**Lesson Plan Template**

<table>
<thead>
<tr>
<th>Instructor:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEAL DIETZ</td>
<td>JUNE 24, 2013</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Title:</th>
<th>Specific Topic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Science</td>
<td>Personal Protective Gear</td>
</tr>
</tbody>
</table>

**Performance Objectives:**

After completion of the lesson, students will be able to:

To complete this task, students must: determine the central idea in the informational text and summarize the relevant events, using specific details, to produce a persuasive argument.

**Standards:**

<table>
<thead>
<tr>
<th>CTE &amp; CCSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>RI.9: COMPARAND CONTRAST FINDINGS PRESENTED IN A TEXT TO THOSE FROM OTHER SOURCES, NOTING WHEN THE FINDINGS SUPPORT OR CONTRADICT PREVIOUS EXPLANATIONS OR ACCOUNTS.</td>
</tr>
<tr>
<td>RI.4: DETERMINE THE MEANING OF SYMBOLS, KEY TERMS, AND OTHER DOMAIN-SPECIFIC WORDS AND PHRASES AS THEY ARE USED IN A SPECIFIC SCIENTIFIC OR TECHNICAL CONTEXT RELEVANT TO GRADE 11/12 TEXT AND TOPICS.</td>
</tr>
<tr>
<td>W.4: PRODUCE CLEAR AND COHERENT WRITING IN WHICH THE DEVELOPMENT, ORGANIZATION, AND STYLE ARE APPROPRIATE TO TASK, PURPOSE, AND AUDIENCE.</td>
</tr>
<tr>
<td>W.9: DRAW EVIDENCE FROM INFORMATIONAL TEXTS TO SUPPORT ANALYSIS, REFLECTION, AND RESEARCH.</td>
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</tbody>
</table>

**Assessment:**

See attached documents: CTE Personal Protective Gear

**Materials:**

*Essentials of Fire Fighting*

“The History of Firefighter Personal Protective Gear”

Venn Diagram

**Procedure:**

**Literacy Strategy used:**
Venn Diagram, Vocabulary Definitions, Persuasive Paragraph Prompt

**Entire Class:**

*Introduction and Method of activating prior knowledge – Discuss progress within the field of fire science*

*Method of setting purpose – Safety issues that cannot be reduced by gear and the responsibility of individual firefighters*
**Individual:**
Read two information text

**Group:**
Share anxieties of injuries and dangers within fire science

**Entire Class:**
Observe, handle and discuss actual firefighting turnouts.

<table>
<thead>
<tr>
<th>Application of Material:</th>
<th>Firefighter safety and foundational knowledge of equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extension Questions:</strong></td>
<td>Is the progression of Personal Protective Gear efficient?</td>
</tr>
<tr>
<td><strong>Accommodations needed:</strong></td>
<td>Larger font, Larger writing spaces for student answers, updated articles as needed.</td>
</tr>
</tbody>
</table>
Firefighter Personal Protective Equipment: W.4, W.9, RI.4, RI.9

To complete this task, students must: determine the central idea in the informational text and summarize the relevant events, using specific details, to produce a persuasive argument.

DO: Using a Venn diagram for notes, compare and contrast the two informational texts to write a persuasive paragraph.

PASSAGE ONE: “The History of Firefighter Personal Protective Equipment”
http://www.fireengineering.com/articles/2008/06/the-history-of-firefighter-personal-protective-equipment.html

Firefighting is a dangerous profession that requires specialized equipment to effectively and safely mitigate a fire emergency. An important part of this equipment is the firefighter's personal protective equipment (PPE): coat, pants, hood, helmet, boots, gloves, breathing apparatus, and personal alert safety system (PASS) device. The personal protective equipment structural firefighters wear today is drastically different than what they wore in the early years. Unfortunately, there isn't a lot of good and accurate information documented about the history of PPE, but some theories of yesteryear and modern day requirements have helped me to piece together how a firefighter's ensemble came to be.

Early Years

We can look back at American history and see that fire was present in our country's first colonies. In the 1600s, firefighters had to deal with the fire, heat, and smoke without modern technology. Structures often burned to the ground because firefighters fought the fires from the outside. Interior operations were not possible because the everyday clothing firefighters wore offered insufficient protection from heat and flames.

