

## Tank Game – Scratch - Part 2

### Event broadcasts and variables (plus Flower Tank!)

Modify your tank game to use broadcasts for firing.

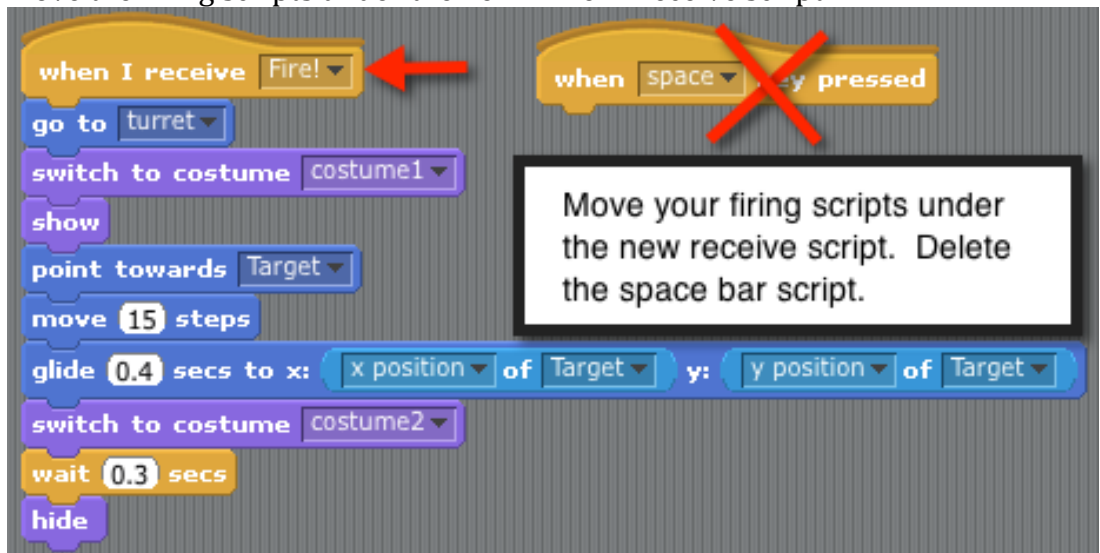
1. Let's fix the tank game to use the mouse button instead of spacebar. A broadcast is a way for a sprite to "shout" to the other sprites that something has happened. We want the target sprite to broadcast to the other sprites to "FIRE!" when clicked. Add this script to the **Target**.



2. Now we will "listen" for the broadcast in the **Shell** scripts. Drag this script into the **Shell** scripts area.



3. Move the firing scripts under the new "when I receive script".

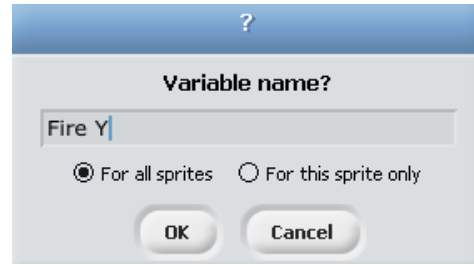
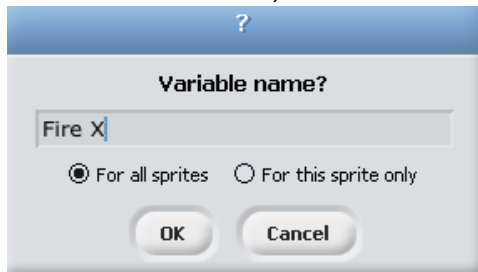


4. Try it out. Now the shell is "listening" for the Fire! Command. You should now be able to click on the Target to fire. This works much better as a game.
5. But notice how it still fires to the wrong location sometimes when you move around too fast? Let's try to fix that.

Use variables to save the x and y position to shoot more accurately.

6. Let's save the x and y of the Target into a global variable so the Shell knows where to go. Go to Variables and click on Make a Variable.

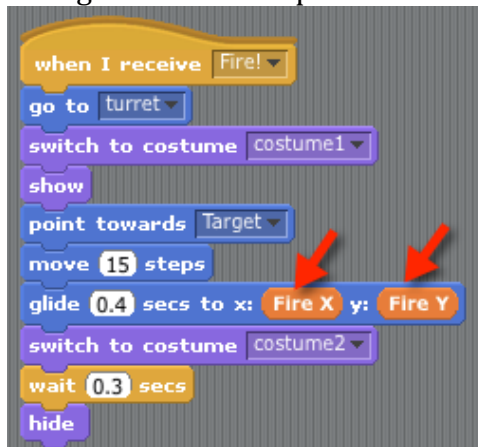
Make two variables, Fire X and Fire Y.



7. Set the X and Y variables to the current position whenever the **Target** is clicked. Then broadcast Fire!



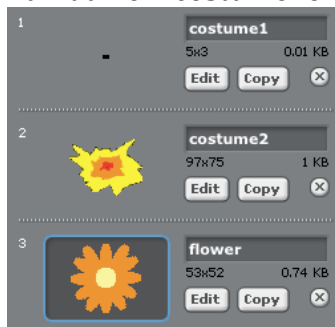
8. Change the **Shell** script to use the new variables.



## Scratch Flower Tank

Modify the Tank project to explode flowers and leave them around the world.

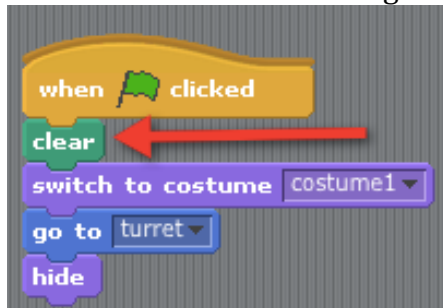
1. Paint a new costume for the **Shell** sprite and create a flower.



2. Add these scripts to the **Shell** when it is fired (at the end).



3. Add a clear to the Green Flag to erase all flowers and clear the board.



**Challenge:** Now expand your Tank Game with the knowledge from previous projects.

Some suggestions –

- Add a maze to navigate like the Eater (Pac-man) game.
- Add an interesting Stage background. Add sound. Add music.
- If you add a maze, should the shell be able to shoot through walls? HINT: Use a “Repeat until touching maze OR touching Target” script and don’t use Glide for movement.
- Add enemies that move around randomly like the Target shooting game.
- Blow up the enemies and keep score. Should they reappear or stay dead?
- If an enemy touches you, blow up your tank. Show a Game Over screen by using a broadcast.