

Then: Technology for Defense

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WHAT'S COVERED

In this lesson, you will focus on different technological developments that have been developed to help defend soldiers and the nation as a whole. Just as with other military advancements in communication, transportation, and warfare, many of the advances in defense have found their way into the private/civilian sector. Specifically, this lesson will cover:

1. Defending Soldiers
2. Defense on a Large Scale



BEFORE YOU START

How has technology changed how the military defends troops and territory?

1. Defending Soldiers

Methods of protecting soldiers from harm have generally been developed according to the type of weaponry they face. When people fought with swords and pikes, for example, soldiers wore armor and carried shields made of metal or stiffened leather. Once firearms came into use, soldiers stopped wearing armor; it wasn't very effective against bullets or musket balls, and its weight slowed soldiers down. In the American Civil War, most soldiers were unprotected—even by helmets—from bullets or shell fragments. Defensive technology had not yet caught up with available weapons (Bocetta, 2017).

By World War I, things hadn't improved much. Only after the first two years of war did the nations involved begin to provide helmets for soldiers in the trenches (Vlahos, 2013). World War II brought better helmets and the use of flak jackets, which were reinforced to block shell fragments from high explosives. Soldiers continued to wear flak jackets and helmets in both Korea and Vietnam.

Today's armor has been carefully engineered to protect against the most modern weapons. Soldiers now have high-tech body armor available made out of synthetic materials like Kevlar. Even though these materials are lighter than the steel used in medieval armor, the full body armor of a U.S. soldier today still weighs nearly 40 pounds (Vlahos, 2013).

The U.S. military continues innovating to find technology that keeps our soldiers as safe as possible. Some of the incredible inventions they've created include a prototype of a wearable exoskeleton with which soldiers can be outfitted in dangerous situations. In fact, the Pentagon actually runs a department of some incredible innovations specifically to develop new defensive technology—DARPA, or the Defense Advanced Research

2. Defense on a Large Scale

Of course, countries also work to defend territory with large-scale defenses, which also evolve alongside the available weapons technology. An example of defensive technology on a large scale can be found in the U.S. missile defense system.

First conceived during the early days of the Cold War in the 1950s, the missile defense system is intended to detect enemy missiles and intercept them with another missile. This would not only prevent the missile from striking U.S. territory (or that of an ally), but also give leaders time to pursue diplomacy and avoid war. Since its initial development, the missile defense system has evolved with advancements in missile and tracking technology.

The development of new defense technology gives us the opportunity to keep American soldiers safe and the potential to de-escalate or minimize damage. Foreign enemies will continue to advance their offensive weapons and other military technology, which requires continual research and innovation. As these new technologies roll out, there are many questions we can consider as we think about application. What does it mean to fight a war remotely? How can we adapt these tools to defend our country and allies? Remote technologies and advanced monitoring systems may make us feel like our defenses are secure, but as we're learning, a strong defense system must constantly keep up with the newest technology.



SUMMARY

In this lesson, you learned that the military has developed innovative technology for **defending soldiers**, such as modern body armor made of Kevlar. Other technology has improved **defense on a large scale**. Examples like the missile defense system reveal how the military is applying research and innovation to adapt and meet the demands of the present and future.

Best of luck in your learning!

Source: Strategic Education, Inc. 2020. Learn from the Past, Prepare for the Future.

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