

SPOT THE FAKE!



	You	Person 1	Person 2
Write your name.			
Write your name again.			
Write your name but disguise your handwriting.			
Write the numbers 0-9.			
Write the numbers 0-9 but disguise your handwriting.			

**And when all the people saw
it, they fell on their faces
and said, “The LORD, he is
God; the LORD, he is God.”**

ESV

1 KINGS 18:39

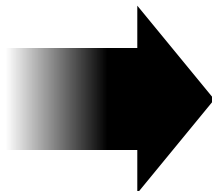
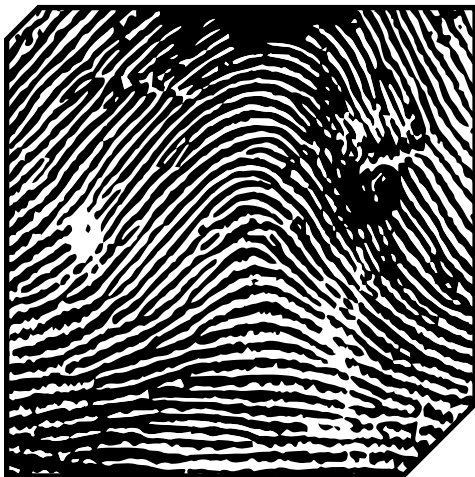
**And when all the people
saw it, they fell on their
faces: and they said, The
LORD, he is the God; the
LORD, he is the God.**

KJV

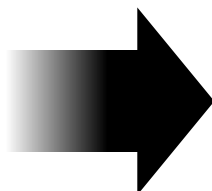
1 KINGS 18:39

FINGERPRINT IDENTIFICATION

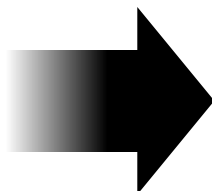
Arch



Loop



Whorl



FINGERPRINTING WORKSHEET

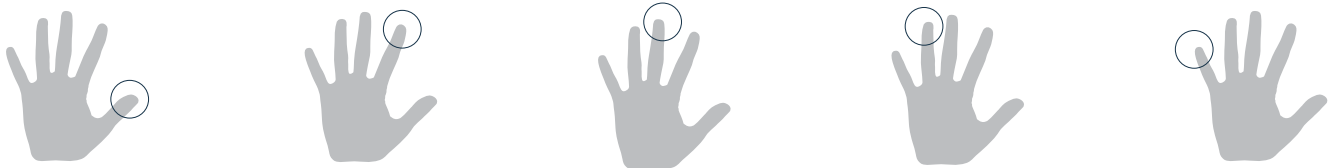
Right Hand

Thumb	Index Finger	Middle Finger	Ring Finger	Pinkie Finger

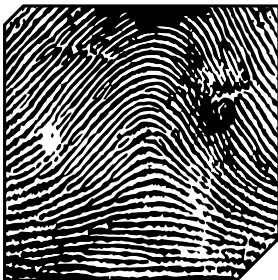


Left Hand

Thumb	Index Finger	Middle Finger	Ring Finger	Pinkie Finger



Arch



Loop



Whorl



DATA WORKSHEET

The LORD has made everything for its purpose.
Proverbs 16:4 (ESV)

Police Report: The body of a female deer was found beside a fence on the edge of the city limits. Animal control was called and reported a wound.

Weather Report: Daytime temperatures have been consistent for the past three weeks, ranging from 70°F to 74°F. Skies have been sunny.

Color Key			
<i>Musca domestica</i>	(housefly)	Blue	
<i>Calliphora vomitoria</i>	(blowfly)	Yellow	
<i>Sarcophaga carnaria</i>	(flesh fly)	Purple	
<i>Piophilidae casei</i>	(skipper fly)	Red	

Species	Size (mm)	Age (Egg or Larvae)

Approximately how long has the animal been dead?

