



Highly Commended

# Programming, Apps & Robotics Year 5-6

Thomas Draper  
Joel Robinson  
Ivan Liu

Pembroke School - Middle  
School



# Elements Playground

---

By Ivan Liu, Joel Robinson and Tom Draper.

1. Aim of the entry.
  - The aim of the entry is to educate children 10 and under about some scientific chemical reactions.
  - Schools can use it to make science fun and learn about what not to do!
2. What computer is required to run the program?
  - Any device that can access the internet and a web browser such as Chrome or Firefox.
  - Ensure sound is enabled.
3. Instructions on how to load.
  - Click on the link provided below.
  - Or open your browser and type or copy and paste the link. (Chrome is the preferred browser).
  - <https://scratch.mit.edu/projects/1020333267/>
4. How to use the program.
  - On the menu, click Play and then the + button. Click on a coloured button to select an experiment and then drag the one item onto another item and then a reaction will start!
  - Mr Faldi might come out and explain what has happened.
  - If you want more information about the science experiments, click on the “info” button.

## *Acknowledgements*

- Our parents!
- YouTube.
- Scratch.
- Blocklive

## *Bibliography*

[Microsoft Word - Exploding Gummy Bears.docx \(csub.edu\)](#)

[https://www.youtube.com/watch?app=desktop&v=YRPuDQtB\\_5Y](https://www.youtube.com/watch?app=desktop&v=YRPuDQtB_5Y)

[https://youtube.com/shorts/EUmG832OVfE?si=E5P2cXhTQCsx\\_nZ](https://youtube.com/shorts/EUmG832OVfE?si=E5P2cXhTQCsx_nZ)

<https://www.grecogas.com/dry-ice/dry-ice-safety#:~:text=It%20is%20safe%20to%20place,times%20when%20handling%20this%20product.>

<https://theconversation.com/vinegar-and-baking-soda-a-cleaning-hack-or-just-a-bunch-of-fizz-225177#:~:text=Mixing%20vinegar%20and%20baking%20soda,over%20five%20litres%20of%20gas!>

[https://www.reddit.com/r/Damnthatinteresting/comments/2214yl/melting\\_aluminium\\_with\\_an\\_electromagnet/?rdt=61291](https://www.reddit.com/r/Damnthatinteresting/comments/2214yl/melting_aluminium_with_an_electromagnet/?rdt=61291)

Research scenes	Scene Title	Researcher	Results
Scene-1	Water Boom	Tom	Sodium +water =Boom!
Scene-2	Up	Tom	Baking soda +Water
Scene-3	Candy Blast	Joel	Potassium Chloride + gummy= insane chemical reactions
Scene-4	Splat	Joel	Aluminium +electromagnet =metal melts
Scene-5	Fridge	Ivan	Dry Ice + fridge =Fridge Breaks

Scene Outline	Scene Title	Outline
Scene-1	Water Boom	Sodium is dropped in water
Scene-2	Up	Lift dog with balloon.
Scene-3	Candy Blast	Put Gummy in tube of potassium chloride.
Scene-4	Splat	Put metal in magnet it melts.
Scene-5	Fridge	Put dry ice in fridge and it breaks

Scene-1	Scratch stage	Sprite(s)	Script
Scene-2	Lab	Water and sodium	Put the water and the soda together and then boom
Scene-3	Lab	Dogs, balloon and container	Fill balloon and put on dog
Scene-4	Lab	Tube and gummy	Make it go boom
Scene-5	Lab	Dry ice and fridge	Fridge breaks after dry ice

Scene	Scratch stage	Sprite(s)	Script
Scene-1	Lab	Water and sodium	Put the water and the soda together and then boom
Scene-2	Lab	Dogs, balloon and container	Fill balloon and put on dog
Scene-3	Lab	Tube and gummy	Make it go boom
Scene-4	Lab	Aluminium and electromagnet	Metal melts
Scene-5	Lab	Dry ice and fridge	Fridge breaks after dry ice