As firefighting evolved, so did the equipment firefighters wore. Jacobus Turck, the "caretaker" of New York City's two then-new Newsham hand pumpers, is credited with inventing the first fire helmet in the 1730s. It was leather, with a high crown and wide brim. Years later in 1836, Henry T. Gratacap designed a helmet similar to the one we use today, referred to as the "traditional" fire helmet. The design was a reinforced dome-shaped leather helmet with a front shield and brim rolling to a long back tail. Finally the firefighter's head was awarded some protection from falling materials and water that ran off the back of the helmet. Some old images also show firefighters holding the helmets in front of their faces as they battle wind or intense heat from a fire.

Around the same time Gratacap was producing the fire helmet of the future, the firefighter's uniform also took a step forward. Wool, a heavy material that gave some protection against hot and cold environments, was used. Firefighters' pants and a long trench coat with a stiff collar were made of wool. Under the coat, firefighters wore a cotton or wool shirt that was usually red in color. To finish off the uniform, they wore leather boots.

As rubber development progressed, it played a beneficial role in firefighter clothing. Rubber slickers worn over the wool coats added another layer of protection from the heat and most definitely kept the wearer dry. Boots made of rubber also kept the wearer's feet dry. Some archived history of the Huron (OH) Fire Division also confirms the use of rubber boots purchased for $10 and rubber raincoats purchased for $12 in the mid 1930s.

Also in the early years, respiratory protection for firefighters was minimal. Tales are told of firemen growing beards, soaking them in water, biting the beards, and breathing through them when in a smoke-filled environment. The beard may have acted as a filter, but they would still get choked up by the fire's by-products.

It wasn't until 1825 Italian scientist Giovanni Aldini attempted to design a mask to provide heat protection and fresh air. The concept spurred many more attempts to make a device that would be more effective. A miner named John Roberts invented a filter mask that was widely used in Europe and the United States. During the same time period, several attempts were made to invent a helmet with a hose attached to a pump that supplied fresh air.

The first self-contained breathing apparatus came in 1863, when James Braidwood put two canvas bags together lined with rubber. The airtight sac was worn on the firefighter's back and secured with shoulder straps and a waist belt. Two rubber hoses connected to a mouthpiece allowed the wearer to inhale fresh air. Different size sacs were filled with air by a set of bellows and sealed with corks until needed. Firefighters also wore goggles, a leather hood, a nose clamp, and a whistle to complete Braidwood's invention.

Bunker Gear/Turnout Gear
As the firefighter’s personal protective equipment continued to develop, the terms "bunker gear" and "turnout gear" become part of history. After speaking at length with fire history curator David Lewis, I can put forth several theories as to the terms' origins. In the mid 1800s, "bunking" was the practice of sleeping at New York City's volunteer firehouses, so the firefighter's "bunking gear" would be the clothing he would wear when responding or "turning out" to a fire during nighttime hours. Another theory about "bunker pants" comes from soldiers responsible for firing cannons from the built-up bunkers of World War I who wore padded pants. These pants protected their legs from shrapnel, water, mud, and hot shell casings flying around and in these bunkers. After the war, the soldiers often became firefighters and adopted the protective pants as part of their new uniform, according to Lewis.

**Further Development**

During and after the World Wars, steady progress was being made in the development of firefighting personal protective equipment. Long rubber trench coats, long rubber boots, and the traditional fire helmet were commonly seen. The long rubber boots were often referred to as three-quarter boots and covered the firefighter's leg to above the knee.

It wasn't until after World War II when standards for firefighter personal protective equipment were developed. Several organizations began performance testing and creating standards for the equipment. The frontrunner in this endeavor was the National Fire Protection Association (NFPA), which still develops standards for protective clothing today (NFPA 1971, *Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*). The committee at the time wanted to see a firefighting coat with three layers: an outer shell that was flame resistant and would withstand temperatures of 500°F for about five minutes, a middle layer that prevented water from soaking the wearer, and an inner layer that protected against the three heat transfer methods (convection, conduction, and radiation). Other standards addressed the protective equipment dealing with the firefighters' hands and feet. Resistance to heat and resistance to puncture were two important parts of the standard. Specifically, a steel shank and toe were required in the leather or rubber boots.

Also after World War II, Scott Aviation made breathing equipment for crews working in airplanes at high altitudes. The engineers noticed that the firefighters were still using filter masks and rebreathers that didn't provide adequate breathing air. Similar concepts were applied to the Scott Air-Pack, introduced in 1945.

I interviewed one of the most seasoned veterans of the Huron Fire Division to understand the specific protective equipment that was worn in the late 1970s. Firefighter Steve Dircks explained to me that when he started with the department in 1978, he was issued a vinyl silver long coat, three-quarter rubber boots, orange rubber gloves, and a plastic fire helmet resembling the material used in modern day construction hard hats. This entire ensemble was purchased for $190. Dircks remembered that it wasn’t until 1984 when new turnout gear was issued, consisting of pants with suspenders and a coat of black cotton material.

