

CHAPTER 1 THE ARMED FORCES

Low rumbles fill the air. The ground shakes. Clouds of dust appear. A tank roars into view and stops. Inside, the crew prepares for battle.

A soldier grabs the heavy hatch. Pulling it down, he takes his seat. There is barely any room to move inside. Sweat drips down his face. He wipes his eyes and looks outside. It is dangerous. **Mines** could explode at any time.

Another soldier searches for the target. **Ammunition** is close by. A third soldier loads it into the large gun. The commander shouts instructions. It is time.

Soldiers check the weapon's aim. They fire. Lights flash and smoke rises from the gun. Rounds of ammo shoot out. Enemy troops fire **shells** that crash around the tank. The crew hopes its armor will keep them safe.



FIVE BRANCHES OF THE ARMED FORCES

The United States has the most powerful military in the world. U.S. forces protect American citizens. Five branches make up the armed forces. The U.S. Air Force rules the sky. On land, the Army takes charge. Oceans are protected by the Navy. Marine Corps soldiers attack from water, land, or air. The Coast Guard patrols waterways.

All military branches use mighty machines. Every year, billions of dollars are spent. The money is used for weapons and vehicles. Improvements are made. Jets fly faster. Guns are more precise. Trucks are made safer. Technology changes quickly. New inventions come out all the time.

MILITARY INVENTIONS

Many useful inventions have come from the military. They were first developed for soldiers to use. Later, some of this technology was passed on to civilians.

The Global Positioning System (GPS) was a military invention. Today, cell phones use this technology. It shows people where they are on a map and helps them find where they want to go. At first, the Navy used GPS. In the 1960s, they used it to locate submarines.

Military leaders needed a way to share information. Computers were connected. They used wires. These attached to phone lines. Information could be shared. Later, the system didn't need wires. This led to the internet.

In the 1940s, a scientist was standing next to a military radar system. He felt heat. It melted food in his pocket. The scientist shared what he found. Engineers started working on microwaves. Two years later, the first microwave ovens were sold to the public.

68.0 kts 9874 ft

OMH772 302.9 kts 8094 ft -----

CHAPTER 2 FIREARMS

Soldiers use firearms in battle. These weapons can be held. They include rifles. Handguns are also firearms. Machine guns are too.

Some guns have been used for a long time. Army troops still use the M2 Browning. This machine gun was invented in 1933. It is powerful. The gun lets soldiers fire bullets quickly.

Smart guns use technology. Computers make them more accurate. The TrackingPoint smart rifle collects data. It measures a target. A system in the gun tracks the target. Information is sent to a phone or computer.

Then a program does math. The distance between the gun and target is measured. A computer finds the best shot. This means soldiers do not need as much training. They hit their mark more often. Even from far away, the rifle is accurate. It can hit a target from more than half a mile away.





Another smart gun is the Armatix pistol. A soldier wears a watch. This lets her fire the weapon. The gun and watch share a signal. It has to match. Only the watch can unlock the gun. Her gun might fall into the wrong hands. But it cannot be used without the watch. Information is recorded on the watch too. This includes shots fired.

Since the 1960s, the military has used the M16 rifle. The gun is accurate and lightweight. This makes it easy to use. It became the main rifle used in battle.

There is a newer version. It is called the M4 **carbine**. This gun is shorter and lighter. With ammunition, it weighs seven pounds. Soldiers can carry it easily.

The M4 can be used at close range. Even at a distance, the gun is still accurate. Its range is almost 2,000 feet. Sand may be a problem. Dust can be an issue too. Both get into the weapon. Then it cannot shoot. Engineers are working to find a solution.

CORNER SHOT

The Corner Shot is an accessory for guns. It attaches to a pistol. The front part holds the small gun. There is also a camera attached.

A soldier holds the back part of the Corner Shot. There is a monitor. It shows the soldier what the camera sees. The whole system bends in the middle. Then the weapon can be fired around corners. This helps soldiers stay hidden, especially when shooting around buildings.



minin