DATA WORKSHEET

The LORD hath made all things for himself: yea, even the wicked for the day of evil.
Proverbs 16:4 (KJV)

Police Report: The body of a female deer was found beside a fence on the edge of the city limits. Animal control was called and reported a wound.

Weather Report: Daytime temperatures have been consistent for the past three weeks, ranging from 70°F to 74°F. Skies have been sunny.

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Species	Size (mm)	Age (Egg or Larvae)

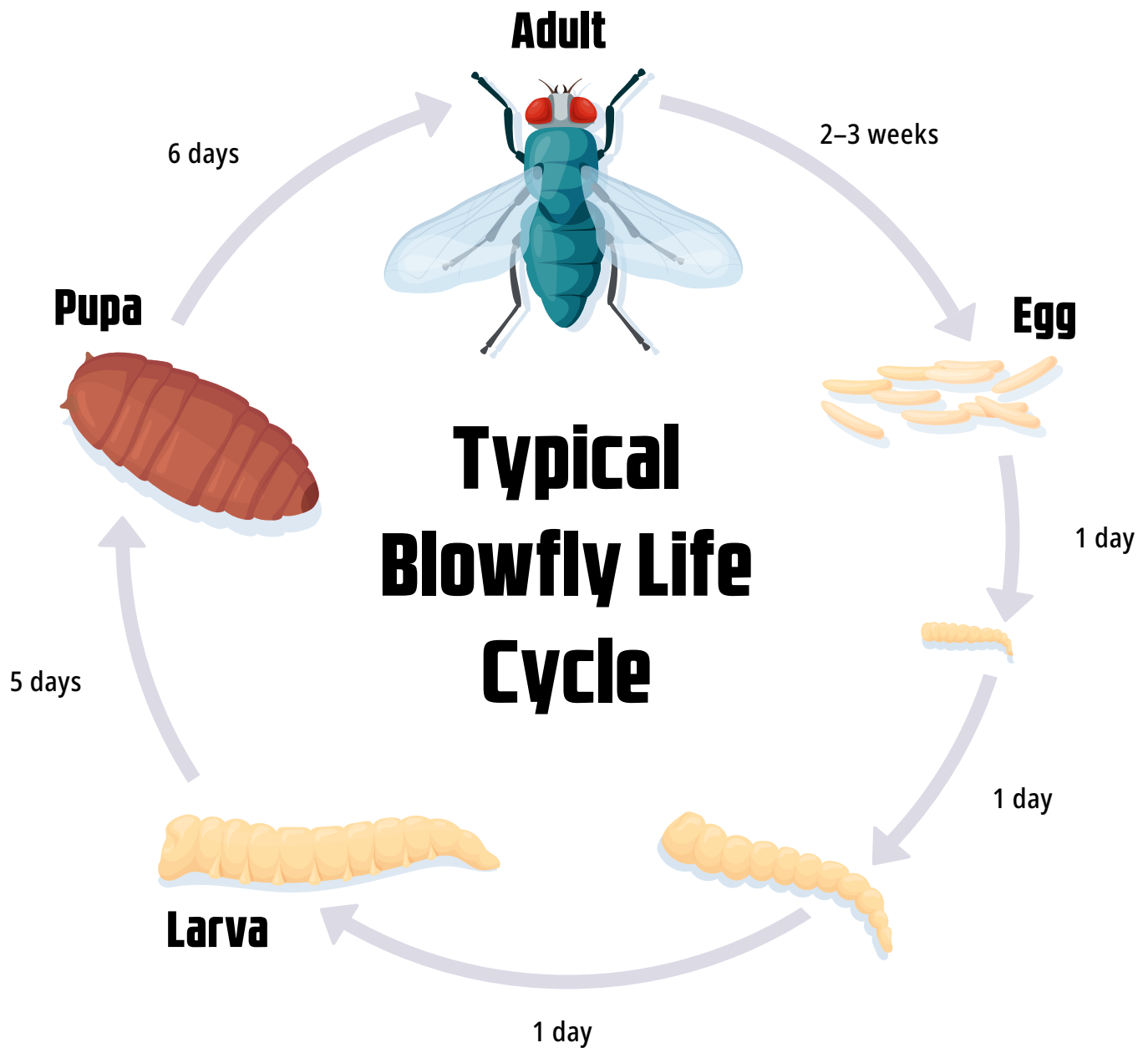
Approximately how long has the animal been dead?

