

# World War I

## New Technologies & Weapons

World War I was the most devastating war that had ever occurred up to that period in time. Approximately 17 million soldiers were killed. A major reason is because scientists and inventors on both the Allied and Central Powers' sides worked constantly to improve current **technologies** and **weapons** and to invent new ones that would give their side an advantage. Trench warfare, tanks, airplanes, machine guns, chemical weapons, gas masks, U-boats, and battleships were some of the new and improved technologies and weapons that emerged during WWI.



*Barbed wire fences lined No Man's Land*



*Soldiers used trenches for protection.*

Many battles of WWI were fought on the Western Front, an area of land that bordered France, Belgium, and Germany. Because of the landscape of this region, troops on both sides dug **trenches** to protect themselves from enemy gunfire and **artillery**. Soldiers hid in the trenches while firing on the other side. The area between each side's trenches was called "No Man's Land" because there wasn't any protection from enemy fire. Many soldiers who attempted to cross this area were killed. Because neither side could advance, trench warfare caused a stalemate that would last years. Neither side was able to gain ground, and millions of soldiers were killed.



*The first tank was used in 1916.*

The first tanks were used by the Allies in September 1916. These armored vehicles were very hard to steer and unreliable. Many broke down on the battlefield. However, the Allies saw promise in this new vehicle of war, and, by war's end, tanks were very effectively used regularly in battle. The tank was not the only vehicle to be introduced to battle during WWI. The airplane began to be used for military purposes.

Airplanes were initially used to collect **intelligence** about enemy troops, but by the end of the war they were used to drop bombs on opposing troops and cities. Airplanes had machine guns mounted on them, so they could shoot down enemy

planes. These were called dogfights. Both sides raced to design and build airplanes that were faster, easier to maneuver, and stronger. The superiority of the airplane became a significant factor in military success in the second half of the war.



*Airplanes became critical in battle.*



*The Vickers gun*

Rifles and pistols were accurate but not quick firing, so the British invented the Vickers gun. This machine gun could fire 500 bullets per minute! Even though this machine gun needed 6 men to operate it, it was used frequently because of its effectiveness. These machine guns were placed along the Western Front, and many soldiers feared its deadly reputation.

Chemical weapons were also feared by many soldiers. Germany was the first country to use chlorine gas in 1915, and mustard gas was later developed and used by both sides. Mustard gas could take up to 12 hours to affect a soldier, and death



*Chemical weapons caused burns on the skin.*

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could take up to 5 weeks! These poisonous gases could proved to be deadly, affecting a soldier's eyes, nose, throat, skin, and lungs. However, the gases were largely ineffective. Its success depended on many conditions such as the weather and how it was delivered. If the wind changed directions, the gas could end up killing your own troops! Soldiers spent most of their day worrying about and guarding against this terrifying death. Both sides eventually invented gas masks which made the chemical weapons almost useless. Even the horses and mules used during WWI were fitted with gas masks to keep them protected!



*Even dogs and horses wore gas masks!*



*Every soldier had a gas mask.*

Battles were fought not only on land but also at sea. Battleships were equipped with long-range guns, so they could attack other ships and land targets from safe distances. The Allies also used these large metal-armored ships to set up **blockades** to prevent supplies and food from reaching Germany. The Germans retaliated by using U-boats. These **submarines** could sneak up on Allied ships and sink them with **torpedoes**. German U-boats also attacked Allied passenger ships like the Lusitania. The technologies and weapons invented and improved during WWI changed how future wars would be fought.



*Battleships could strike far away targets on sea and land.*



*German U-boats could sneak up on Allied ships.*