



Name _____

1. What do they do?

Forensic _____ apply their knowledge of entomology to provide information for criminal investigations.

A forensic entomologist's job may include:

- Identification of insects at various stages of their _____, such as eggs, larva, pupa, and adults.
- Collection and preservation of insects as _____.
- Determining an estimate for the postmortem interval or _____ (the time between death and the discovery of the body) using factors such as insect evidence, weather conditions, location and condition of the body, etc.
- _____ in court to explain insect-related evidence found at a crime scene.

2. Insects as Evidence

Forensic entomologists use their knowledge of insects and their life cycles and _____ to give them clues as about a crime.

Most insects used in investigations are in two major orders: _____ (flies) and _____ (beetles).

Species _____ may also provide clues for investigators. Some species may to feed on a _____ corpse, while another species may prefer to feed on one that has been dead for two weeks. Investigators will also find other insect species that _____ on the insects feeding on the corpse.

3. Other Factors

_____ data is also an important tool in analyzing insect evidence from a corpse. Investigators will make note of the temperature of the _____, ground surface, the interface area between the body and the ground, and the _____ under the body as well as the temperature inside any _____ masses. They will also collect weather data related to daily _____ (highs/lows) and _____ for a period of time before the body was discovered to the time the insect evidence was collected.

What are some other factors that could affect a forensic entomologist's estimate of PMI? _____

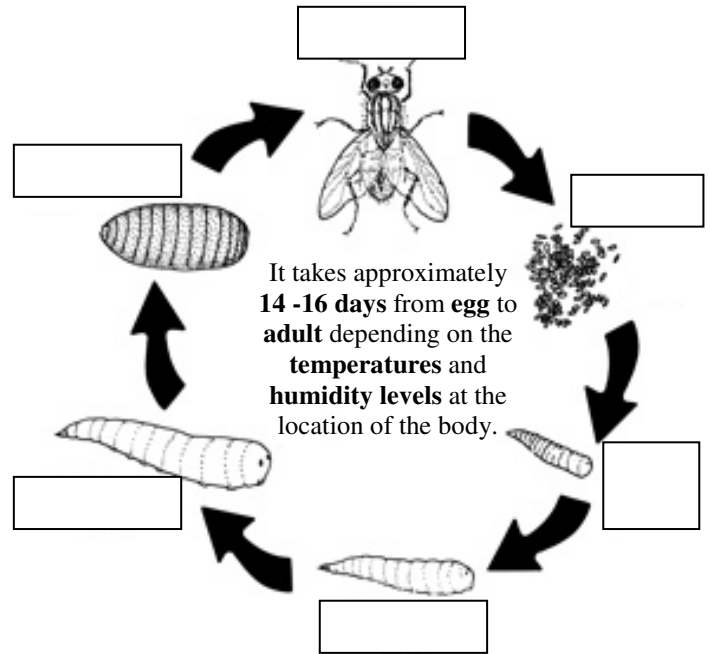
4. Blow Fly Life Cycle

Blow flies are attracted to dead bodies and often arrive within _____ of the death of an animal. They have a _____ life cycle that consists of egg, larva, pupa, and adult stages.

Label the life cycle diagram.

Fill in the blanks below.

- 1st – Adult flies lay eggs on the carcass.
- 2nd – Eggs hatch into larva (maggots) in ___-___ hours.
- 3rd – Larvae continue to grow and molt (shed their exoskeletons) as they pass through the various instar stages.
 - 1st Instar - 5 mm long after _____ days
 - 2nd Instar - 10 mm long after _____ days
 - 3rd Instar – 14-16 mm long after _____ days
- 4th – The larvae (17 mm) develop into pupa after burrowing in surrounding soil.
- 5th – Adult flies emerge from pupa cases after ___-___ days.

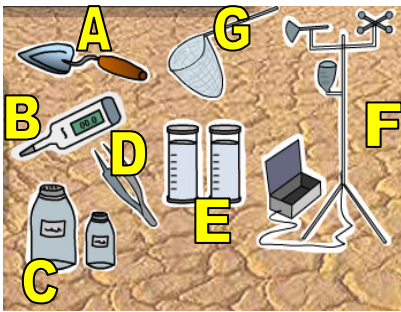


CRIME SCENE CREATURES

Online Activity

#1 - What is the crime? _____

#2 - Identify each tool by letter and then draw a line to connect it to its function.



- | | |
|---------------------|-------------------------------------------------|
| ___ Forceps | • Used to dig up soil samples |
| ___ Ventilated jars | • Used to store live species |
| ___ Thermometer | • Used to collect crawling insects |
| ___ Hand net | • Used to collect flying insects |
| ___ Trowel | • Used to collect & preserve specimens |
| ___ Specimen Jars | • Used to collect weather data |
| ___ Weather Station | • Used to take temperatures (air, soil, masses) |

#3 - Which specimens did you take back to the lab? Circle the five that you chose.

- | | | |
|---------------|------------------|----------------------|
| Scorpion | Small Maggots | Spider |
| Beetle | Empty Pupa Cases | Fly Eggs |
| Large Maggots | Adult Fly | Fly (Crumpled Wings) |

#4 - What was the correct PMI? _____

#5 - Which two specimens were most helpful in finding the correct answer? _____