



# **A Nation Remembers- Teachers' Guide and Resources**

## **9/11 Lesson Plans and Activities Grades 6-12**

Created by:  
Educators' Leadership Group,  
Pentagon Memorial Fund

Last Updated 8/13/2015

## ***Acknowledgements***

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These materials would not have been possible without the generous support of the Verizon Foundation.

Thank you to the members of the Pentagon Memorial Fund Board of Directors and Advisory Board for their support and contributions to this project.

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We would also like to extend our thanks to those at the Flight 93 Memorial and National Park Service, the National 9/11 Memorial and Museum in New York City, and the World Trade Center (WTC) Tribute Center for all of their support and willingness to help get our education efforts off the ground.

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## Introduction

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This teachers' guide and resources were developed to assist teachers and educators in sharing information about the events on September 11, 2001 at the Pentagon, in New York City and in Pennsylvania.

**ON SEPTEMBER 11, 2001, nineteen** al Qaeda terrorists hijacked four commercial aircraft, intending to strike the World Trade Center (WTC) and various targets in Washington, D.C.<sup>1</sup> At **8:46AM**, hijackers deliberately crashed American Airlines Flight 11 (scheduled from Boston to Los Angeles), carrying 87 passengers and crew, into floors 94-98 of the North Tower (1 WTC), and at **9:03AM**, United Airlines Flight 175 (also scheduled from Boston to Los Angeles), carrying 60 passengers and crew, into floors 78-84 of the South Tower (2 WTC).<sup>2</sup>

At **9:37AM**, hijackers purposely crashed American Airlines Flight 77 (scheduled from Washington Dulles to Los Angeles), carrying 59 passengers and crew, into the Pentagon, near Washington, D.C.<sup>3</sup>

At **10:03AM**, after learning of the other attacks, passengers on United Airlines Flight 93 (scheduled from Newark to San Francisco), which carried 40 passengers and crew, launched a counter-attack on hijackers aboard their plane to try to seize control of the aircraft.<sup>4</sup> In response, the hijackers crashed the plane into an empty field in Somerset County, Pennsylvania.<sup>5</sup>

Within an hour of the first crash, all U.S. flights were halted and military fighters had established combat air control over New York City.<sup>6</sup> As a result of the attacks, all seven buildings at the World Trade Center were destroyed and a portion of the Pentagon collapsed, resulting in almost 3,000 fatalities -- the largest loss of life from a hostile attack by a foreign entity on American soil.<sup>7</sup>

As a teacher, you may remember where you were when you heard about the attacks. These events have been a defining moment in our history. But for many students in today's classrooms, these events are merely part of the historical record. Younger students may not have even been born, and even those in the upper grades had just started elementary school. As a result, the Pentagon Memorial Fund feels a responsibility to provide information and materials to assist teachers who would like to cover the events of September 11, 2001 in their classroom.

We know that teachers may have difficulty finding relevant material and time to cover this topic in an already full school year. Thus, the lessons and activities provided will work in a variety of subject areas to encourage use wherever there might be time and space in your planning.

These materials were developed as a companion piece to the documentary, "A Nation Remembers," which tells the story of the National 9/11 Pentagon Memorial in a 60-minute DVD.

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<sup>1</sup> "9/11: Stories of Survival and Loss Commemorative Resources for High School Educators" *National September 11 Memorial and Museum* n.d. PDF. March 16, 2011 page10 <<http://www.national911memorial.org/img/EDUCATION%20Packet%20-%20206.pdf>>

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

It is our hope that you will use this teachers' guide either in its entirety, should you have the time to devote to several concurrent sessions, or individually, where the lessons or activities meet your specific time limitations. We encourage using the materials in observance of the commemoration of September 11<sup>th</sup>, but we hope you will find that these materials can be used at any point during the year.

The teachers' guide and resources included target a middle and high school audience (grades 6-12). You may find that a particular lesson does not meet your exact needs and some modifications are necessary for your classroom. If you do make specific modifications, use the evaluation form included at the end of these materials to send us information on what you changed and why. You may also choose to access the elementary-level lessons on our website, though we understand this may be a difficult topic to share with very young students.

Please use the evaluation form at the end of this guide to send us feedback on how we may make changes for clarity, organization of content, or inclusion of additional information.

Any additional questions or comments may be directed to the Pentagon Memorial Fund, [info@pentagonmemorial.net](mailto:info@pentagonmemorial.net) or via fax at 391-560-3401.

## *Background and Purpose*

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The Pentagon Memorial Fund, Inc. (PMF) was incorporated in May 2003 as a non-profit 501(c)(3) organization to raise the private funds necessary to design, build and maintain the Pentagon Memorial.

The PMF convened an Educators' Leadership Group comprised of teachers, administrators, university personnel, communications specialists, PMF Board Members and others to help draft a set of educational materials that could be used in or out of the classroom. This teachers' guide was one of the results of that convening, and were written as a companion to the documentary, "A Nation Remembers," available online in the education section of our website (<http://www.pentagonmemorial.org/learn/educational-resources/media/video/nation-remembers>).

In order to help tell the whole story of what happened on September 11, 2001, the PMF works closely with their counterparts in New York and Pennsylvania. We encourage you to visit their websites (listed below), view their resources and ask your own questions.

National September 11 Memorial and Museum: <http://www.national911memorial.org>

Tribute World Trade Center (WTC) Visitor Center: <http://www.tributewtc.org>

Flight 93 / National Park Service: <http://www.nps.gov/flni/index.htm>

Following the September 11<sup>th</sup> events, there were thousands of volunteers who were part of the rescue, recovery and rebuilding efforts in New York, at the Pentagon and in Shanksville, PA. We also saw a shift in our culture and an increase in the number of people volunteering all over the United States. That spirit of service lives on, as September 11<sup>th</sup> is now a National Day of Service and Remembrance. In honor of all of the lives that were lost that day, you might consider organizing a service project for your class or encouraging your students to plan their own. Visit <http://911dayofservice.org/> for others' ideas and resources, and to register your own ideas.

As the National 9/11 Pentagon Memorial, we feel a responsibility to contribute to the literature currently available and to ensure that the story of the events that happened at the Pentagon are told in a way that is as respectful of the victims and survivors as possible, and honors the work done to rebuild lives.

Our goal is to provide resources and materials in order to help educators teach the events of September 11, 2001. We encourage you to explore our website (<http://www.pentagonmemorial.org>) and let us know if there is any information you are in search of that is hard to find. All content is available electronically and free of charge. We would like to hear about your experience as well, so please use the evaluation form located at the end of these materials to share your story.

## ***Chapter Overviews***

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*A Nation Remembers: Teachers' Guide and Resources* provides information about the construction, purpose and history of the Pentagon prior to September 11, 2001. These materials were developed as a companion to the Pentagon Memorial Fund documentary entitled, "A Nation Remembers," which tells the story of the construction of the National 9/11 Pentagon Memorial. The full version of "A Nation Remembers" can be found on the Pentagon Memorial Fund's website: <http://www.pentagonmemorial.org/learn/educational-resources/media/video/nation-remembers> .

### ***Chapter One: Life at the Pentagon Before September 11, 2001***

This chapter is focused on life as we knew it in the days preceding the September 11<sup>th</sup> attacks. Students will learn that although the Pentagon is home to the Department of Defense, there are both military and civilian employees working there.

This chapter best complements the documentary from 0:00 minutes through 7 minutes, 14 seconds.

### ***Chapter Two: September 11, 2001—The Attacks in New York City, at the Pentagon and in Shanksville, PA***

This chapter leads students through the events of the day, and asks them to think about al Qaeda and the escalation of terrorism acts in recent years. The documentary shows the imagery of the attacks, including photos and videos of the sites in New York City, at the Pentagon and in Somerset County, PA. It also includes several interviews with government officials including: former President George W. Bush, former Secretary of Defense Donald Rumsfeld, Senator Joseph Lieberman (I-CT) and Senator Carl Levin (D-MI).

This chapter best complements the documentary from 7 minutes, 15 seconds through 17 minutes, 19 seconds, with the majority of the information about the attacks around 13-minutes.

### ***Chapter Three: The Emergency Response at the Pentagon***

This chapter provides students a chance to learn from several first responders who were at the Pentagon on September 11, 2001 and asks them to think critically about the lasting effects of rescue and recovery efforts at a disaster site. In the documentary, there is an interview with Senator Joseph Lieberman (I-CT), images of the Pentagon after the attack and introductions to the victims of Flight 77 and those who died at the Pentagon through a photo montage around 28 minutes.

This chapter best complements the documentary from 17 minutes, 20 seconds through 34 minutes, 58 seconds.

### ***Chapter Four: Honoring Lives Lost***

This chapter is intended to help students understand the idea of memorialization and the importance of remembering certain events and the people affected. As the whole movie is dedicated to the building of the

Pentagon Memorial, this chapter focuses on the design, symbolism, meaning of memorialization and the family members impacted by the events on September 11, 2001.

This chapter best complements the documentary from 45 minutes, 19 seconds through 53 minutes, 39 seconds. For the most comprehensive understanding of the material, please view the documentary from 34 minutes, 59 seconds through 53 minutes, 39 seconds.

