

STEM *Sims*™

Trench Attack



Trench Attack

Do you need an idea for a scientific study?

Try out one of our ideas or make one of your own.

Start learning right now about how people in the past have used biological and chemical agents as weapons of war. Take the following brief quiz to see how much you already know about biochemical weaponry. See the bottom of page 4 to check your answers.

1. During the 1300's, soldiers catapulted corpses of people who died from the plague into enemy areas as a form of biological warfare.
 - a. true
 - b. false
2. During World War II, an army released over 150 million plague-infested fleas from aircraft to infect enemy soldiers and civilians.
 - a. true
 - b. false
3. Native Americans were intentionally given blankets contaminated with what pathogen during the French and Indian War around 1760 as a form of biological warfare?
 - a. influenza
 - b. smallpox
 - c. HIV
 - d. *E. coli*
4. VX is a highly toxic nerve gas developed for use in warfare. Which statement is correct regarding its odor?
 - a. VX gas smells like geraniums.
 - b. VX gas smells like bleach.
 - c. VX gas smells like burnt almonds.
 - d. VX gas is odorless.
5. Mustard gas was a blister agent used as a chemical weapon during World War I. All of the following elements make up the compound known as mustard gas *except*:
 - a. sulfur
 - b. oxygen
 - c. chlorine
 - d. carbon



Strike Commander

The common view of many military generals is that they are bloodthirsty individuals who are interested only in winning battles at all costs. In truth, most American generals were and are well-schooled, thoughtful, and virtuous humans who value life.



General Omar Bradley was a senior commander of the U.S. Army during World War II. He commanded his troops in Europe and North Africa during that war. He was the first general to be chosen as the Chairman of the Joint Chiefs of Staff. One of his famous quotations appears below in cryptic form that is similar to a crossword puzzle. You must choose the correct letter at the bottom of each column to complete his quotation. See the bottom of the page 4 to check your answer to this puzzle.

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A	R	G	W	H	I	N	E	A	A	B	O	U	O	O	R	I	F	I	B	T	C	N	E	W
A	E	S	S	E	O	R	N	O	A	O	N	O	L	D	H	E	B	O	U	N	C	N	E	A
C	N	R	I	M	A	N	S	W	E	N	K	B	L	T	I	C	I	A	I	I	I	P	F	A
O	U	R	T	A	N	K	S	K	W	W	W	M	W	K	E	L	N	L	N	O	N	G	T	A
R	T			W	W	E	S		N	D	R	E	T		A	O	A	V	O	U	G		H	

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Weird Weapons

When faced with conquest or when a desire for more land and power overwhelms good sense, humans have devised some highly unusual ways to wage war. The creativity of humans in their efforts to kill at times even defies logic. Some of the earliest records of using biological agents as weapons of war date back to the 6th century when soldiers poisoned enemy wells using ergot, a mold found on rye plants. Other armies would place rotting human and livestock corpses into the enemy's drinking water supply to contaminate the water. One invading army tainted large amounts of red wine bound for French troops with blood drawn from people sick with the disease of leprosy.



In more modern times, during World War II armies flooded enemy drinking water reservoirs with raw sewage to spread disease throughout the population. Enemy agents also grew pathogens such as anthrax in livestock they raised, then sold the diseased animals to the U.S. government to use in military operations. The disease spread through healthy animals and infected a number of American soldiers.

For the past few decades, most governments in the world have recognized the dangers of using biological and chemical agents as weapons of war, have stopped developing these agents, and have outlawed their use.

Answers: Page 2 Answers: (1) a, (2) a, (3) b, (4) d, (5) b. Page 3 Strike Commander Answer: Ours is a world of nuclear giants and ethical infants. We know more about war than we know about peace, more about killing than we know about living.

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