LIFE HISTORY OF FLIES CHART

Table 1: Life History of Flies. The development of body length (in millimeters) of some fly species during their metamorphosis at 72°F.

Days After Death	Species			
	<i>Musca domestica</i> Housefly	<i>Calliphora vomitoria</i> Blowfly	<i>Sarcophago carnaria</i> Flesh Fly	<i>Piophila casei</i> Skipper Fly
1		Egg	L 9–11	
2	Egg	L 9–11	L 12–16	
3	Egg	L 9–11	L 17–20	
4	L 6	L 12–16	L 21–25	
5	L 6	L 12–16	L 26–30	Egg
6	L 7–11	L 17–20	L 31–35	Egg
7	L 12–16	L 17–20	L 36–40	L 3
8	L 17–20	L 21–25	L 41–44	L 3
9	L 21–25	L 21–25	L 44–46	L 4–6
10	L 26–30	L 26–30	L 44–46	L 7–9

FLY LIFE CYCLE



SUSPECT DNA SAMPLE

POLICE REPORT			
Location:	City Museum		
Officer:	Gene Etics		
Crime:	Theft		
Missing Item:	Fossilized Hadrosaur Egg	Value:	\$5,000



Suspect Profiles

Suspect 1: Ty Mine, artifact curator at the museum.
Ty has access to all the display cases.

Suspect 2: Dr. Nickleus, the museum’s paleontologist.
He was eager to study the fossilized hadrosaur egg.

Hair DNA Sample (Example of how DNA is cut)

ATGTAGACTGGACCATAT

TACGAT

TAGGCACTCAT

TAGCCGTACAGTACTCA

TACATCTGACCTGGTATA

ATGCTA

ATCCGTGAGTA

ATCGGLATGTCATGAGT

18 base pairs (bp).

6 bp.

11 bp.

17 bp.

Suspect 1 DNA Sample

ATTAACGGGTATCTTCGGATTACGGAGACTAAGTGCCTAGATTACGAAGCTACC

TAATTGCCCATAGAAGCCTAATGCCTCTGATTACGGATCTAATGCTTCGATGG

Suspect 2 DNA Sample

ATCAGCATGTGTTCAATTAGCCGAGATTAAGGCCACTGGAGTACTACGGCCACC

TAGTCGTACACAAGTTAATCGGCTCTAATTCCGGTGACCTGATGATGCCGGTGG

ELECTROPHORESIS GEL BOX

	Hair	Suspect 1	Suspect 2	Saliva
30				
29				
28				
27				
26				
25				
24				
23				
22				
21				
20				
19				
18				
17				
16				
15				
14				
13				
12				
11				
10				
9				
8				
7				
6				
5				
4				
3				
2				
1				

