

# Unit 3- The Time and Location of Death can be determined

Content Area: **Science**  
Course(s): **Forensic Science**  
Time Period: **October**  
Length: **8 Blocks**  
Status: **Published**

## Enduring Understandings

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A forensic entomologist studies the development of insect larvae in a body to estimate the time of death

## Essential Questions

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Why is time of death important?

## Content

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Vocabulary:  
Necrophilious insects  
Blowfly  
Maggots  
Larvae  
Life Cycle

## Skills

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Identify different types human teeth  
Explain why dental records can be used to identify individuals  
Identify the life cycle of a blowfly  
Analyze entomological data to determine the time of death  
Identify the succession of insects that will provide evidence for time of death

## Resources

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- Teacher's Wraparound Edition for Forensic Science: An Introduction, 2nd Edition

Richard Saferstein, Forensic Science Consultant ©2011 |Prentice Hall

- Instructor's Manual with Lesson Plans for Forensic Science: An Introduction, 2nd Edition  
Richard Saferstein, Forensic Science Consultant ©2011 |Prentice Hall
- Basic Laboratory Exercises for Forensic Science: An Introduction, 2nd Edition  
Richard Saferstein, Forensic Science Consultant ©2011 |Prentice Hall
- Forensic Science Experiments (Facts on File Science Experiments) Hardcover – October 1, 2009  
by [Pamela Walker](#) (Author), [Elaine Wood](#) (Author)
- Forensic Science Experiments on File (Facts on File Science Library) Ring-bound
- Crime Scene Investigations: Real-Life Science Labs For Grades 6-12  
by [Pam Walker](#), [Elaine Wood](#), [Christopher Stone \(Illustrator\)](#)

## **Assessments**

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Performance: Lab Assignment

Lab: Entomology Report Students determine the length of time a rooster has been dead based on the larvae that are present.

Written: Informative

Research Paper: Insects and the Case They Make Using a mock case, students present the time of death, based on insect activity.

Performance: Lab Assignment

Lab: Which Bugs? Teacher rots meat and students collect larvae to analyze how long the meat has been there

## **Standards**

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SCI.9-12.1.4	Mathematical representations are needed to identify some patterns.
SCI.9-12.2.4	Changes in systems may have various causes that may not have equal effects.
SCI.9-12.CCC.1	Patterns.
SCI.9-12.CCC.2	Cause and effect: Mechanism and explanation.
SCI.9-12.CCC.7	Stability and change.
SCI.9-12.CCC.7.1	students understand much of science deals with constructing explanations of how things change and how they remain stable. They quantify and model changes in systems over very short or very long periods of time. They see some changes are irreversible, and

negative feedback can stabilize a system, while positive feedback can destabilize it. They recognize systems can be designed for greater or lesser stability.

SCI.9-12.SEP.1

Asking Questions and Defining Problems

SCI.9-12.SEP.1.a

Ask questions

SCI.9-12.SEP.1.a.1

that arise from careful observation of phenomena, or unexpected results, to clarify and/or seek additional information.

SCI.9-12.SEP.1.d

Ask and/or evaluate questions that challenge the premise(s) of an argument, the interpretation of a data set, or the suitability of a design.

SCI.9-12.SEP.3

Planning and Carrying Out Investigations

SCI.9-12.SEP.3.d

Select appropriate tools to collect, record, analyze, and evaluate data.

SCI.9-12.SEP.4

Analyzing and Interpreting Data

SCI.9-12.SEP.4.a

Analyze data using tools, technologies, and/or models (e.g., computational, mathematical) in order to make valid and reliable scientific claims or determine an optimal design solution.

SCI.9-12.SEP.4.b

Apply concepts of statistics and probability (including determining function fits to data, slope, intercept, and correlation coefficient for linear fits) to scientific and engineering questions and problems, using digital tools when feasible.

CAEP.9.2.12.C

Career Preparation

CAEP.9.2.12.C.3

Identify transferable career skills and design alternate career plans.

Observed patterns in nature guide organization and classification and prompt questions about relationships and causes underlying them.