Additional video footage is also available to complement these lessons and activities:

- The Memorial Dedication <http://www.pentagonmemorial.org/learn/educational-resources/media/video/nation-remembers-memorial-dedication>
- The Reading of Names <http://www.pentagonmemorial.org/learn/educational-resources/media/video/nation-remembers-reading-names>

### **Chapter Five: Those Affected at the Pentagon**

This chapter is focused on the people affected by the attack at the Pentagon. “A Nation Remembers” provides additional information about the National 9/11 Pentagon Memorial in this section. The material included in this chapter focuses on the ‘everyday heroes’—people who worked at the Pentagon and helped with the rescue operations, those involved as first responders, and the individuals who lost their lives as a result of the attack.

These materials best complement the documentary from 45 minutes, 19 seconds through 53 minutes, 39 seconds. For the most comprehensive understanding of the material, please view the documentary from 34 minutes, 59 seconds through 53 minutes, 39 seconds.

### **Chapter Six: September 12 and Beyond: The Nation and the Pentagon Post 9/11**

This chapter focuses on the changes to the Nation and the Pentagon as a result of the September 11, 2001 attacks, including the changes to society, the development of the Department of Homeland Security and the differences in travel experiences since September 11, 2001.

These materials best complement the documentary from 53 minutes, 40 seconds through the end of the film at the 60-minutes.

## *Using this Guide as a Teaching Tool*

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The goal of these materials is to provide materials that will help teachers discuss the tragic events of September 11, 2001 with their students. Soon, the majority of young people will not remember when the attacks originally occurred because they will have been too young at the time or not yet born. However, these events were a defining moment for our nation and have changed how we live, travel and interact with others.

The lesson and activities can be used as standalone teaching aids, though we encourage the teacher to show the relevant section of the movie as a warm-up exercise. The content was developed for use in the classroom. Should you wish to use these materials with special needs students, you may need to make the following adjustments:

- Extra processing time
- Adjusted workload
- Preferential seating
- Modified breaks
- Reading of directions
- Visual cues
- Reduce distractions

***Chapter 1: Life at the Pentagon Before September  
11, 2001***

## *Life at the Pentagon Before September 11, 2001*

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In this chapter, students learn about life at the Pentagon before September 11, 2001 and why the Pentagon is known as “a city within itself.” They will learn the purpose and structure of the U.S. Department of Defense and its Armed Forces; as well as explore the civilian and military careers available at the Department’s headquarters. In guiding students through the activities, encourage them to think about the connections between the background information provided and the potential reasons the Pentagon was selected as a terrorist target on September 11, 2001.

The Pentagon, located in Arlington, Virginia, is the headquarters for the United States Department of Defense.<sup>8</sup> The Pentagon was built during World War II to relocate the growing U.S. War Department into one central location.<sup>9</sup> Construction began on September 11, 1941, 60 years to the day before the attack on September 11, 2001.<sup>10</sup> The Pentagon’s unique five-sided structure has become a symbol of America’s powerful military strength.<sup>11</sup>



Northwest exposure of the Pentagon's construction, 1 July

1942<sup>12</sup>

### **Construction (1941-1942)**

By the summer of 1941, the War Department workforce in the Washington, D.C. area numbered more than 24,000—both civilian and military personnel housed in 17 different buildings— and was expected to reach 30,000 by the beginning of 1942.<sup>13</sup> Providing office space for the workers was part of the military construction mission of the Quartermaster Corps’ Construction Division, already struggling to cope with the vast mobilization construction underway before the United States entered World War II.<sup>14</sup>

Government officials considered constructing temporary buildings, but Brigadier General Brehon B. Somervell, an aggressive engineer officer who headed the construction division, had another idea. On Thursday, July 17, 1941, he summoned two of his subordinates, Lieutenant Colonel Hugh J. Casey, also an engineer officer, and George E. Bergstrom, a prominent civilian architect, and told them that by Monday morning he wanted basic plans and an

<sup>8</sup> “Pentagon History” *The Pentagon* n.d. Web. February 22, 2011. <<http://pentagon.afis.osd.mil/construction.html>>

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.

architectural perspective for an air-conditioned office building to house 40,000 workers in four million square feet of space, not more than four stories high, with no elevators.<sup>15</sup> Indeed, Lieutenant Colonel Casey and his staff completed the basic layout of a five-sided building by that following Monday, after what he later described was "a very busy weekend."<sup>16</sup> The Pentagon's unusual five-sided configuration was dictated by the site originally proposed (adjacent to Memorial Drive, about three-fourths of a mile north of where the building was actually constructed). An early plan called for a square structure with one corner cut off to accommodate an existing road. This resulted in a skewed Pentagon shape.<sup>17</sup>

The plans underwent many changes in the next few months, including changes in location.<sup>18</sup> With Somervell's approval, Casey and Bergstrom sited the building between Arlington National Cemetery and Memorial Bridge.<sup>19</sup> Some federal agencies and local citizens did not want the proposed building to obstruct the vista between the Lincoln Memorial and Arlington Cemetery.<sup>20</sup> Appeasing opponents, in August President Roosevelt moved the site to its current location.<sup>21</sup>

Plans for the building proceeded swiftly.<sup>22</sup> The final design retained the five sides, in the form of a true pentagon, which gave rise to the building's name. That shape resulted in the most efficient use of available space.<sup>23</sup> Bergstrom, with architect David J. Witmer, developed plans for a unique reinforced concrete building that would consist of five concentric pentagons separated by light wells and connected by radiating spoke-like corridors.<sup>24</sup> It would have five stories and include a five-acre interior courtyard, numerous ramps and escalators, a large shopping concourse on the first floor, taxi stands and bus lanes, and parking for 8,000 cars.<sup>25</sup>

### Construction to Completion (1943)

Construction began on September 11, 1941, and continued rapidly during the winter of 1941-42.<sup>26</sup> Architects for the project had little or no lead time; sometimes construction actually outpaced planning.<sup>27</sup> On December 1, 1941, when the President signed legislation transferring the military construction mission from the Quartermaster Corps to the Army Corps of Engineers, 4,000 men were laboring on the building in three shifts.<sup>28</sup> One section was completed by the end of April 1942 and the first tenants moved in. The basic shell and roof were finished in one year, and the building was completed by January 15, 1943.<sup>29</sup>

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<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> "The History of the Pentagon Original Construction" *Department of Defense WHS Online Pentagon Renovation* n.d. Web. May 6, 2011. <[http://www.whs.mil/PENREN/history\\_construction.cfm](http://www.whs.mil/PENREN/history_construction.cfm)>

<sup>18</sup> "Pentagon History" *The Pentagon* n.d. Web. February 22, 2011. <<http://pentagon.afis.osd.mil/construction.html>>

<sup>19</sup> Ibid.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

<sup>23</sup> "The History of the Pentagon Original Construction" *Department of Defense WHS Online Pentagon Renovation* n.d. Web. May 6, 2011. <[http://www.whs.mil/PENREN/history\\_construction.cfm](http://www.whs.mil/PENREN/history_construction.cfm)>

<sup>24</sup> "Pentagon History" *The Pentagon* n.d. Web. February 22, 2011. <<http://pentagon.afis.osd.mil/construction.html>>

<sup>25</sup> Ibid.

<sup>26</sup> "Pentagon Construction" *The Pentagon* n.d. February 22, 2011 <<http://pentagon.afis.osd.mil/construction.html>>

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

<sup>29</sup> Ibid.



Aerial view of the first two Pentagon "spokes" under construction

The Pentagon's designers minimized or avoided using critical war materials whenever possible.<sup>30</sup> They substituted concrete ramps for passenger elevators and used concrete drainpipes rather than metal.<sup>31</sup> They eliminated bronze doors, copper ornaments, and metal toilet partitions, and avoided any unnecessary ornamentation.<sup>32</sup> The use of reinforced concrete in lieu of formed steel for the building made possible a saving of 43,000 tons of steel, more than enough to build a battleship.<sup>33</sup> The Pentagon was the largest office building in the country at that time covering 29 acres and housing 17.5 miles of corridors.<sup>34</sup> Design and construction of such a building would normally have taken four years, but the Corps took only 16 months.<sup>35</sup> At its peak the Pentagon housed nearly 33,000 workers.<sup>36</sup>

### Pentagon Facts

The Pentagon is the world's largest low-rise office building.<sup>37</sup> It is twice the size of the Merchandise Mart in Chicago, and has three times the floor space of the Empire State Building in New York.<sup>38</sup> The National Capitol could fit into any one of the five wedge-shaped sections.<sup>39</sup> There are very few people throughout the United States who do not have some knowledge of the Pentagon. Many have followed news stories emanating from the defense establishment housed in this building.<sup>40</sup> However, relatively few people have had the opportunity to visit.<sup>41</sup>

The Pentagon is virtually a city in itself.<sup>42</sup> Approximately 23,000 employees, both military and civilian, contribute to the planning and execution of the defense of our country.<sup>43</sup> These people arrive daily from Washington, D.C. and its suburbs over approximately 30 miles of access highways, including express bus lanes and one of the newest subway systems in our country.<sup>44</sup> They ride past 200 acres of lawn to park approximately 8,770 cars in 16 parking lots; climb 131 stairways or ride 54 escalators to reach offices that occupy approximately five million

<sup>30</sup> Ibid.