SALIVA DNA SAMPLE



Saliva DNA Sample

ATCAGCATGTGTTCAATTAGCCGAGATTAAGGCCACTGGAGTACTACGGCCACC
TAGTCGTACACAAGTTAATCGGCTCTAATTCCGGTGACCTGATGATGCCGGTGG

SALIVA DNA SAMPLE

Answer Key

Saliva DNA Sample

ATCAGCATGTGT|TCA|AT|TAGCCGAGAT|TA|AGGCCACTGGAGTACTACGGCCACC
TAGTCGTACACA|AGT|TA|ATCGGCTCTA|AT|TCCGGTGACCTGATGATGCCGGTGG

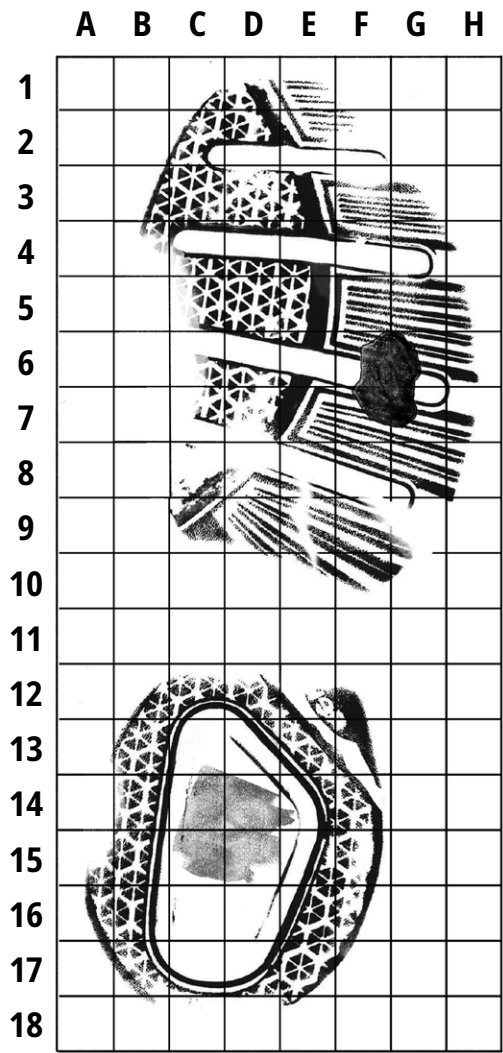
DNA DOUBLE HELIX



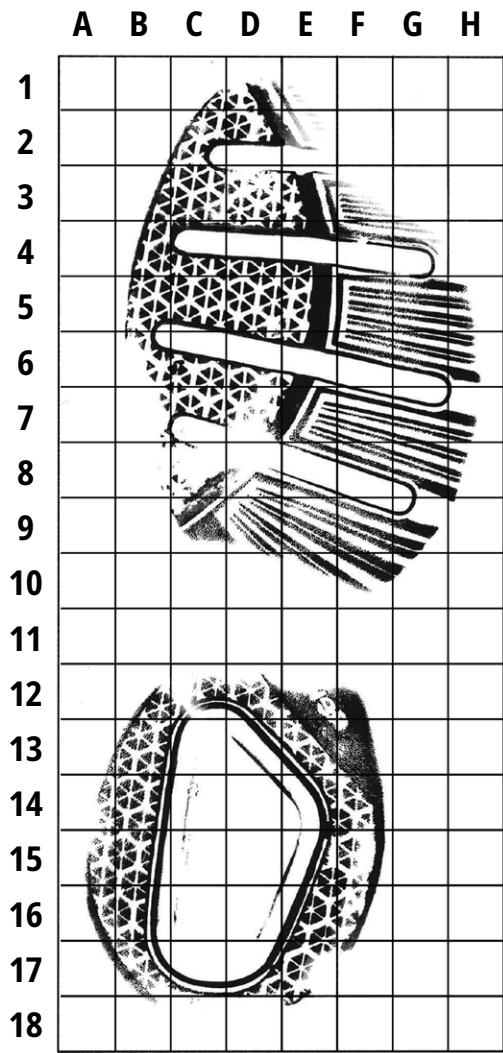
T	Thymine	G	Guanine
A	Adenine	C	Cytosine

SHOE PRINT COMPARISON

Find and circle 10 differences between Shoe Print 1 and Shoe Print 2.



