



# Agent Impact

## STEM Sims

### Lesson 4: Explosives

Explosive materials are substances that have a large amount of chemical potential energy, which can produce an explosion of light, heat, sound, and pressure if released suddenly. Are you ready to see the results of an explosion?

### Doing the Science

1. Start the Agent Impact Simulation by clicking on the “Sim” tab.
2. Click on “Low” for the population density.
3. Click on “Explosive” for the type of agent.
4. Click on “Min Impact” for the impact.
5. Click “Start” to begin the simulation of the explosives.
6. After the effect of the agent have worn off, record the casualties in Table 1 below for low population density and in Table 2 for high population density.
7. Repeat steps 2 - 6 except with “Max Impact” for the impact instead of “Min Impact” in step 4.
8. Click on “High” for the population density.
9. Repeat steps 3 - 7 for the high population of explosives.

**Table 1. Low Population Density.**

	Hospital	Clinics	Drug Stores	Morgue
Minimum Impact				
Maximum Impact				

**Table 2. High Population Density.**

	Hospital	Clinics	Drug Stores	Morgue
Minimum Impact				
Maximum Impact				

### Do You Understand?

1. Why do the casualties from explosions only take a couple of hours to count?
2. Which agent of attack (radiological, biological, chemical, or explosive) is the most deadly? Why?