<sup>31</sup> Ibid.

<sup>32</sup> Ibid.

<sup>33</sup> "The History of the Pentagon Building Features" *Department of Defense* n.d. Web. May 6, 2011.

<[http://www.whs.mil/PENREN/history\\_features.cfm](http://www.whs.mil/PENREN/history_features.cfm)>

<sup>34</sup> "Pentagon Construction" *The Pentagon* n.d. February 22, 2011 <<http://pentagon.afis.osd.mil/construction.html>>

<sup>35</sup> Ibid.

<sup>36</sup> Ibid.

<sup>37</sup> "Pentagon Facts" *The Pentagon* n.d. Web. February 22, 2011. <<http://pentagon.afis.osd.mil/facts.html>>

<sup>38</sup> Ibid.

<sup>39</sup> Ibid.

<sup>40</sup> Ibid.

<sup>41</sup> Ibid.

<sup>42</sup> Ibid,

<sup>43</sup> Ibid.

<sup>44</sup> Ibid.

square feet.<sup>45</sup> While in the building, they drink from 691 water fountains, utilize 284 restrooms, and consume thousands of drinks dispensed in 1 dining room, 3 snack bars, 9 food courts, and an outdoor snack cafe.<sup>46</sup>

Over 200,000 telephone calls are made daily through phones connected by 100,000 miles of telephone cable.<sup>47</sup> The Defense Post Office handles about 1,200,000 pieces of mail monthly.<sup>48</sup> Various libraries support the personnel in research and completion of their work.<sup>49</sup> The Army Library alone provides 300,000 publications and 1,700 periodicals in various languages.<sup>50</sup>

Stripped of its occupants, furniture and various decorations, the building alone is an extraordinary structure.<sup>51</sup> Although it was built during the early years of World War II, it is still thought of as one of the most efficient office buildings in the world.<sup>52</sup> Despite 17.5 miles of corridors, it takes only seven minutes to walk between any two points in the building.<sup>53</sup>

The original site was nothing more than wasteland, swamps and dumps—with 5.5 million cubic yards of earth, and 41,492 concrete piles contributing to the foundation of the building.<sup>54</sup> Additionally, 680,000 tons of sand and gravel, dredged from the nearby Potomac River, were processed into 435,000 cubic yards of concrete and molded into the Pentagon form.<sup>55</sup>

The Pentagon became a national landmark in 1991, because of its unusual shape, architectural design and connection to significant historical events.<sup>56</sup>

**Video Resource:**

This chapter best complements the documentary from 0:00 minutes through 7 minutes, 14 seconds. <http://www.pentagonmemorial.org/learn/educational-resources/media/video/nation-remembers> .

The film begins with a short overview of life as we knew it in the days preceding the September 11<sup>th</sup> attacks, and is narrated by actor Gary Sinise. Students will learn that although the Pentagon is home to the Department of Defense, there are both military and civilian employees working there.

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<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

<sup>49</sup> Ibid.

<sup>50</sup> Ibid.

<sup>51</sup> Ibid.

<sup>52</sup> Ibid.

<sup>53</sup> Ibid.

<sup>54</sup> Ibid.

<sup>55</sup> Ibid.

<sup>56</sup> Ibid.

**Chapter 1 Vocabulary:**

Term	Definition
<b>Civilian employee</b>	One not on active duty in the armed services or not on a police or firefighting force and working for a business, organization or government department.
<b>Department of Defense</b>	U.S. federal department charged with coordinating and supervising all agencies and functions of the government relating directly to national security and the United States armed forces.
<b>Memorial</b>	To celebrate or honor the memory of a person or an event.
<b>Military employee</b>	A service member who works for the federal government.
<b>Pentagon</b>	Headquarters of the United States Department of Defense.
<b>Peril</b>	Serious and immediate danger.
<b>Persevere</b>	To persist or remain constant to a purpose or idea.
<b>Reflect</b>	To realize or consider.
<b>Remember</b>	To bring to mind or think of again; to retain in the memory.
<b>Remembrance</b>	Something serving to celebrate or honor the memory of a person or event; a memorial.
<b>Renew</b>	To restore to existence.
<b>Security clearance</b>	A security clearance is a determination that a person is able and willing to safeguard classified national security information. In order to make this determination, a personnel security background investigation is conducted. This investigation is noncriminal in nature and covers a defined period of normally no more than the past 10 years. The information collected must be sufficient to allow an affirmative or negative determination of a person's eligibility for access to classified information and suitability for employment. <sup>57</sup>
<b>Terrorism</b>	The use of force or violence against persons or property for the purpose of intimidation, coercion, or ransom. Acts of terrorism can range from threats to actual assassinations, kidnappings, airline hijackings, bomb scares, car bombs, building explosions, mailings of dangerous materials, agro terrorism, computer-based attacks, and the use of chemical, biological, and nuclear weapons—weapons of mass destruction (WMD). <sup>58</sup>
<b>U.S. Armed Forces</b>	Military forces of the U.S. (Army, Navy, Marine Corps, Air Force, and Coast Guard).

All definitions above were taken from [www.merriam-webster.com](http://www.merriam-webster.com) unless otherwise noted.

<sup>57</sup> "All About Security Clearances" *The State Department* n.d. Web. February 22, 2011.

<<http://www.state.gov/m/ds/clearances/c10978.htm>>

<sup>58</sup> "Terrorism" *The American Red Cross* March 2007 Web. February 22, 2011.

<<http://www.redcross.org/images/pdfs/code/terrorism.pdf>>

### ***1.1 Remember—Profile of a Pentagon Employee***

In this short 8-minute video, you will be introduced to a former Pentagon employee who survived the events of 9/11/01. After viewing the video, students should be able to answer the questions below. The accompanying video for this activity can be found online at <http://www.pentagonmemorial.org/learn/educational-resources/media/video/pentagon-employee-hines> .

In the space below, please write the Pentagon employee's profile. It should indicate the employee's name, identify his or her job, explain where he or she worked within the Pentagon, and give some details about what they did on a daily basis at the Pentagon.

**What is the employee's name?**

**What was his/her job?**

**Where did he/she work within the Pentagon?**

**What did he/she do on a daily basis at the Pentagon?**

**How was this person affected by September 11, 2001?**

**What did he/she enjoy most about working at the Pentagon?**

## 1.2 Lesson Plan: English and Language Arts

### Getting to Know the Pentagon and Department of Defense

GRADE LEVEL(s): Grades 6-12  
Duration: 40-45 minutes

STUDENTS WILL ENGAGE IN: X Independent Activities  
Project X Cooperative Learning

#### COMMON CORE STANDARDS:

##### Key Ideas and Details<sup>59</sup>

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

##### Research to Build and Present Knowledge<sup>60</sup>

3. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

##### Vocabulary Acquisition and Use<sup>61</sup>

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of word relationships and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

#### OBJECTIVES:

Student Will Be Able To:

- Describe the general purpose and structure of the Pentagon and the Department of Defense
- Articulate the five branches of the US Military and identify how many are located at the Pentagon
- Identify the roles and responsibilities of each military branch during a time of conflict

#### MATERIALS:

- Handout on the US Armed Forces (following this lesson)
- Chart paper
- Markers

<sup>59</sup> "College and Career Readiness Anchor Standards for Reading" *Common Core State Standards Initiative* n.d. Web. April 9, 2011 <<http://www.corestandards.org/the-standards/english-language-arts-standards/anchor-standards-6-12/college-and-career-readiness-anchor-standards-for-reading/>>

<sup>60</sup> "College and Career Readiness Anchor Standards for Writing" *Common Core State Standards Initiative* n.d. Web. April 9, 2011 <<http://www.corestandards.org/the-standards/english-language-arts-standards/anchor-standards-6-12/college-and-career-readiness-anchor-standards-for-writing/>>

<sup>61</sup> "College and Career Readiness Anchor Standards for Language" *Common Core State Standards Initiative* n.d. Web. April 9, 2011 <<http://www.corestandards.org/the-standards/english-language-arts-standards/anchor-standards-6-12/college-and-career-readiness-anchor-standards-for-language/>>

**WARM-UP ACTIVITY:**

Use a word-splash to activate prior knowledge: Write "Pentagon" and "Department of Defense" on the board and ask students to take out a sheet of blank paper. Allow students 2 minutes to write everything they know about these terms. Discuss.

**PROCEDURE:**

- 1.) Teach the purpose of the Pentagon and structure of the Department of Defense (DoD).

**Purpose of the Pentagon:** The Pentagon is the headquarters for the Department of Defense.

**Mission of the Department of Defense:** The DoD's mission is to provide the military forces needed to deter war and protect the security of the United States.

**General Structure:** 23,000 military and civilian employees and 3,000 non-defense support personnel work in the Pentagon.

**Military Service Structure and History:** There are five military branches (Army, Navy, Air Force, Marine Corps and Coast Guard). Four branches of the US military are headquartered in the Pentagon: Army, Navy, Marine Corps (all established in 1775) and Air Force (established in 1947). Coast Guard currently reports through the Department of Homeland Security.

