

Minecraft Play: Building and Firing a Cannon with TNT

In this part of the lab, you'll build a basic cannon that fires a block of TNT into the distance. The TNT will explode in the air or on the ground. After you've built your first cannon, experiment by adjusting the amount of TNT you use, or build your cannon on the edge of a mountaintop to increase its firing range. See below, right, for more on how TNT works in Minecraft.

■ GAME MODE

Creative

■ APPROXIMATE TIME TO COMPLETE

2 hours in Minecraft

■ PLATFORMS

PC/Mac, Consoles, PE

■ INVENTORY REQUIREMENTS

Stone blocks

Bucket of water

Lever or button

Redstone wire

Stone slab

Four redstone repeaters

TNT

■ ONLINE RESOURCE

To see what it would be like to be a human cannonball, check out this YouTube video by DanTDM:
<https://goo.gl/4Haq7A>

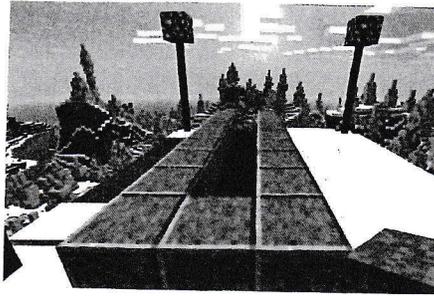


Fig. 1: Build two short walls parallel to each other and close off one end.

1. Using stone blocks, build two short walls, each one block high and nine blocks long. Build the walls parallel to each other and one block apart. Close off the narrow area between them at one end with another block of stone. The TNT will be launched from the open end (fig. 1).

2. At the closed end of the foundation, place two blocks of stone, one on top of the other. Destroy the block on the bottom (the one touching the ground) and fill the cavity with water. The water should flow all the way to the end of the wall but not beyond it (fig. 2). Adding water to the bottom of the cannon will ensure that it won't explode when the TNT is ignited.

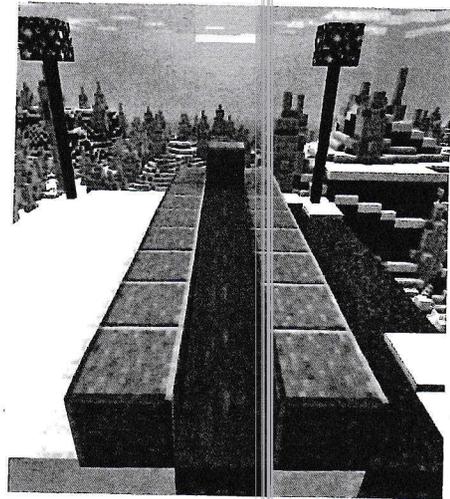


Fig. 2: Add water to the bottom of the cavity to ensure that the cannon won't explode when the TNT ignites.

■ GETTING TO KNOW TNT IN MINECRAFT

Most commonly activated with flint and steel

- Won't destroy blocks under water
- Useful for clearing out large areas
- Use redstone to wire cannons, traps, and other crafty innovations
- Can be placed in a minecart and sent down the rail line as an explosive surprise
- Can be placed next to each other to create colossal explosions

- Place the lever or button behind the tall block at the closed end of the cannon. Connect the lever to redstone wire. Run the wire along most of the length of both walls. Stop the wire one block short of the end of the wall on the right and two blocks short of the end of the wall on the left (fig. 3).

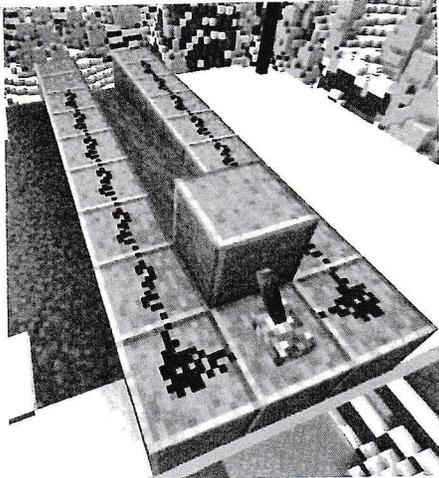


Fig. 3: Attach a lever to redstone wire. Run the wire along the walls, stopping it one block from the end of the right wall and two blocks from the end of the left wall.

- At the open end of the cannon, place the slab on top of the water block and add two more stone blocks to the wall to the left of the slab. Add redstone wire on top of those blocks (fig. 4). These blocks will prime the TNT just before it's launched into the air. When primed, or activated with redstone, TNT blocks blink white.



Fig. 4: Place a slab at the open end, add two blocks to the wall on the left, and run redstone wire on top of the blocks.

- Place four repeaters along the left wall and set the delay on each to at least two ticks (fig. 5). Repeaters slow down the signal from the lever just a bit so the TNT block is launched before it explodes.

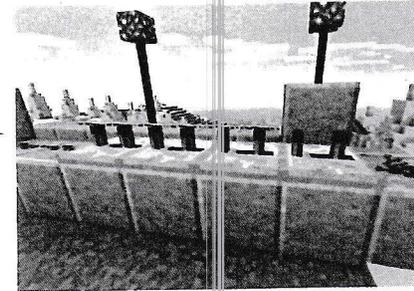


Fig. 5: Place four repeaters on the left wall. Set the delay on each to at least two ticks.

- Make sure the redstone lever is disengaged, then fill the water cavity with TNT blocks (fig. 6). Pull the switch! The blocks of TNT will explode, launching the solitary TNT block at the open end of the cannon into the air.

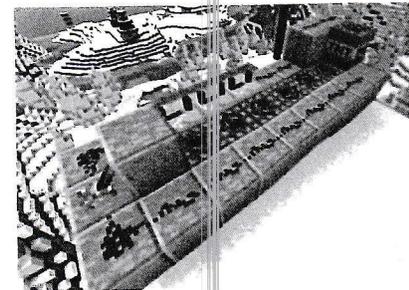


Fig. 6: Disengage the lever, fill the water cavity with TNT blocks, then pull the switch.

MORE TO EXPLORE

Have each family or team member build a fortress around his or her cannon and see whose can survive the longest. Obsidian is very resistant to explosions. Build and then try to knock down an obsidian tower by firing TNT from multiple cannons.