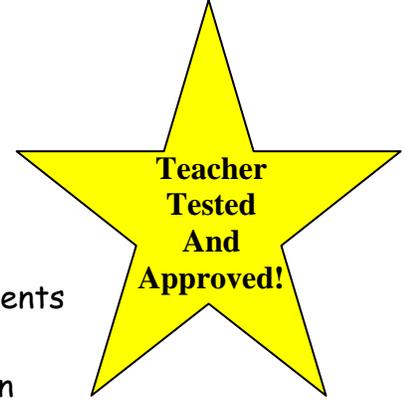


Teacher Instructions



Congratulations on your purchase of *Dealing with Murder: Fatal Error*. This product was made by teachers for teachers and is intended for students in grades 7 through 12. This activity facilitates the execution of the scientific literacy standards as defined by the National Science Education Standards.

Scientific literacy means that a person can:

- ✍ ask, find, or determine answers to questions derived from curiosity about everyday experiences
- ✍ describe, explain, and predict natural phenomena.
- ✍ read with understanding articles about science in the popular press and to engage in social conversation about the validity of the conclusions
- ✍ identify scientific issues underlying national and local decisions and express positions that are scientifically and technologically informed
- ✍ evaluate the quality of scientific information on the basis of its source and the methods used to generate it
- ✍ pose and evaluate arguments based on evidence and to apply conclusions from such arguments appropriately

Other National Standards met are:

CONTENT STANDARD A:

As a result of activities in grades 5-8, all students should develop

Abilities necessary to do scientific inquiry

Understandings about scientific inquiry

CONTENT STANDARD A: As a result of activities in grades 9-12, all students should develop

Abilities necessary to do scientific inquiry

Understandings about scientific inquiry

TEACHING STANDARD A: Teachers of science plan an inquiry-based science program for their students. In doing this, teachers

Develop a framework of yearlong and short-term goals for students.

Select science content and adapt and design curricula to meet the interests, knowledge, understanding, abilities, and experiences of students.

Select teaching and assessment strategies that support the development of student understanding and nurture a community of science learners.

Work together as colleagues within and across disciplines and grade levels.

TEACHING STANDARD B:**Teachers of science guide and facilitate learning. In doing this, teachers**

Focus and support inquiries while interacting with students.

Orchestrate discourse among students about scientific ideas.

Challenge students to accept and share responsibility for their own learning.

Recognize and respond to student diversity and encourage all students to participate fully in science learning.

Encourage and model the skills of scientific inquiry, as well as the curiosity, openness to new ideas and data, and skepticism that characterize science.

TEACHING STANDARD C:**Teachers of science engage in ongoing assessment of their teaching and of student learning. In doing this, teachers**

Use multiple methods and systematically gather data about student understanding and ability.

Analyze assessment data to guide teaching.

Guide students in self-assessment.

Use student data, observations of teaching, and interactions with colleagues to reflect on and improve teaching practice.

Use student data, observations of teaching, and interactions with colleagues to report student achievement and opportunities to learn to students, teachers, parents, policy makers, and the general public.

TEACHING STANDARD D:**Teachers of science design and manage learning environments that provide students with the time, space, and resources needed for learning science. In doing this, teachers**

Structure the time available so that students are able to engage in extended investigations.

Create a setting for student work that is flexible and supportive of science inquiry.

Ensure a safe working environment.

Make the available science tools, materials, media, and technological resources accessible to students.

Identify and use resources outside the school.

Engage students in designing the learning environment.

TEACHING STANDARD E:**Teachers of science develop communities of science learners that reflect the intellectual rigor of scientific inquiry and the attitudes and social values conducive to science learning. In doing this, teachers**

Enable students to have a significant voice in decisions about the content and context of their work and require students to take responsibility for the learning of all members of the community.

Nurture collaboration among students.

Structure and facilitate ongoing formal and informal discussion based on a shared understanding of rules of scientific discourse.

Goal or Objective of Activity/Game:

This activity is intended to improve people's utilization of the scientific method while trying to solve the homicide of Richard Webster, the CEO of the multi-billion dollar internet conglomerate, Webster Networks. This activity can take up to five 40-minute class periods. This time period can be lengthened or shorted based on how you assign the materials.

Day 1

Materials:

Copies of the following for each student:

-  Crime File
-  Final Write-up Directions,
-  Hypothesis Page
-  Crime Log
-  Suspect Chart
-  Day 1 Evidence.

Procedure:

1. Explain to students that their help is needed to solve a crime over the next couple of days.
2. Provide students with the Crime File, Final Write-up Directions, Hypothesis Page, Crime Log, Suspect Chart, and Day 1 Evidence.
3. Instruct students that this is all the information that they have at this time and after they analyze this evidence they have to hypothesize who they think committed this crime based on the evidence they have examined thus far.
4. Students (*in pairs or as individuals*) are to read the information that has been given to them; highlighting pertinent information that they believe will help them solve the crime.
5. Students should then summarize the information that they highlighted in their Crime Log and start their Suspect Chart

 Students usually need ability and opportunity defined for them.

- **Ability** is access to the weapon that committed the murder

- **Opportunity** is the time the murder was committed and what the particular suspect was doing at the time of the murder. Could the suspect have done it? Or does he or she have a solid alibi for the time of the murder?

6. Students should be told to include reasons why characters could not have committed the murder such as no access to the murder weapon or have an airtight alibi. Students should also analyze the Poster for details that could help them solve the crime. The Poster should be hung in a place where students can refer to it throughout the activity.
7. Finally students (*as individuals or in groups of 2*) are to formulate a hypothesis on whom they think killed Mantel making sure to back it up with evidence from their Crime Log.

 Hypotheses can be collected now and at the end of each day or at the end of the activity.

Day 2/Day 3

Materials:

Copies of Day 2 Evidence and Day 3 Evidence

Students will also need their Crime Log, Hypothesis Page, and Suspect Chart from Day 1

Procedure:

1. Following the same procedure, over the next 2 days students will examine Day 2 and Day 3 evidence while highlighting the material, examine the game poster, add to their Crime Logs and Suspect Charts, and formulate a hypothesis following each Day's evidence.

☺ To shorten the amount of class time used, days of evidence can be given as homework assignments.

Day 4

Materials:

Copies of Day 4 Evidence

Students will also need their Crime Log, Hypothesis Page, and Suspect Chart from Day 1

Students also need their Final Write-up Directions

Procedure:

1. Students continue to highlight information on Day 4 Evidence, examine the Poster, add to their Crime Log and Suspect Chart but do not have to make a hypothesis. Rather they have to come to a conclusion about who committed murder.
2. Students have to write a recreation essay on what happened on the night in question starting with when Richard Webster was working at his desk.
 - ☺ Students may need to be given an example of a recreation, which could include a video clip of popular shows such as CSI, Law & Order or even Scoody-Doo.
3. An extension of this activity would be for students to take the sketch of the crime scene and show the movements on the night in question using a different colored marker or colored pencil to represent the movement of each person. A key or legend should be included on the crime scene sketch.
 - ✍ A full page Crime Scene Sketch has been included with your materials.
 - ✍ Students can type their recreation and charts or can write them out (*Teacher Discretion*).
4. Finally students turn in their final products (which include highlighted evidence, Crime Log, Suspect Chart, Recreation including sketch of crime scene with suspect movement), which can be graded any way the teacher feels fit.
 - ✍ *The process is more important than the correct answer so even if students get the wrong answer they can still get a very good grade.*