While the total numbers of the US Armed Forces includes 1.4 million active duty men and women, 718,000 civilians, and 1.1 million in the Guard and Reserve, only approximately 23,000 people work for the Department of Defense at the Pentagon. Other Armed Forces personnel may be stationed on bases across the globe both in areas involved in conflict currently, as well as long-standing placements for peace-keeping purposes.

**Other:** The Pentagon is the world's largest low-rise office building by floor area with almost 6,600,000 square feet.

- 2.) Have students think about a typical work day at the Pentagon and brainstorm a list of daily activities. Discuss with students and acknowledge that for employees in the Pentagon, it is just like working in an ordinary office. Listed below are examples of activities that employees in the Pentagon were doing on September 11, 2001:

- Attend briefings
- Participate in video teleconferences with people outside the Pentagon
- Participate on conference calls
- Answer questions from members of Congress
- Respond to the media
- Prepare to testify before Congress
- Answer email
- Make phone calls

- 3.) Discuss the five branches of the US Military (Army, Air Force, Navy, Marine Corps, and Coast Guard), but note that only four report through the DoD. The Coast Guard used to report through the Department of Transportation, and today report through the Department of Homeland Security.

- 4.) What are the responsibilities of each branch of the military that reports to DoD? Have students review the background information sheet and, as a group, summarize on chart paper. (Some suggested answers are below, but additional answers can be found on the handout that follows.)

**Army**<sup>62</sup> :

- The United States Army is the main ground-force of the United States.
- The Army's main function is to protect and defend the United States (and its interests) by way of ground troops, armor (tanks), artillery, attack helicopters, tactical nuclear weapons, etc.

**Air Force**<sup>63</sup>:

- The primary mission of the Air Force is to defend the United States (and its interests) through exploitation of air and space.
- The Air Force operates fighter aircraft, tanker aircraft, light and heavy bomber aircraft, transport aircraft, and helicopters, which are used mainly for rescue of downed-aircrew, and special operations missions.
- The Air Force is also responsible for all military satellites, and controls all of the nation's strategic nuclear ballistic missiles.

**Navy**<sup>64</sup>:

- The Navy's primary mission is to maintain the freedom of the seas. The Navy makes it possible for the United States to use the seas where and when our national interests require it.
- In times of conflict, the Navy helps to supplement Air Force air power. Navy aircraft carriers can often deploy to areas where fixed runways are impossible. An aircraft carrier usually carries about 80 aircraft. Most of these are fighters or fighter-bombers.
- The Navy is also primarily responsible for transporting Marines to areas of conflict.

**Marine Corps**<sup>65</sup>:

- The Marines are often referred to as the "Infantry of the Navy."
- Marines specialize in amphibious operations. In other words, their primary specialty is to assault, capture, and control "beach heads," which then provide a route to attack the enemy from almost any direction.
- The Marines are generally a "lighter" force when compared to the Army, so they can generally be deployed faster (although the Army has been making great strides in "rapid deployment" in the past few years).

**ASSESSMENT:** Have students summarize the responsibilities of each branch of the military.

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<sup>62</sup> "About" *United States Army* n.d. Web. February 23, 2011. <<http://www.goarmy.com/about.html>>

<sup>63</sup> "Learn About the Air Force" *United States Air Force* n.d. Web. February 23, 2011 <<http://www.airforce.com/learn-about/our-mission/>>

<sup>64</sup> "About" *United States Navy* n.d. Web. February 23, 2011. <<http://www.navy.mil/navydata/organization/org-over.asp>>

<sup>65</sup> "United States Marine Corps" *Global Security* n.d. Web. February 23, 2011. <<http://www.globalsecurity.org/military/agency/usmc/overview.htm>>

## ***Background Information on the Department of Defense and United States Military Forces***

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The Department of Defense is headed by the Secretary of Defense, a civilian, who is appointed by the President of the United States.<sup>66</sup> Under the Secretary of Defense, there are three military departments: The Department of the Army, the Department of the Air Force, and the Department of the Navy.<sup>67</sup> Each of these military departments is also headed up by civilians: the Secretary of the Army, the Secretary of the Air Force, and the Secretary of the Navy.<sup>68</sup> These "service secretaries" are also appointed by the President and confirmed by the United States Senate.<sup>69</sup>

The Joint Chiefs of Staff consist of the Chairman, the Vice Chairman, the Chief of Staff of the Army, the Chief of Naval Operations, the Chief of Staff of the Air Force, and the Commandant of the Marine Corps. The Chairman of the Joint Chiefs of Staff is the principal military adviser to the President, Secretary of Defense, and the National Security Council (NSC). However, all JCS members are by law military advisers, and they may respond to a request or voluntarily submit, through the Chairman, advice or opinions to the President, the Secretary of Defense, or NSC. The Joint Chiefs of Staff have no executive authority to command combatant forces as the chain of command "runs from the President to the Secretary of Defense; and from the Secretary of Defense to the commander of the combatant command."<sup>70</sup>

The Coast Guard does not fall under the Department of Defense.<sup>71</sup> The Coast Guard was under the Department of Transportation,<sup>72</sup> but recent legislation has moved it to the Department of Homeland Security.<sup>73</sup> However, the Coast Guard is considered a military service because, during times of war or conflict, the President of the United States can transfer any or all assets of the Coast Guard to the Department of the Navy.<sup>74</sup> In fact, this has been done in almost every single conflict that the United States has ever been involved in.<sup>75</sup> The Coast Guard is commanded by a 4-star admiral, known as the Coast Guard Commandant.<sup>76</sup>

### **Army**

The United States Army is the main ground-force of the United States.<sup>77</sup> The Army's main function is to protect and defend the United States (and its interests) by way of ground troops, armor (tanks), artillery, attack helicopters, tactical nuclear weapons, etc.<sup>78</sup> The Army is the oldest U.S. military service, officially established by the Continental Congress on June 14, 1775,<sup>79</sup> and also the largest, consisting of more than 675,000 Soldiers:

<sup>66</sup> "About the Department of Defense" *The Department of Defense* n.d. Web. February 22, 2011.

<[http://www.defense.gov/about/#history&id=public\\_main\\_menu\\_History](http://www.defense.gov/about/#history&id=public_main_menu_History)>

<sup>67</sup> Ibid.

<sup>68</sup> Ibid.

<sup>69</sup> Ibid.

<sup>70</sup> "About" *Joint Chiefs of Staff* n.d. Web. February 23, 2011. <<http://www.jcs.mil/page.aspx?id=2>>

<sup>71</sup> "Coast Guard Snapshot" *United States Coast Guard* n.d. Web. February 23, 2011.

<[http://www.uscg.mil/top/about/doc/uscg\\_snapshot.pdf](http://www.uscg.mil/top/about/doc/uscg_snapshot.pdf)>

<sup>72</sup> Ibid.

<sup>73</sup> Ibid.

<sup>74</sup> Ibid.

<sup>75</sup> Ibid.

<sup>76</sup> Ibid.

<sup>77</sup> "About" *United States Army* n.d. Web. February 23, 2011. <<http://www.goarmy.com/about.html>>

<sup>78</sup> Ibid.

<sup>79</sup> Ibid.

488,000 on active duty, ready to respond immediately to any mission; and 189,000 in the Army Reserve, who can be rapidly mobilized when their skills are needed in times of national emergency or global conflict.<sup>80</sup> The Army is supported by two Reserve Forces which can be tapped for trained personnel and equipment during times of need: The Army Reserves, and the Army National Guard.<sup>81</sup> The primary difference between the two is that the Reserves are "owned" and managed by the federal government, and each state "owns" its National Guard.<sup>82</sup> However, the President of the United States or the Secretary of Defense can "activate" state National Guard members into federal military service during times of need.<sup>83</sup>

### **Air Force**

The Air Force is the youngest military service, created under the National Security Act of 1947.<sup>84</sup> Prior to 1947, the Air Force was a separate Corps of the Army. Their primary mission is "to fly, fight and win ... in air, space and cyberspace."<sup>85</sup> To accomplish this mission, the Air Force operates fighter aircraft, tanker aircraft, light and heavy bomber aircraft, transport aircraft, and helicopters (which are used mainly for rescue of downed-aircrew, and special operations missions).<sup>86</sup> The Air Force is also responsible for all military satellites, and controls all of our nation's strategic nuclear ballistic missiles.<sup>87</sup> There are about 69,000 commissioned officers on active duty in the Air Force, and about 288,000 enlisted members.<sup>88</sup> Like the Army, the active duty Air Force is supplemented by the Air Force Reserves, and the Air National Guard.<sup>89</sup>

### **Navy**

Like the Army, the Navy was officially established by the Continental Congress in 1775.<sup>90</sup> The U.S. Navy's functions comprise sea control, power projection and nuclear deterrence, in addition to "sealift" duties.<sup>91</sup> The Navy makes it possible for the United States to use the seas where and when our national interests require it. In addition, in times of conflict, the Navy helps to supplement Air Force air power<sup>92</sup> because Navy aircraft carriers can often deploy to areas where fixed runways are impossible.<sup>93</sup> An aircraft carrier usually carries about 80 aircraft, most being fighters or fighter-bombers.<sup>94</sup> Additionally, Navy ships can attack land targets from miles away (with very heavy guns), and cruise missiles.<sup>95</sup> Navy submarines (fast attack and ballistic missile subs) allow stealth attacks on our enemies from right off their shores.<sup>96</sup> The Navy is also primarily responsible for transporting Marines to areas of conflict.<sup>97</sup> The active duty Navy has about 54,000 officers, and 324,000 enlisted

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<sup>80</sup> Ibid.

