



Trench Attack

STEM Sims

Lesson 1: Dispersal Location

Chemical warfare was first used in World War I. Many different chemical agents and methods to disperse the agents have been used. What is the most effective way to disperse a chemical agent?

Doing the Science

1. Start the Trench Attack Simulation by clicking on the “Sim” tab.
2. Click on the arrow in the “Chemical” box and select “Chlorine.”
3. Next, click on the arrow in the “Amount” box and select 11 kg.
4. You are now ready to release the gas from a canister. Click on the top blue chemical canister on the left side of the screen to release the gas.
5. To view the damage done by the gas release, click on the first soldier (the green one at the top of the screen), and record the effects on the unit in Table 1 below.
6. Click on the remaining soldiers and record in Table 1 the effects of the gas on the units.
7. To see how the gas affects the soldiers at different release locations and distance, first click the green "Reset" button.
8. Repeat steps 2 and 3.
9. Now, click on the *second* blue chemical canister on the left side of the screen to disperse the gas.
10. Repeat steps 5 and 6 above.
11. Repeat the process until all blue chemical canisters have been tested. Make sure to select the "Reset" button before testing each canister and to record your data in Table 1.

Table 1.

	Effects on Unit 1	Effects on Unit 2	Effects on Unit 3	Effects on Unit 4	Effects on Unit 5
Canister 1					
Canister 2					
Canister 3					
Canister 4					
Canister 5					

Do You Understand?

1. Which canister was most effective at delivering the chemical agent?

2. Explain how the location of the canister impacted the soldiers.