It wasn’t until 1982 that the NFPA developed a standard for personal alert safety system (PASS) devices. These devices send out an audible alarm when a firefighter remains motionless or is running out of air. Also in the 1980s, advanced fire-resistive materials such as Nomex® and Kevlar® were used to make the outer shell of the coats and pants.

**PROMPT TWO:** *Essentials of Fire Fighting* chapter 5

**DO:** Write five vocabulary words from each piece of informational text that reflect content specific relevancy.

<table>
<thead>
<tr>
<th>&quot;The History of Firefighter Personal…&quot;</th>
<th><em>Essentials of Firefighting</em></th>
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DO: Complete the Venn diagram below to facilitate your writing. Write specific information for each period.

EVALUATION WILL BE BASED ON:

RI.9: COMPARE AND CONTRAST FINDINGS PRESENTED IN A TEXT TO THOSE FROM OTHER SOURCES, NOTING WHEN THE FINDINGS SUPPORT OR CONTRADICT PREVIOUS EXPLANATIONS OR ACCOUNTS.

RI.4: DETERMINE THE MEANING OF SYMBOLS, KEY TERMS, AND OTHER DOMAIN-SPECIFIC WORDS AND PHRASES AS THEY ARE USED IN A SPECIFIC SCIENTIFIC OR TECHNICAL CONTEXT RELEVANT TO GRADE 11/12 TEXT AND TOPICS.

| Students can read closely and analytically to comprehend a range of increasingly complex literary and informational texts. | A NOVICE should be able to read to comprehend a limited range of literary and informational text at the lower range of complexity and to use minimal textual evidence to demonstrate thinking. | AN APPRENTICE should be able to read closely and analytically to comprehend a range of literary and informational texts of moderate complexity and to use textual evidence that demonstrates limited critical thinking. | A PRACTITIONER should be able to read closely and analytically to comprehend a range of increasingly complex literary and informational texts and use textual evidence to demonstrate critical thinking. | AN EXPERT should be able to read closely and analytically to comprehend a range of highly complex literary and informational texts and use textual evidence effectively to demonstrate complex critical thinking. |
DO: Write a persuasive paragraph using content vocabulary and specific examples from the informational text to support or refute the following prompt: Firefighter personal protective equipment has improved at a satisfactory rate from 1600 to the present.

EVALUATION WILL BE BASED ON:

**W.4:** PRODUCE CLEAR AND COHERENT WRITING IN WHICH THE DEVELOPMENT, ORGANIZATION, AND STYLE ARE APPROPRIATE TO TASK, PURPOSE, AND AUDIENCE.

**W.9:** DRAW EVIDENCE FROM INFORMATIONAL TEXTS TO SUPPORT ANALYSIS, REFLECTION, AND RESEARCH.

| Students can produce effective and well-grounded writing for a range of purpose and audiences. | A NOVICE should be able to produce simplistic and poorly-supported writing without consideration of purpose and audience. | AN APPRENTICE should be able to produce surface-level and under-developed writing for a limited range of purposes and audiences. | A PRACTITIONER should be able to produce effective and well-grounded writing for a range of purposes and audiences. | AN EXPERT should be able to produce compelling, well-supported writing for a diverse range of purposes and audiences. |
Supporting material for Personal Protective Gear Lesson Plan.

The text used for this lesson plan is IFSTA *Essentials of Fire Fighting*, 5th edition.

The history of PPE is from Fireengineering.com
(http://www.fireengineering.com/articles/2008/06/the-history-of-firefighter-personal-protective-equipment.html)
Producing clear and coherent writing means a student’s writing is organized, appropriate and draws evidence from the informational texts supplied to support analysis.

The foundational skill that can help you show proficiency in writing is vocabulary use. Vocabulary use should be OBJECTIVE.

**OBJECTIVE (adjective):**
1 (of a person or their judgment) not influenced by personal feelings or opinions in considering and representing facts: *historians try to be objective and impartial.* Contrasted with *subjective*
2 [ attrib. ] Grammar of, relating to, or denoting a case of nouns and pronouns used as the object of a transitive verb or a preposition.

**SUBJECTIVE (adjective):**
1 based on or influenced by personal feelings, tastes, or opinions: *his views are highly subjective | there is always the danger of making a subjective judgment.* Contrasted with *objective*.
2 Grammar of, relating to, or denoting a case of nouns and pronouns used for the subject of a sentence.