<sup>81</sup> Ibid.

<sup>82</sup> Ibid.

<sup>83</sup> Ibid.

<sup>84</sup> "Learn About the Air Force" *United States Air Force* n.d. Web. February 23, 2011 <<http://www.airforce.com/learn-about/our-mission/>>

<sup>85</sup> Ibid.

<sup>86</sup> Ibid.

<sup>87</sup> Ibid.

<sup>88</sup> Ibid.

<sup>89</sup> "Armed Forces Strength Figures" *Office of the Secretary of Defense* n.d. Web. February 23, 2011.

<<http://siadapp.dmdc.osd.mil/personnel/MILITARY/ms0.pdf>>

<sup>90</sup> "About" *United States Navy* n.d. Web. February 23, 2011. <<http://www.navy.mil/navydata/organization/org-over.asp>>

<sup>91</sup> Ibid.

<sup>92</sup> Ibid.

<sup>93</sup> Ibid.

<sup>94</sup> Ibid.

<sup>95</sup> Ibid.

<sup>96</sup> Ibid.

<sup>97</sup> Ibid.

personnel,<sup>98</sup> and is supported in times of need by the Naval Reserves.<sup>99</sup> However, unlike the Army and Air Force, there is no Naval National Guard (although a few states have established "Naval Militias").<sup>100</sup>

### **Marine Corps**

The Marines are often referred to as the "Infantry of the Navy,"<sup>101</sup> specializing in amphibious operations.<sup>102</sup> In other words, their primary specialty is to assault, capture, and control "beach heads," which then provide a route to attack the enemy from almost any direction.<sup>103</sup> The Marines were officially established on 10 November 1775 by the Continental Congress, to act as a landing force for the United States Navy.<sup>104</sup> In 1798, however, Congress established the Marine Corps as a separate service.<sup>105</sup> While amphibious operations are their primary specialty, in recent years, the Marines have expanded other ground-combat operations, as well.<sup>106</sup> The Marines are generally a "lighter" force when compared to the Army, so they can be deployed quickly (although the Army has been making great strides in "rapid deployment" in the past few years).<sup>107</sup> For combat operations, the Marines like to be self-sufficient as much as possible, so they also have their own air power, consisting primarily of fighter and fighter/bomber aircraft and attack helicopters.<sup>108</sup> Even so, the Marines use the Navy for much of their logistical and administrative support.<sup>109</sup> For example, there are no doctors, nurses, or enlisted medics in the Marine Corps.<sup>110</sup> Even medics that accompany the Marines into combat are specially-trained Navy medics.<sup>111</sup> With the exception of the Coast Guard, the Marines are also the smallest service<sup>112</sup> with approximately 18,000 officers and 153,000 enlisted personnel on active duty.<sup>113</sup> Like the Navy, there is no Marine Corps National Guard, but Marines are supported in times of need by the Marine Corps Reserves.<sup>114</sup>

### **Coast Guard**

The United States Coast Guard was originally established as the Revenue Cutter Service in 1790.<sup>115</sup> In 1915, it was reformed as the United States Coast Guard, under the Treasury Department.<sup>116</sup> In 1967, the Coast Guard

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<sup>98</sup> "Overview" & "History" *United States Navy* n.d. Web. February 23, 2011.

<[http://www.navy.mil/navydata/navy\\_legacy\\_hr.asp?id=146](http://www.navy.mil/navydata/navy_legacy_hr.asp?id=146)>

<sup>99</sup> "About" *United States Navy* n.d. Web. February 23, 2011. <<http://www.navy.mil/navydata/organization/org-over.asp>>

<sup>100</sup> "Overview" and "History" *United States Navy* n.d. Web. February 23, 2011.

<[http://www.navy.mil/navydata/navy\\_legacy\\_hr.asp?id=146](http://www.navy.mil/navydata/navy_legacy_hr.asp?id=146)>

<sup>101</sup> "United States Marine Corps" *Global Security* n.d. Web. February 23, 2011.

<<http://www.globalsecurity.org/military/agency/usmc/overview.htm>>

<sup>102</sup> Ibid.

<sup>103</sup> Ibid.

<sup>104</sup> Ibid.

<sup>105</sup> Ibid.

<sup>106</sup> Ibid.

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

<sup>109</sup> Ibid.

<sup>110</sup> Ibid.

<sup>111</sup> Ibid.

<sup>112</sup> Ibid.

<sup>113</sup> Ibid.

<sup>114</sup> "Armed Forces Strength Figures" *Office of the Secretary of Defense* n.d. Web. February 23, 2011.

<<http://siadapp.dmdc.osd.mil/personnel/MILITARY/ms0.pdf>>

<sup>115</sup> "Coast Guard Snapshot" *United States Coast Guard* n.d. Web. February 23, 2011.

<[http://www.uscg.mil/top/about/doc/uscg\\_snapshot.pdf](http://www.uscg.mil/top/about/doc/uscg_snapshot.pdf)>

<sup>116</sup> Ibid.

was transferred to the Department of Transportation<sup>117</sup> until legislation passed in 2002 conveyed them to the Department of Homeland Security.<sup>118</sup> In peacetime, the Coast Guard is primarily concerned with law enforcement, boating safety, sea rescue, and immigration control.<sup>119</sup> However, the President of the United States can transfer part or all of the Coast Guard to the Department of the Navy in times of conflict<sup>120</sup> because it consists of ships, boats, aircraft and shore stations that conduct a variety of missions.<sup>121</sup> The Coast Guard is the smallest military service, with approximately 7,000 officers and 29,000 enlisted on active duty.<sup>122</sup> The Coast Guard is also supported by the Coast Guard Reserves and a volunteer Coast Guard Auxiliary in times of need.<sup>123</sup>

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<sup>117</sup> Ibid.

<sup>118</sup> Ibid.

<sup>119</sup> Ibid.

<sup>120</sup> Ibid.

<sup>121</sup> Ibid.

<sup>122</sup> "Armed Forces Strength Figures" *Office of the Secretary of Defense* n.d. Web. February 23, 2011.

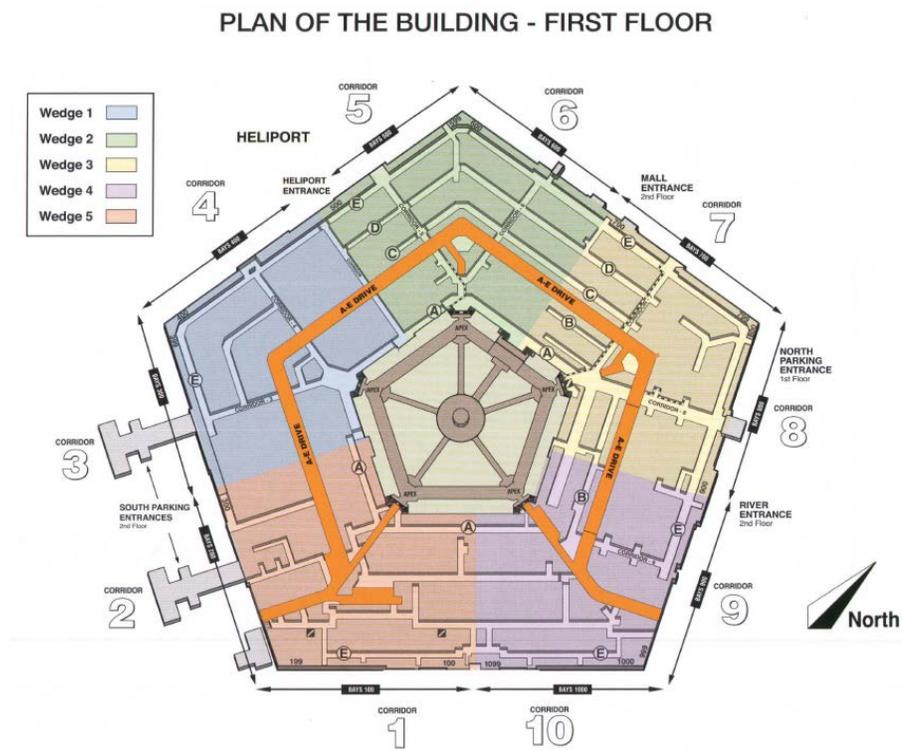
<<http://siadapp.dmdc.osd.mil/personnel/MILITARY/ms0.pdf>>

<sup>123</sup> "Coast Guard Snapshot" *United States Coast Guard* n.d. Web. February 23, 2011.

