

## GED 2002 Teachers' Handbook of Lesson Plans

Area/Skill - Mathematics	Cognitive Skill Level - Analysis	Correlation to Framework - 05.06/05.16	Lesson Number - 10
<p><b>Activity Title - When Will It Blow?</b></p> <p><b>Goal/Objective</b></p> <p>To interpret information obtained from reading meters and gauges.</p> <p><b>Lesson Outline</b></p> <p><b>Introduction</b></p> <p>Gauges and instruments provide us with important information in our daily lives. Everything from a speedometer in our car to the clock on the wall helps us function safely in an increasingly complicated world. Our problem today gives us an opportunity to practice a real life scenario using gauges to help keep us safe.</p> <p><b>Activity</b></p> <p>You are in charge of monitoring the heating boiler in the office building. You have a pressure gauge and a watch. You know that if the pressure rises to 500 pounds per square inch the boiler will explode.</p> <p>At 10:00 a.m. you notice that the pressure is 300 pounds per square inch. At 10:30 you note that it has risen to 350 pounds per square inch. If the pressure keeps rising at this same rate, when will the boiler explode?</p> <p>If it takes 15 minutes to evacuate the building, what is the latest time you can begin the evacuation?</p> <p><b>Debriefing/Evaluation Activity</b></p> <p>Instruct students to provide a minute by minute account of the problem in the disaster in the role of an action newscaster. Make sure that all information that would be provided by the gauges is used in the narrative.</p>		<p><b>Materials/Texts/Realia/Handouts</b></p> <ul style="list-style-type: none"> <li>• Paper, pencils</li> <li>• Calculators</li> </ul>	
		<p><b>Extension Activity</b></p> <p>Draw sketches of the clock and the pressure gauge for every 15 minutes starting at 10:00 a.m. until the boiler explodes or until a solution is found to stop the disaster from taking place.</p>	
		<p><b>ESE/ESOL Accommodations</b></p> <ul style="list-style-type: none"> <li>• Provide student with a graphic outline of steps to take to solve the problem.</li> <li>• Pair the student with others for cooperative learning.</li> <li>• Allow the student to respond in writing or orally.</li> <li>• Divide the problem into small steps that must be completed prior to solving the problem.</li> </ul>	
<p><b>Real-Life Connection</b></p> <p>Discuss the scenario. Speculate if this situation could actually happen. If the scenario seems plausible, come up with some ways that the situation could be avoided.</p> <p>Search newspapers and newsmagazines for stories that describe events that portray similar events. Decide if these events could have been avoided by careful monitoring of available information.</p>			

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### Activity Title - When Will it Blow?

#### Introduction

*Say:* Gauges and instruments provide us with important information in our daily lives. Everything from a speedometer in our car to the clock on the wall helps us to function safely in an increasingly complicated world. Our problem today gives us an opportunity to practice a real-life scenario using gauges to help keep us safe.

#### Main Activity

*Say:* Our problem today involves your new job as supervisor of the office building. You have had some trouble with the heating system and you are monitoring the heating boiler. You know that the boiler will explode if the pressure rises to 500 pounds per square inch.

*Do:* Ask students to draw a sample gauge that goes from 0 to 750 pounds per square inch. Ask students to draw a clock (digital or analog) to represent passing time.

*Say:* At 10:00 a.m. you notice that the pressure is 300 pounds per square inch. At 10:30 you note that it has risen to 350 pounds per square inch. If the pressure keeps rising at this same rate, when will the boiler explode?

*Do:* Instruct students to compute their answers by adding 50 pounds every 30 minutes.

*Say:* You have two immediate problems. First, when will the boiler explode? Second, if it takes 15 minutes to evacuate the building what is the latest time that you can safely start to evacuate the building?

#### Closure/Conclusion

*Say:* To make sure we have all of the happenings, we are going to create a minute-by-minute newscast of the event.

*Do:* Divide the class into small groups and instruct student to take turns narrating the event.

#### Follow-Up Lessons/Activities

*Ask:* Do you think this could actually happen? Do you think there is any way the disaster could be avoided?

*Do:* Distribute newspapers and or magazines and instruct the class to search for similar events. Ask the class to speculate if these events could have been avoided or minimized using available information.