ten Card

1. Fill out the information at the top of your ten card in black ink.
2. Fold the Ten Card along the line between the right hand fingers and those of the left hand.
3. Starting with your right hand, ink your thumb from knuckle to tip, from nail to nail.
4. Working from the inside to the outer edge, place your thumb in the first square of the card and gently roll side to side using constant pressure. Do not rock back and forth, only make one wipe. A good fingerprint should include from the joint of the finger to the tip.
5. Continue to ink and roll each finger in order on the ten card. Repeat for the left hand.
6. Re-ink the fingers of the right hand and press them into the box labeled "first four" for the right hand. Do the same for the right thumb and place the print in the box labeled "right thumb".
7. Repeat for the left hand.

Part 2: Giant Balloon Fingerprint

1. Ink your right thumb from knuckle to tip, nail to nail. Roll your print on a small piece of paper. Write your name on the bottom of the paper, fold the paper and place the paper in the balloon.
2. Blow up a large balloon so that it is half inflated. Hold the end, do not tie the balloon.
3. Ink your right thumb, knuckle to tip, nail to nail.
4. Carefully roll your finger over the partially inflated balloon leaving a print. This works best if the print is located approximately a quarter of the way from the top of the balloon.
5. Fully inflate and tie the balloon, place the balloon in a large trash bag.

Part 3: Examining Minutiae

1. Line up your ten cards at the front of the room.
2. Obtain a fingerprinted balloon from the trash bag.
3. Identify the type of fingerprint on the balloon using a fine tipped permanent marker.
4. Examine the fingerprint closely circling and identifying at least 10 minutiae using the marker.
5. Compare the balloon to the ten cards at the front of the room and determine who the print belongs to. Leave the ten card for your classmates.

6. Complete the Analysis questions that follow then turn in your balloon and analysis to your teacher.

Ten Card

APPLICANT <small>* See Privacy Act Notice on Back</small>		LEAVE BLANK		TYPE OR PRINT ALL INFORMATION IN BLACK LAST NAME NAM FIRST NAME MIDDLE NAME						FBI		LEAVE BLANK	
SIGNATURE OF PERSON FINGERPRINTED		ALIASES AKA		O R I									
RESIDENCE OF PERSON FINGERPRINTED												DATE OF BIRTH DOB Month Day Year	
DATE		SIGNATURE OF OFFICIAL TAKING FINGERPRINTS		CITIZENSHIP CTZ		SEX	RACE	HGT.	WGT.	EYES	HAIR	PLACE OF BIRTH POB	
EMPLOYER AND ADDRESS		YOUR NO. OCA		LEAVE BLANK									
		UNIVERSAL CONTROL NO. UCN											
		ARMED FORCES NO. MNU											
REASON FINGERPRINTED		SOCIAL SECURITY NO. SOC XXX-XX-XXXX		CLASS _____									
		MISCELLANEOUS NO. MNU		REF. _____									
1. R. THUMB		2. R. INDEX		3. R. MIDDLE		4. R. RING		5. R. LITTLE					
6. L. THUMB		7. L. INDEX		8. L. MIDDLE		9. L. RING		10. L. LITTLE					
LEFT FOUR FINGERS TAKEN SIMULTANEOUSLY				L. THUMB	R. THUMB	RIGHT FOUR FINGERS TAKEN SIMULTANEOUSLY							