<[http://www.uscg.mil/top/about/doc/uscg\\_snapshot.pdf](http://www.uscg.mil/top/about/doc/uscg_snapshot.pdf)>

**Background Information: How the Pentagon Renovation Helped Save Lives on September 11, 2001**

In 1990, Congress authorized a complete overhaul of the Pentagon.<sup>124</sup> To plan and eventually oversee this huge undertaking, the Department of Defense (DoD) established under the Washington Headquarters Services (WHS) an office that evolved into the Pentagon Renovation Program Office (PENREN).<sup>125</sup> Established in 1991, PENREN managed all aspects of planning and execution of the renovation and construction work, employing contractors for almost every phase of the project.<sup>126</sup> It soon became evident that the original plan to complete the work within 10 years was optimistic; by 2001, planners projected a completion date of 2014.<sup>127</sup> The first construction phase, a necessary preliminary to all renovation, was the new Heating and Refrigeration Plant and associated exterior utility projects beginning in 1993 and completed in September 1997.<sup>128</sup> This was followed by the renovation of the basement and the extension of the basement mezzanine floor, a project of high priority and longer duration.<sup>129</sup> Upgrading security stood high on the list for the next stage of reconstruction and renovation of the building proper, which began in 1998 with clearance of Wedge 1, most of whose approximately 5,000 occupants were moved to leased facilities in Northern Virginia.<sup>130</sup> By September 2001, Wedge 1 had been largely reoccupied and work was under way on adjacent Wedge 2, which had been cleared of all but about 700 occupants.<sup>131</sup>



<sup>124</sup> Goldberg, A. Papadopoulos, S., et al "Pentagon 9/11" Historical Office, Office of the Secretary of Defense n.d PDF. April 6, 2011 page 18 <http://osdhistory.defense.gov/docs/Pentagon%209-11.pdf>

<sup>125</sup> Ibid.

<sup>126</sup> Ibid.

<sup>127</sup> Ibid.

<sup>128</sup> Ibid.

<sup>129</sup> Ibid.

<sup>130</sup> Ibid.

<sup>131</sup> Ibid.

Extending from midway between Corridors 2 and 3 to midway between Corridors 4 and 5, with more than one million internal gross square feet of space, Wedge 1 was only five days from official completion and housed about 3,800 people on September 11, 2001.<sup>132</sup> Corridor 4 provided access to Wedge 1 on all floors, but a temporary construction barrier wall midway between Corridors 4 and 5 limited access to Corridor 5 by Wedge 1 occupants in all rings on most floors.<sup>133</sup> Under the renovation plan, all of the walls, utilities, and asbestos in Wedge 1 were removed.<sup>134</sup> The outer wall was reinforced with structural steel tubing to increase its lateral stability and provide support to new blast-resistant windows.<sup>135</sup>

The building's windows indeed required special attention.<sup>136</sup> Analysis of attacks on large structures elsewhere showed that flying glass from blast-shattered windows caused many casualties, including deaths.<sup>137</sup> The Pentagon's original 7,748 mostly casement-type windows offered no resistance to blast-generated fragmentation.<sup>138</sup> Reinforcing the windows on the outside of the E Ring and the A Ring would diminish the blast and fragmentation effects of exterior explosions.<sup>139</sup> New windows for the E Ring, the same size as their predecessors but with glass 1 1/2 inches thick and weighing more than a ton apiece, were welded into special tubular steel frameworks.<sup>140</sup> On September 11, many windows survived the blast.<sup>141</sup>

No building could have absorbed the energy of such a crash without suffering structural damage and, if occupied, casualties.<sup>142</sup> Nevertheless, the Pentagon fared better than less sturdy buildings would have.<sup>143</sup> The greatest power of the interior explosions was confined to a limited area bounded by concrete floors and sturdy walls.<sup>144</sup> Major structural damage ended with the collapse of the impact zone.<sup>145</sup> Additional damage incurred over the next 36 hours extended deep into the Pentagon, with a considerably larger area beyond the impact site damaged by fire and smoke, as well as the water from sprinklers, burst pipes, and fire hoses.<sup>146</sup> The worst damage came from the volume and flammability of the fuel rather than the structural strength of the plane.<sup>147</sup>

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<sup>132</sup> Ibid.

<sup>133</sup> Ibid.

<sup>134</sup> Ibid.

<sup>135</sup> Ibid.

<sup>136</sup> Ibid.

<sup>137</sup> Ibid.

<sup>138</sup> Ibid.

<sup>139</sup> Ibid.

<sup>140</sup> Ibid.

<sup>141</sup> Ibid.

<sup>142</sup> Ibid.

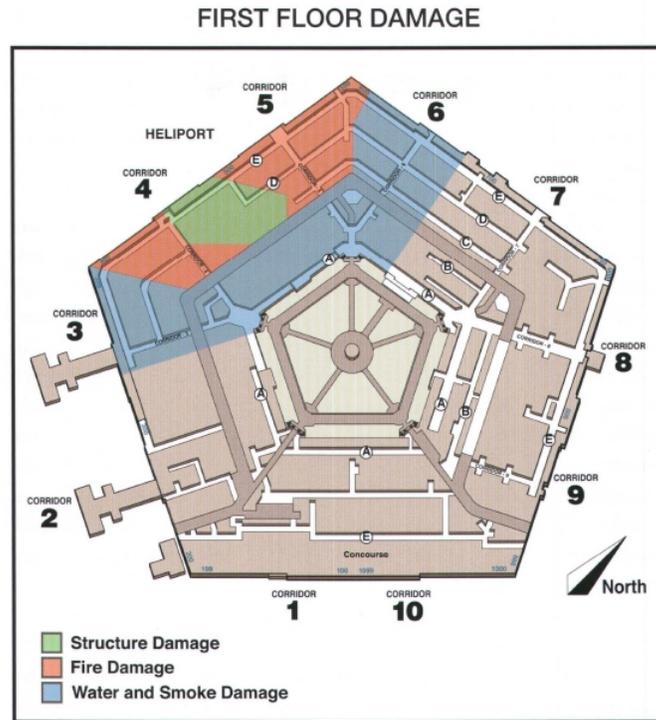
<sup>143</sup> Ibid.

<sup>144</sup> Ibid.

<sup>145</sup> Ibid.

<sup>146</sup> Ibid.

<sup>147</sup> Ibid.



Although never designed to offer the protection of a bunker, the building's steel-reinforced concrete and brick construction protected most employees in Wedges 1 and 2 from fires and explosions and saved their lives.<sup>148</sup> Moreover, the rigidity of the Pentagon's facade caused some of the fuel in the wings to detonate on impact, diminishing the inside destruction and probably reducing the number of dead—all 64 on board the plane and 125 from the building— whereas the lighter structure and largely glass facade of the World Trade Center buildings presented much less impact resistance.<sup>149</sup> The Pentagon's outermost walls are faced with limestone and backed with unreinforced 9-inch brick; inner ring walls are of 10-inch architectural concrete. The building rests on more than 41,000 concrete piles, ranging from 27 feet to 45 feet in height that support an equal number of columns reaching to the roof. The building's structural framework (floors and columns) is made of reinforced concrete.<sup>150</sup>

While the immediate building interior area hit by the nose of the aircraft was small, the section subsequently wrecked by the large plane debris and multiple explosions of jet fuel from the ruptured tanks seconds after impact spanned a larger irregular area of more than an acre on each of the 1st and 2nd floors.<sup>151</sup> Office spaces and corridors on these floors accounted for the locations of all but two of the DoD victims.<sup>152</sup> On the ground floor, the impact damage extended as far as the inner wall of the Pentagon's C Ring adjoining A-E Drive, a depth of 210 feet, although the plane traveled about 270 feet along an angled path into the building.<sup>153</sup> Almost all of

<sup>148</sup> Ibid.

<sup>149</sup> Ibid.

<sup>150</sup> Goldberg, A. Papadopoulos, S., et al "Pentagon 9/11" Historical Office, Office of the Secretary of Defense n.d PDF. April 6, 2011 page 15 <<http://osdhistory.defense.gov/docs/Pentagon%209-11.pdf>>

<sup>151</sup> Goldberg, A. Papadopoulos, S., et al "Pentagon 9/11" Historical Office, Office of the Secretary of Defense n.d PDF. April 6, 2011 page 31 <<http://osdhistory.defense.gov/docs/Pentagon%209-11.pdf>>

<sup>152</sup> Ibid.

