### A NEW KIND OF WAR PART 2

## GUNS

#### rapid-fire machine guns were used

early machine guns:

- were big & heavy
- needed a crew of four to six people to operate
- Iacked cooling mechanisms
- shot 400–600 small caliber rounds per minute



### GUNS

- Iater machine guns were lighter & more portable
- lighter weight, but still too heavy
- ▶ 1918 → guns for infantrymen now existed
  - lighter weight
  - lacked enough ammuntion
- by end of war, guns had been added to tanks, warships, & aircraft

# TANKS

aka: landships

armored vehicles



- could cross rough battlefield terrain
  - such as no man's land
- first tank, "Little Willie"
  - 14 tons (weight) with 12-foot long track frames
  - space for three men (cramped)
  - maximum speed of 2 mph (on rough terrain)

### TANKS

- first developed in Great Britain
  - France & the US soon became interested
- not very reliable or useful at first
- used later in the war
  - November 1917, Battle of Cambrai



## AIRCRAFT

Uses of aircraft:

- observe enemy positions
- armed with machine guns & bombs
- attacked battlefields & cities
- attacked enemy planes ("dogfights")
- useful from beginning of war



### AIRCRAFT

- most countries had few planes at start of war
- production of planes increased rapidly
- planes had to be easy to fly
  - first, designed for stability
  - later, designed for maneuverability
- generals began including planes in planning



## SUBMARINES

- U-boat: submarines used by Germans in WWI and WWII
  - developed by Germans
- unrestricted submarine warfare
  - any ship traveling in water around Great Britain was subject to attack

## **SUBMARINES**

- easy to attack without being seen
- attack merchant ships
  cut off (British) supply lines
- Great Britain developed convoys
  helped against threat of attack
- United States entered war on Allied side
  Americans had been killed because of unrestricted submarine warfare

#### flamethrower

different sizes for different circumstances



#### grenade

detonate two different ways: impact or timed-fuse



#### bayonet

had more of a psychological use



#### mortar

could be fired from inside a trench

