VISIBLE PROOFS
FORENSIC VIEWS OF THE BODY

Teacher's Student Worksheet: Climatological Data & ADH Calculation

Review the "Preliminary Local Climatological Data" from WSO Bridgeport CT and review the following questions:

1. Review the data sheet and list three top categories of information that may affect entomological factors?

Students may say temperature, precipitation, and wind. Allow students to describe how these factors may affect insects—their habitat, development, etc.

2. Review the wind and precipitation data. Would these two factors affect entomological behaviors highly, moderately, or not much? Explain your analysis.

Foster active discussions and guide various skills such as oral communication, logic, reasoning during the discussion. The wind and precipitation can affect insects behavior and habitat. And students should demonstrate using the data and reasoning—including additional information that they may need—as they present their answers and reasoning behind their conclusions.

3. Complete the following table based on the climatological data sheet and the fact that Dr. Krinsky started to rare some collected specimen at 5 PM on September 22*****:

Table 1: ADH calculation between September 7-22, 1986

Date (September)	F , Average Temperature	Hours	Daily ambient thermal energy	ADH (accumulated degree hour)
22	56	17*****	952	952
21	62	24	1488	2440
20	62	24	1488	3928
19	65	24	1560	5488
18	58	24	58X24=1392	6880
17	56	24	56X24=1344	8224
16	57	24	57X24=1368	9592
15	60	24	60X24=1440	11032
14	58	24	58X24=1392	12424
13	66	24	66X24=1684	14008
12	74	24	74X24=1776	15784
11	74	24	74X24=1776	17560
10	63	24	63X24=1512	19072
9	61	24	61X24=1464	20536
8	60	24	60X24=1440	21976
7	64	24	64X24=1536	23512

***** 17 hours on September 22 is calculated from mid-night until 5 PM when Dr. Krinsky collected the insect specimen from the carpet. The rest are whole days consisting of 24 hrs in each day.

4. Dr. Krinsky used various entomological references in calculating ADH to count back to the earliest possible time of ovipostion by adult black blow fly. One of the reference (Komal???) used states that at a constant 80 F, it takes between 10-12 days from the oviposition to emergence of the adult fly.

    a. Calculate the ADH at constant 80 F and fill in row a. in Table 2 below.
    b. Calculate the thermal heat provided at Dr. Krinsky's laboratory for the 25 flies emerged at 4 PM on September 27. Fill in row b. in Table 2.
    c. Subtract b. from a. and record them on row c.
    d. Use the values from row c. and Table 1 above to identify corresponding dates in row d.

Table 2

Life cycle duration	10 days	11 days	12 days
a. ADH value at 80 F	19200	21120	23040
b. ADH from Laboratory	9163	9163	9163
c. subtract b. from a.(remaining ADH value)	10037	11957	13877
d. approximate date of the oviposition based on Table 1	9/15	9/14	9/13

5. When do you estimate the earliest possible date when the first adult blow flies deposited eggs on the victim's body?

    Students may come up with different dates. Encourage discussion and communicating analyses of why they chose one date or the other. Or some students may not choose a date but request that he or she needs more data. This is to encourage discussion and communication among students of their ideas, analyses, collected data, etc.

    Students can read Dr. Krinsky's cover letter to Dr. Lee summarizing his findings and conclusion. You can engage students how Dr. Krinsky leads/states his conclusion—is it absolute? Why, why not? How would this be used in a trial?