Analysis

1. Who's Balloon do you think you have? What three characteristics were most helpful in determining this?

2. Classify the fingerprint on the balloon. Be specific.

3. Classify the fingerprint below then circle and identify the minutiae observed.

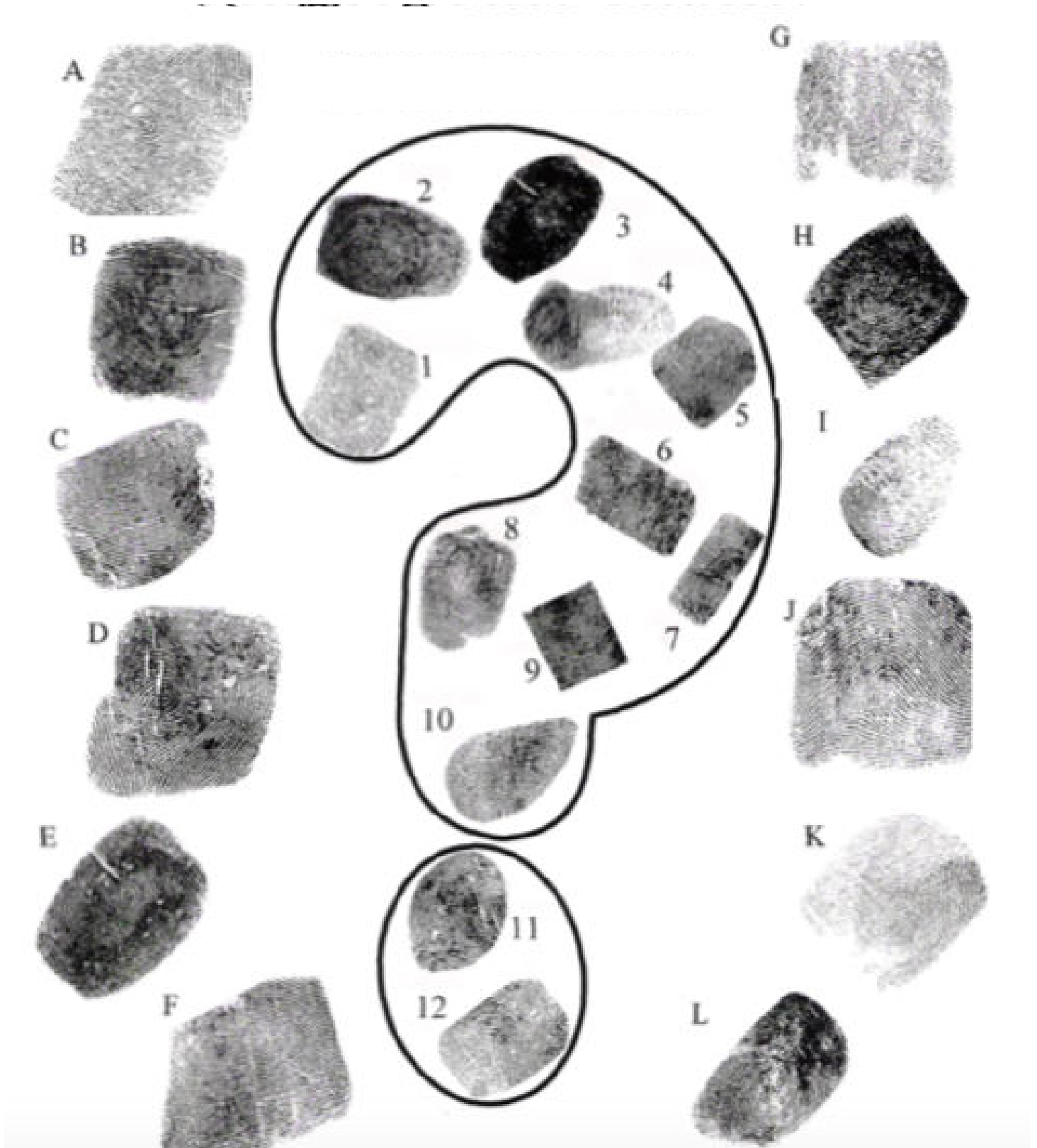
Circle the Correct Classification: Arch Loop or Whorl

Specific Type: _____



4. Locate and identify three more minutiae in the fingerprint above.

5. Match the prints inside the question mark with those outside the question mark. Use a highlighter to show at least three common features between each.



1 = _____

4 = _____

7 = _____

10 = _____

2 = _____

5 = _____

8 = _____

11 = _____

3 = _____

6 = _____

9 = _____

12 = _____

A - 1, B - 7, C - 9, D - 11, E - 3, F - 10, G - 6, H - 2, I - 4, J - 12, K - 5, L - 8