**Objective vs. Subjective Information**
*Objective information* is:
observable: able to be seen, heard or touched, smelled, tasted factual able to be counted able to be described able to be imitated the same from multiple reporters as close to truth as we can get helpful in decision making
*Objective Language:*
I saw... I counted... I observed... This is what s/he did. This is what l/we did. S/he said... The sound s/he made sounded like this... S/he stood in this place. S/he made an action that looked like this...

*Subjective information* is:
opinion judgment assumption belief rumor suspicion varies: person-to-person, day-to-day able to take on a life of its own not the truth sometimes completely false destructive in decision making
*Subjective language*
S/he did not want to... S/he does not like... S/he thought... S/he feels... S/he thinks... S/he needs... S/he was just trying to get me to... S/he was just trying to get out of or avoid... S/he was just trying to control me...

**Academic Article:**
Thinking Critically About the "Subjective"/"Objective" Distinction
Sandra LaFave
West Valley College
http://instruct.westvalley.edu/lafave/subjective_objective.html

The words "subjective" and "objective" cause lots of confusion. Their misuse is responsible for subjectivism in ethics. Ethical subjectivism is the view that moral judgments are nothing but statements or expressions of personal opinion or feeling and thus that moral judgments cannot be supported or refuted by reason. Careless use of the terms "subjective" and "objective" also leads to odd views in metaphysics, e.g., the denial of material reality (idealism); and odd views in epistemology, e.g., the claim that all statements are equally warranted. In other words, if you're careless about how you handle the concepts of subjectivity and objectivity, you can end up saying there's no such thing as morality, reality, or truth!

The ordinary non-philosophical (i.e., oversimplified) view is that the word "subjective" is the complete opposite (negation or contradictory) of the word "objective." If something is subjective, it's not objective; if something is objective, it's not subjective. "Subjective" is thought to mean "from someone's point of view." "Objective" means "not just from someone's point of view." An objective matter is one that everyone (who is sane, rational, and appropriately informed) will agree about. "Subjectivity" connotes lack of objectivity. Ethical subjectivism is the view that since we can't be "objective" about morality, morality must be purely "subjective."

Furthermore, on the ordinary non-philosophical view, "subjective" goes with words like "belief" or "opinion." The idea is that subjective matters are not certain. "Objective," on the other hand, means "certain" or "factual." "Objective" matters are those that can be measured or quantified. For example, the answers to questions such as "How many desks are in this room?" and "What is the current temperature in this room?" would be objective. Note that these questions
have precise mathematical answers, and anyone with access to the appropriate properly-working measuring devices would agree what those answers are.

In this essay, I am going to critically analyze this **ordinary oversimplified (problematic) view**, so let's recap it now:

**SUBJECTIVE IS:**

**OBJECTIVE IS:**

This oversimplified way of making the distinction leads to philosophical trouble. Consider your experience of a headache versus your experience of the Eiffel Tower. Naturally, you have your own personal private "subjective" experience of the headache, and nobody else can have your headache for you. So, in one of the usual (oversimplified) senses of "subjective", all headaches are subjective.

But people tend to say furthermore that "subjective" and "objective" are logical **opposites** in the strongest sense: they are negations or contradictionaries of each other. This means that if X is subjective, it can't be objective, and if X is objective it can't be subjective. In other words, people mistakenly think everything has to be EITHER subjective OR objective. This leads to startling consequences. You have a headache. You feel it, and nobody else does, so you say it's "subjective" (private). But look at the other notions that go with "subjective": if it's subjective, it's just your opinion. But opinions have no standing — so why should the doctor believe you when you say you have a headache? The doctor doesn't feel your headache; it's just your opinion — and you might find yourself agreeing that you can't be "objective" about your headache. And since your headache isn't objective, it isn't really REAL at all! The headache is "really" just **in your mind**.

**DO: Change these SUBJECTIVE statements into OBJECTIVE statements**

<table>
<thead>
<tr>
<th>Subjective Statement</th>
<th>Objective Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel like Facebook is overrated.</td>
<td></td>
</tr>
<tr>
<td>Elephants are so cool.</td>
<td></td>
</tr>
<tr>
<td>Catfish is tasty.</td>
<td></td>
</tr>
<tr>
<td>The Oregon Duck’s football team is bad.</td>
<td></td>
</tr>
<tr>
<td>Touching a spider is scary.</td>
<td></td>
</tr>
<tr>
<td>Voters’ Rights are dumb.</td>
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<tr>
<td>Smoking undermines lung health.</td>
<td></td>
</tr>
<tr>
<td>Violence is destructive to human wellbeing.</td>
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</tbody>
</table>
Developing a Thesis Statement

For most academic essays, a thesis statement is expected or required. As the key expression of the essay’s purpose—the writer’s intention—it is important to construct this statement effectively.