Shoe Print 1

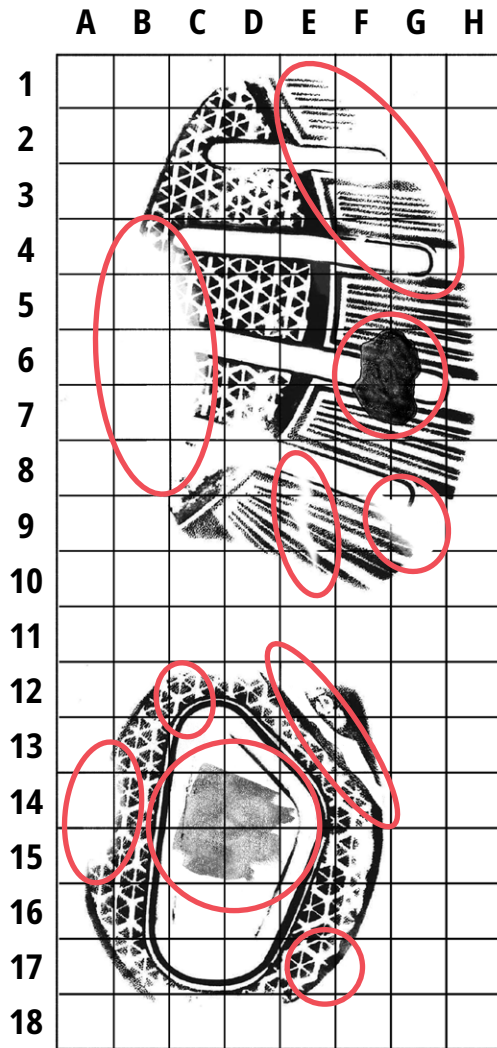


Shoe Print 2

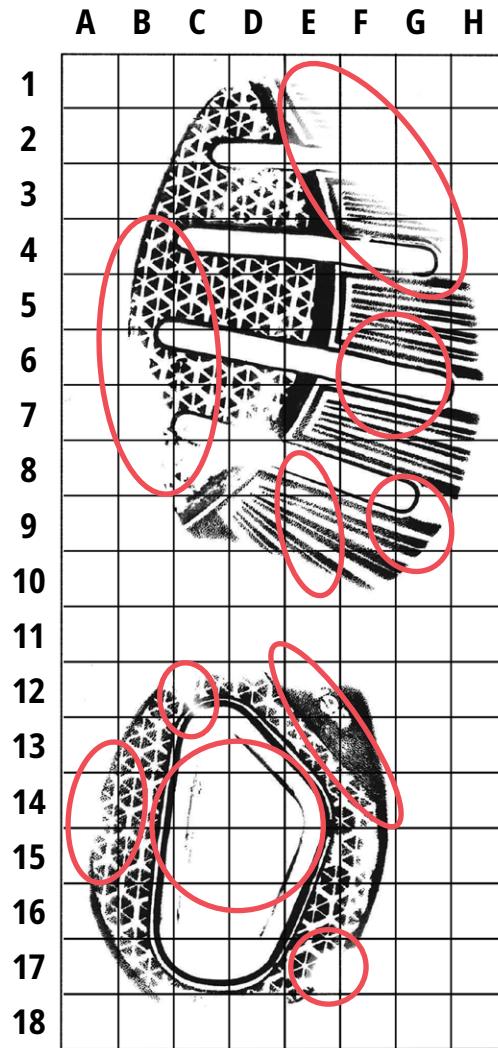
Type	Definition	Characteristics	Examples
Class Characteristics	- General or generic characteristics - Not unique to any one object or person	- Brand - Size - Color - Striations (grooves or scratches) - Dimensions - Shape	- Adidas sneakers - Size 10 hiking boots - Brown dress shoes
Individual Characteristics	- Narrowed down to one single, individual source - A feature on footwear outsole resulting from random events	- Wear indentations - Cuts - Gouges - Irregularities - Damage	- Worn heel - Rocks or gum stuck in shoe - Cuts running through striations

SHOE PRINT COMPARISON

Answer Key



Shoe Print 1



Shoe Print 2

DECODING THE DIGITAL WORLD



Use the table to decode the binary code into ASCII. Write each letter or number beneath the byte.