<sup>153</sup> Ibid.

the fatalities could be found on the 1<sup>st</sup> and 2<sup>nd</sup> floors of Wedges 1 and 2.<sup>154</sup> Impact damage on the 2nd Floor proved much more limited than on the 1st Floor, with no supporting columns destroyed at a distance more than 50 feet from the outside wall.<sup>155</sup> Above the 2nd floor, most of the damage in the D and C Rings resulted from fire and smoke, and collapsed ceilings and light fixtures.<sup>156</sup>

The report of the American Society of Civil Engineers concluded that "the direct impact of the aircraft destroyed the load capacity of about 30 first floor columns and significantly impaired that of 20 others."<sup>157</sup> Moreover, "this impact may have also destroyed the load capacity of about six second floor columns adjacent to the exterior wall."<sup>158</sup> Shattering the many columns essentially doubled the span between columns, thereby imposing severe stress on the stability of the affected building section and causing collapse of the four floors in the E Ring above the impact point at 10:15 am.<sup>159</sup> The collapse started with the 2nd floor just north of Corridor 4 along an expansion joint in the E Ring, and opened a hole to the outside about 95 feet wide at the 1st floor level.<sup>160</sup> The collapsed zone extended approximately 50 feet from the outside to the still-standing inside E Ring wall.<sup>161</sup>

In other respects, the structural strength of the building proved a mixed blessing.<sup>162</sup> Concrete and brick, not yielding easily to the energy of the impact, channeled the ensuing explosion and flames along paths of less resistance, including offices, corridors, elevators shafts and stairwells.<sup>163</sup> The new windows, frames, and walls in Wedge 1 held up under extraordinary pressure, but they diminished venting of the fires, heat, and smoke.<sup>164</sup> The furious energy of the explosion made the bottom two floors in the immediate vicinity of the crash site death traps, compromised stairwells as escape routes, and made firefighting more difficult.<sup>165</sup>

The almost 40-minute delay in the collapse of the E Ring in Wedge 1, proved critical to the survival of occupants of the upper three floors, where the immediate impact of the plane claimed only two lives on the 3rd floor.<sup>166</sup> The Pentagon's sturdy construction served to delay the collapse, affording time for hundreds of people on the upper floors to escape.<sup>167</sup>

The destruction and, more importantly the loss of life, would have been worse without the reinforcement of the exterior wall of Wedge 1 and installation of the blast-resistant windows and fire suppression systems.<sup>168</sup> Hitting just inside Corridor 4 in Wedge 1, the plane penetrated into the un-renovated Wedge 2.<sup>169</sup> On September 11, the offices in or near the impact point were not completely occupied, either awaiting new tenants in Wedge 1 or mostly vacated in preparation for renovation in Wedge 2.<sup>170</sup> Had the aircraft hit fully-occupied un-renovated Wedge 5, several hundred yards to the right, the toll of dead and injured, as well as structural damage, would

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<sup>154</sup> Ibid.

<sup>155</sup> Ibid.

<sup>156</sup> Ibid.

<sup>157</sup> Ibid.

<sup>158</sup> Ibid.

<sup>159</sup> Ibid.

<sup>160</sup> Ibid.

<sup>161</sup> Ibid.

<sup>162</sup> Goldberg, A. Papadopoulos, S., et al "Pentagon 9/11" Historical Office, Office of the Secretary of Defense n.d PDF. April 6, 2011 page 18 <<http://osdhistory.defense.gov/docs/Pentagon%209-11.pdf>>

<sup>163</sup> Ibid.

<sup>164</sup> Ibid.

<sup>165</sup> Ibid.

<sup>166</sup> Ibid.

<sup>167</sup> Ibid.

<sup>168</sup> Ibid.

<sup>169</sup> Ibid.

<sup>170</sup> Ibid.

have been much greater.<sup>171</sup> If the plane had missed Wedge 1 entirely and plowed through only un-renovated and nearly vacated portions of Wedge 2, the structural and fire damage would have been far greater, but the death toll might have been less.<sup>172</sup>

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<sup>171</sup> Ibid.

<sup>172</sup> Ibid.

### **1.3 Activity: Math**

#### ***The Pentagon By The Numbers***

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Please refer the background information sheet that precedes this activity, as well as the introductory material provided at the beginning of this chapter, for additional information on how the Pentagon Renovation project helped minimize the damage to the building and loss of life during the attacks on September 11, 2001. You may use this information to guide a lesson or discussion, or have students find the answers to the questions by using the websites listed below. Students may also work in pairs or small groups to find answers.

Additional sites where answers to the questions below can be found:

<http://pentagon.afis.osd.mil/index.html>

<http://pentagon.afis.osd.mil/facts-construction.html>

<http://pentagon.afis.osd.mil/facts-consumables.html>

<http://pentagon.afis.osd.mil/history.html>

<http://pentagon.afis.osd.mil/facts.html>

<http://osdhistory.defense.gov/docs/Pentagon%209-11.pdf>

<http://acpol.army.mil/employment/>

<http://www.defense.gov/orgchart/#v>

- 1.) On what date did construction begin on the Pentagon?
- 2.) How many people work at the Pentagon?
- 3.) As a result of the Pentagon Renovation project, how many employees were estimated to be in Wedges 1 and 2 when Flight 77 struck on September 11, 2001?
- 4.) How long does it take to walk between any two points of the building?
- 5.) How many sides does the Pentagon have? Are all sides equal?
- 6.) On what date was the Pentagon construction complete?
- 7.) How many levels or floors are at the Pentagon?
- 8.) List five civilian jobs at the Pentagon.
- 9.) Why is the Pentagon five sided?
- 10.) How else does the "five" theme run through the Pentagon?
- 11.) Who was the President of the United States when the Pentagon was built?
- 12.) What is the architectural style of the Pentagon?
- 13.) Why was the original building site location of the Pentagon changed to its current location?
- 14.) When did tours of the Pentagon begin?

- 15.) How long and far is the tour?
- 16.) What is the mission of Department of Defense?
- 17.) What were the main materials used in the construction of the Pentagon?
- 18.) What was the approximate cost of construction?
- 19.) How long did it take to build the Pentagon?
- 20.) Why did the builders minimize the use of metal in the original construction?
- 21.) How did the Pentagon's construction help protect employees on September 11, 2001 versus the construction materials used at the World Trade Center in New York City?
- 22.) How many miles of corridors are in the Pentagon?
- 23.) How many pieces of mail are handled each month?
- 24.) Why was the Pentagon constructed with twice the number of bathrooms needed for employees?
- 25.) Who was the architect that designed the Pentagon?
- 26.) What is the length and height of each section of the building (also called a wedge)?
- 27.) Many of the nation's buildings were constructed with marble, but the Pentagon has no marble. Why?
- 28.) What upgrades were made during the renovation and how did they impact the fire and partial collapse of the E Ring as a result of the crash of Flight 77?

### **1.3 Activity Answer Key: The Pentagon by the Numbers**

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- 1.) Construction began on September 11, 1941.
- 2.) Approximately 23, 000 people work at the Pentagon.
- 3.) Since the Pentagon was still undergoing renovations on September 11, 2001, many employees had been relocated to temporary office space elsewhere. Wedge 1 was about five days from official completion and housed about 3800 people on September 11, 2001. Renovations were underway on adjacent Wedge 2 which had already been cleared of all but about 700 occupants.<sup>173</sup>
- 4.) It takes about 7 minutes to walk between any two points in the building.
- 5.) The Pentagon has 5 equal sides.
- 6.) The Pentagon construction was complete on January 15, 1943.
- 7.) There are a total of 7 floors: 5 floors above ground and 2 basement floors.
- 8.) Five civilian jobs are: Administrative Assistant to the Secretary of the Navy, Deputy Assistant Secretary for Installations of the Air Force, Deputy Director - Plans and Programs, Protocol Specialist, Program Manager, Historian, Chef, Environmental Engineer, Manager Information Systems, Confidential Secretary
- 9.) A pentagon shape was chosen for the building because in an early plan at the original proposed site, a square structure with one corner cut off to accommodate an existing road was proposed. This resulted in a skewed pentagon shape.
- 10.) Each section of the building (wedge) has 5 floors (plus 2 basement floors). There are also 5 rings running through each wedge.
- 11.) President Franklin Delano Roosevelt was in office during the construction.
- 12.) The architectural style of the Pentagon is Stripped Neo-Classical.
- 13.) The original building site was changed because it obstructed the views between the Lincoln Memorial and Arlington Cemetery.
- 14.) Tour programs were established on May 17, 1976 in conjunction with the Nation's Bicentennial Celebration.
- 15.) The tour is 90 minutes long, and covers 1½ miles.
- 16.) The mission of the Department of Defense is to provide the military forces needed to deter war and to protect the security of our country.

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<sup>173</sup> Ibid.

- 17.)The main building materials used in the construction process were concrete and limestone.
- 18.)Total construction costs were approximately \$83 million.
- 19.)Total construction time was 16 months.
- 20.)Metal was a precious commodity because of wartime. The shortages of materials required for war production raised many design and construction problems. The use of reinforced concrete in lieu of formed steel for the building made possible a saving of 43,000 tons of steel, more than enough to build a battleship. The use of concrete ramps rather than elevators further reduced steel requirements.<sup>174</sup>
- 21.)The building's steel-reinforced concrete and brick construction protected most employees in Wedges 1 and 2 from fires and explosions and saved their lives.<sup>175</sup> Moreover, the rigidity of the Pentagon's facade caused some of the fuel in the wings to detonate on impact, diminishing the inside destruction and probably reducing the number of dead -- all 64 on board the plane and 125 from the building --<sup>176</sup> whereas the lighter structure and largely glass facade of the World Trade Center buildings presented much less impact resistance.<sup>177</sup> On the ground floor, the impact damage extended as far as the inner wall of the Pentagon's C Ring adjoining A-E Drive, a depth of 210 feet, although the plane traveled about 270 feet along an angled path into the building.<sup>178</sup> A-E Drive in Wedges 1 and 2 marked the C Ring back end of the 1st and 2nd Floor areas that suffered almost all of the fatalities.<sup>179</sup> Impact damage on the 2nd floor proved much more limited than on the 1st floor, with no supporting columns destroyed at a distance more than 50 feet from the outside wall.<sup>180</sup> Above the 2nd floor, most of the damage in the D and C Rings resulted from fire and smoke and collapsed ceilings and light fixtures.<sup>181</sup>
- 22.)There are 17.5 miles of corridors in the Pentagon.
- 23.)Approximately 1,200,000 pieces of mail are handled each month.
- 24.)The Pentagon has twice the number of bathrooms needed for its employees because "Segregated Virginia" required separate facilities for "white" and "colored" people.<sup>182</sup>
- 25.)The main architect responsible for the building design was G. Edwin Bergstrom.
- 26.)Each section of the building (wedge) is 921 feet long, 77 feet and 3.5 inches high.

