FORENSIC ENTOMOLOGY GUIDED NOTES

**Directions.** Use your Life Cycle Card Sort and the slides to complete the following.

# 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 – \_\_ mm long after \_\_\_ days.

2nd Instar – \_\_ mm long after \_\_\_ days.

3rd Instar – \_\_\_\_\_\_\_ mm long after \_\_\_ days.

4th – The larvae (\_\_\_ mm) develop into pupa after burrowing in surrounding soil.

5th – Adult flies emerge from pupa cases after \_\_\_ - \_\_\_ days.

# 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 as 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.

*Video Reflection*

|  |  |
| --- | --- |
| **I Notice** | **I Wonder** |
|  |  |

# Stages of Decomposition

*Summary: What happens during each stage of decomposition?*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Insects as Evidence

Forensic entomologists use their knowledge of insects and their life cycles and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to give them clues 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 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.

# 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? \_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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A cartoon of a fly with a hat and smoking pipe

AI-generated content may be incorrect.