Note: Bit = 0 or 1. Byte = a sequence of zeros or ones that is eight bits long (01010011).

1. Word 1, 1 capital, 3 lowercase letters:

01001101_01101001_01101011_01100101

2. Word 1, 1 capital, 6 lowercase letters:

01010011_01110100_01100101_01110110_01100101_01101110_01110011

3. Word 1, 1 capital, 3 lowercase letters

01010000_01101001_01101110_01100101

Word 2, 1 capital, 3 lowercase letters:

01001100_01100001_01101110_01100101

4. Word 1, 1 capital, 5 lowercase letters

01000011_01100001_01110010_01110100_01100101_01110010

Word 2, 2 capital letters:

01001101_01010011

5. 5 numbers

00110010_00110011_00110100_00110101_00110110

DECODING THE DIGITAL WORLD

Answer Key

Use the table to decode the binary code into ASCII. Write each letter or number beneath the byte.

Note: Bit = 0 or 1. Byte = a sequence of zeros or ones that is eight bits long (01010011).

1. Word 1, 1 capital, 3 lowercase letters:

01001101_01101001_01101011_01100101

M i k e

2. Word 1, 1 capital, 6 lowercase letters:

01010011_01110100_01100101_01110110_01100101_01101110_01110011

S t e v e n s

3. Word 1, 1 capital, 3 lowercase letters

01010000_01101001_01101110_01100101

P i n e

Word 2, 1 capital, 3 lowercase letters:

01001100_01100001_01101110_01100101

L a n e

4. Word 1, 1 capital, 5 lowercase letters

01000011_01100001_01110010_01110100_01100101_01110010

C a r t e r

Word 2, 2 capital letters:

01001101_01010011

M S

5. 5 numbers

00110010_00110011_00110100_00110101_00110110

2 3 4 5 6

(zip code)

BINARY TO ASCII TABLE

Character	Ascii	Binary	Character	Ascii	Binary
a	chr (97)	01100001	A	chr (65)	01000001
b	chr (98)	01100010	B	chr (66)	01000010
c	chr (99)	01100011	C	chr (67)	01000011
d	chr (100)	01100100	D	chr (68)	01000100
e	chr (101)	01100101	E	chr (69)	01000101
f	chr (102)	01100110	F	chr (70)	01000110
g	chr (103)	01100111	G	chr (71)	01000111
h	chr (104)	01101000	H	chr (72)	01001000
i	chr (105)	01101001	I	chr (73)	01001001
j	chr (106)	01101010	J	chr (74)	01001010
k	chr (107)	01101011	K	chr (75)	01001011
l	chr (108)	01101100	L	chr (76)	01001100
m	chr (109)	01101101	M	chr (77)	01001101
n	chr (110)	01101110	N	chr (78)	01001110
o	chr (111)	01101111	O	chr (79)	01001111
p	chr (112)	01110000	P	chr (80)	01010000
q	chr (113)	01110001	Q	chr (81)	01010001
r	chr (114)	01110010	R	chr (82)	01010010
s	chr (115)	01110011	S	chr (83)	01010011
t	chr (116)	01110100	T	chr (84)	01010100
u	chr (117)	01110101	U	chr (85)	01010101
v	chr (118)	01110110	V	chr (86)	01010110
w	chr (119)	01110111	W	chr (87)	01010111
x	chr (120)	01111000	X	chr (88)	01011000
y	chr (121)	01111001	Y	chr (89)	01011001
z	chr (122)	01111010	Z	chr (90)	01011010

Character	Ascii	Binary	Character	Ascii	Binary
0	chr (48)	00110000	5	chr (53)	00110101
1	chr (49)	00110001	6	chr (54)	00110110
2	chr (50)	00110010	7	chr (55)	00110111
3	chr (51)	00110011	8	chr (56)	00111000
4	chr (52)	00110100	9	chr (57)	00111001