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<sup>174</sup>"The History of the Pentagon Building Features" *Department of Defense WHS Online Pentagon Renovation* n.d. Web. May 6, 2011. <[http://www.whs.mil/PENREN/history\\_features.cfm](http://www.whs.mil/PENREN/history_features.cfm)>

<sup>175</sup> Goldberg, A. Papadopoulous, S., et al "Pentagon 9/11" Historical Office, Office of the Secretary of Defense n.d PDF. April 6, 2011 page 18 <<http://osdhistory.defense.gov/docs/Pentagon%209-11.pdf>>

<sup>176</sup> Ibid.

<sup>177</sup> Ibid.

<sup>178</sup> Goldberg, A. Papadopoulous, S., et al "Pentagon 9/11" Historical Office, Office of the Secretary of Defense n.d PDF. April 6, 2011 page 31 <<http://osdhistory.defense.gov/docs/Pentagon%209-11.pdf>>

<sup>179</sup> Ibid.

<sup>180</sup> Ibid.

<sup>181</sup> Ibid.

<sup>182</sup> "Pentagon Facts and Figures" *Department of Defense* n.d. Web. February 23,2011. <<http://pentagon.afis.osd.mil/facts-features.html>>

27.)The Pentagon does not contain any marble because it was built during World War II, and Italy, the source of marble, was an enemy country.<sup>183</sup>

28.)In 1990 Congress authorized a complete overhaul of the Pentagon.<sup>184</sup> Under the renovation plan, all of the walls, utilities, and asbestos in Wedge 1 were removed.<sup>185</sup> The outer wall was reinforced with structural steel tubing to increase its lateral stability and provide support to new blast-resistant windows.<sup>186</sup>

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<sup>183</sup> "Did You Know" on "Pentagon Facts" *Department of Defense* n.d. Web. February 23, 2011.

<<http://pentagon.afis.osd.mil/facts.html>>

<sup>184</sup> Goldberg, A. Papadopoulos, S., et al "Pentagon 9/11" Historical Office, Office of the Secretary of Defense n.d PDF. April 6, 2011 page 18 <<http://osdhistory.defense.gov/docs/Pentagon%209-11.pdf>>

<sup>185</sup> Ibid.

<sup>186</sup> Ibid.

## 1.4 Lesson Plan: Social Studies and Civics

### Getting to Know Military Careers

GRADE LEVEL(s): Grades 6-12  
Duration: 40-45 minutes

STUDENTS WILL ENGAGE IN: X Independent Activities  
Project X Cooperative Learning

#### COMMON CORE STANDARDS:

##### Comprehension and Collaboration<sup>187</sup>

1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

##### Presentation of Knowledge and Ideas<sup>188</sup>

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

##### Integration of Knowledge and Ideas<sup>189</sup>

6. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.

#### OBJECTIVES:

Student Will Be Able To:

- Identify various types of military careers
- Identify the education, training and specializations necessary to be in the military
- Identify the difference between military employees and civilian employees

#### MATERIALS:

- Index cards with military and civilian careers written on them
- Poster paper for report out
- Handout of the "Adding to Your Knowledge about Military Careers" activity sheet that follows this lesson.

<sup>187</sup> "College and Career Readiness Anchor Standards for Speaking and Listening" *Common Core State Standards Initiative* n.d. Web. Page 48 April 9,2011 <[http://www.corestandards.org/assets/CCSSI\\_ELA%20Standards.pdf](http://www.corestandards.org/assets/CCSSI_ELA%20Standards.pdf)>

<sup>188</sup> "College and Career Readiness Anchor Standards for Speaking and Listening" *Common Core State Standards Initiative* n.d. Web. Page 48 April 9,2011 <[http://www.corestandards.org/assets/CCSSI\\_ELA%20Standards.pdf](http://www.corestandards.org/assets/CCSSI_ELA%20Standards.pdf)>

<sup>189</sup> "College and Career Readiness Anchor Standards for Reading" *Common Core State Standards Initiative* n.d. Web. Page 35 April 9,2011 <[http://www.corestandards.org/assets/CCSSI\\_ELA%20Standards.pdf](http://www.corestandards.org/assets/CCSSI_ELA%20Standards.pdf)>

**WARM-UP ACTIVITY:**

Teacher will teach the terms "Military Employee" and "Civilian Employee." (Definitions can be found in the vocabulary list.) Class will be divided into small groups. Each group is given cards with various jobs. They will decide as a group whether the job is a civilian or military job.

Examples of military and civilian jobs that can be found at the Pentagon:

Military Positions: Surgeon General of the Air Force, Chief of Naval Operations, Judge Advocate General of the Army, Senior Military Assistant, Executive Officer, Physician, Honor Guard, Musician, Nurse

Civilian Positions: (Appointed and Senate Confirmed) The Secretary of Defense, Under Secretary of the Army, the Assistant Secretary of the Air Force for Installations and Environment, the General Counsel of the Department of the Navy, the Inspector General of the Army

Civilian Positions: (not Senate Confirmed) Secretary of the Navy, Principal Deputy Assistant Secretary of the Air Force, Director of Legislative Affairs, Program Manager, Occupational Therapist, Food Service Worker, Chef, Barber, Manager Public Affairs

**PROCEDURE:**

There is a full series of videos available through the South Carolina Department of Education that provides a perspective on Military Career Pathways. Segment 2 focuses on the education and training needed to succeed in the military. All of these videos can be found here:

<http://knowitall.scetv.org/careerisle/students/ms/search.cfm?searchword=military&x=0&y=0>

- 1) Please have students watch the segment on education and training. (Note: for planning purposes, this segment of the video series is approximately 27 minutes long)  
<http://knowitall.scetv.org/careerisle/students/ms/video.cfm?programID=598&careerID=1>
- 2) Hand out the activity sheet for this lesson and ask students to listen for the answers as they are watching the video.
- 3) Once the video is completed, have a class discussion about the kinds of military careers represented in the video. Help students fill in remaining questions on the activity sheet.

**ASSESSMENT:**

Completion of "Adding to Your Knowledge about Military Careers" activity sheet that follows this lesson.



### ***1.5 Activity Answer Key: Adding to Your Knowledge about Military Careers***

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**1) What are the careers represented by the six military participants in the video?**

Representatives are soldiers stationed at Fort Jackson in South Carolina who represent six of the career clusters offered by the military with jobs in Government and Public Administration; Human Services; Law, Public Safety, Corrections and Security; Science, Technology, Engineering and Math (STEM); Business Management and Administration; and Education and Training

Titles include: Health Physicist, Human Resources Specialist, Chief of Operations, Deputy to Commander, Installation Chaplain, and Operations Manager for Infantry Brigade.

**2) How does a university or college career help prepare you for a career in the military?**

Classes that you take in college will give you skills you can use in your military career. One example is the use of statistics learned while pursuing a business degree. It helps you assess risk, make recommendations and defend your point of view in your daily career activities.

**3) What are the soft skills described in the video? How are they used in a military career?**

Soft skills include: mentoring, leadership, knowing how to delegate, supervise, understanding goal setting and achieving those goals, communication skills and relationship building.

**4) How does being a member of the military prepare you for a civilian career?**

Each branch sets you up to succeed in the non-military world through building leadership skills, management skills, success in leading people and connections to careers after time served in the military.

***1.6 Reflect: Why do you think the Pentagon was a terrorist target on September 11, 2001?***

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**Please respond below:**

### ***1.6 Reflect Answer Key: Pentagon as a Terrorist Target***

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Since World War II the Pentagon has stood as a symbol of American power and influence to the nation and the world. By September 11, 2001 it had been the command center of the nation's military establishment for more than a half century. In some regions of the world, particularly in the Middle East, a U.S. military presence and perceived power would have made the Pentagon an object of fear and hatred, and a likely target of attack by terrorist enemies.

(Information for this answer was taken from: Goldberg, A. Papadopoulos, S., et al "Pentagon 9/11" Historical Office, Office of the Secretary of Defense n.d PDF. April 6, 2011 page 13 <http://osdhistory.defense.gov/docs/Pentagon%209-11.pdf>)

***1.7 Renew: Write a Poem or Draw a Picture of life at the Pentagon before 9/11/01***

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In the space below, write a poem or draw a picture that represents how you imagine life was like at the Pentagon before September 11, 2001.