



**Prize Winner**

**Programming, Apps &  
Robotics  
Year 9-10**

**Stirling Down  
Jamie Wirth**

**Mount Compass Area School**



## Multimedia Oliphant Written Report

URL: <https://flowlab.io/game/play/2487803>

The aim of the game is to show how German physicists in 1938 created a bomb so powerful it could destroy an entire city. It was done by taking a certain type of Uranium (U235) and splitting it by adding just one more neutron because the nucleus was already unstable. 1 turns to 2, 2 turns to 4, 4 goes to 8 and so on until it splits 60 times creating a quintillion atom all realising energy. This then makes a bomb that can destroy a city. In our game, we have split it 4 times and it gives an insight on just how far it can go.

### Flowlab

For this project, I am using the online game creator Flowlab. Flowlab allows you to edit objects to make a wide variety of shapes. It also allows you to make them move and change between levels. We are using it to create a game that shows uranium 235 splitting, creating a chain reaction that ends up making a bomb.

### Instructions

In the game, you have a uranium atom. Next to it is a neutron and as you follow the diagram, the uranium atom splits because a neutron is added to the nucleus. This makes two atoms, Krypton and Barium with three left over neutrons. Then, after one split, you click the screen and it happens all over again, gaining more fission fragments. This is representing a chain reaction, and it normally goes on 60 times before it gains enough energy to create a bomb, but in our game, it only happens four times. Four times is enough to represent how far and how much energy it can go.

### Problems That We Occurred and How We Overcame Them

We decided to use Flowlab which we had never used before, so we needed to get the hang of it first before starting anything. This meant that we had lots of trouble getting the right pieces and how to place them into the game. An example of this was when we tried to get the neutron to move after a mouse click. We had to do a lot of research to find out how to do it, but once we had it, we could repeat the process. Other problems were putting text and pictures onto the slides and making multiple neutrons move together.

### External Support

Thank you to my mum who helped me to use the Flowlab program when I had no idea how to use it.

## References

*Nuclear* [Online]

Available at: <https://www.pbslearningmedia.org/resource/phy03.sci.phys.energy.fission/nuclear-reaction-fission/>

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Available at: <https://www.pbslearningmedia.org/resource/6079d585-b4f0-46a4-b9d9-dc650bae985c/the-chain-reaction-splitting-the-uranium-atom-uranium-twisting-the-dragons-tail/>

[Accessed 22 February 2024].