DIFFERENT TYPES OF THESIS STATEMENTS FOR DIFFERENT ASSIGNMENTS

In general, a thesis statement expresses the purpose or main point of your essay. Additionally, the thesis may include the significance of or your opinion on this topic. It is your commitment to the reader about the content, purpose, and organization of your paper.

Important points to consider:
The thesis statement is usually placed at the end of the introduction, (though some disciplines might require the thesis statement to be the first sentence of the essay) and is often expressed in one sentence, though it may in some cases be two or (rarely) three sentences, depending on the length and complexity of the essay.

A thesis statement for an academic essay is more than a statement of fact; it is an arguable claim or the writer’s position on the topic, which is usually a direct response the question posed by the assignment.

The following statements are NOT effective thesis statements.
The museum has a new exhibit. (Narrative: General fact, lacks dominant impression or lesson of narrative.)
Alcoholism has many causes. (Research: Fact, too broad, not a claim.)
I agree with the author’s opinion. (Response: Too general, lacks essay writer’s claim.)

Always check your assignment sheet and ask your instructor to clarify thesis and support paragraph requirements.

You can find more examples on the Student Hub Matrix, linked to the Writing Center Website: http://www.sbcc.edu/learningresources/website/documents/Matrix/WritingPapers.htm.

DO: WRITE YOUR THESIS STATEMENT.

• Underline the VERBS (e.g., define, review, summarize) to determine what the assignment is asking you to do.
• Underline the NOUNS (e.g., journal entry, narrative essay, critique) to see what form the writing is to take.
• As you narrow your topic, use the table below to develop a more specific thesis statement.

<table>
<thead>
<tr>
<th>Moving from subjective to objective</th>
<th>EXAMPLE</th>
<th>YOUR ASSIGNMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOPIC: The general area of interest or subject of the assignment.</td>
<td>Justice in America</td>
<td></td>
</tr>
<tr>
<td>FOCUSED TOPIC: A subject that has been limited, so as not to be too broad or unwieldy.</td>
<td>The death penalty</td>
<td></td>
</tr>
<tr>
<td>GENERAL THESIS: The main assertion you wish to make about the topic. (subjective)</td>
<td>The death penalty should be abolished.</td>
<td></td>
</tr>
<tr>
<td>SPECIFIC THESIS: A general thesis plus supporting points, which may also indicate the organizational pattern of the essay. (objective)</td>
<td>The death penalty should be abolished because it is fundamentally immoral, ineffective in preventing crime, and sometimes mistakenly enforced on innocent people.</td>
<td></td>
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</tbody>
</table>
***Examples cannot prove the thesis statement.

******Analysis of the quote will prove the thesis statement.

***Analysis means the writer explains or persuades how and why the example proves the thesis statement.

### OPTIONAL SENTENCE FRAMES FOR ANALYSIS:

The author conveys the theme of … by using (literary element) and (literary element).

The author uses (literary element) to illustrate/demonstrate/convey/explore/express/….(theme) ____’s use of (literary element) and (literary element) in the (story/poem/novel) helps to express/convey/illustrate/….(theme)

By using (literary element) and (literary element), the author illustrates/conveys/demonstrates’ delves into…. (theme)

This can be interpreted to mean______

The author/This suggests/conveys/intimates/Imply/illustrates____

____ refers to/represents____

Possibly/Maybe the character/speaker is____

____may suggest (is suggesting) that____

____, suggesting/implying/Intimating____

It seems to me that____

On a figurative level (Figuratively speaking),____

Like/Similar to______, ________ is compared to _____ because____

The author makes this comparison because/so that____

As one can see/Upon examination, the use ______ and ______ in the text helps to convey____

To sum up/In summary, the author conveys the theme of ____ by using (literary element) and (literary element)____

Form this analysis, we can see that the author uses (literary element) to illustrate/demonstrate/convey/explore/express_____ (theme)

Upon analysis of (title of story/poem), (name of author)’s use of (literary element) and (literary element) in the (story/poem/novel) helps to express/convey/illustrate/explore______ (theme)

Overall, by using (literary element) and (literary element) the author illustrates/conveys/demonstrate/ delves into ____ (theme)

Upon examination, through the use of (literary element) and (literary element), ______ communicates/conveys/reveals….