**End of Year Activities**

|  |  |  |  |
| --- | --- | --- | --- |
| **Activity** | **Link & instructions** | **Teaching points** | **Safety** |
| Tea Bag Rockets | <https://www.youtube.com/watch?v=xrX7ggcr99s> Dilmah Organic teabags work well | Density. Observation, inference | Airborne flame. |
| Egg Drop Competition | <https://www.youtube.com/watch?v=nsnyl8llfH4>  Students are given supplies, e.g. popsicle sticks, pipe cleaners, etc. and work in groups to make a safety mechanism so that when the egg is thrown out of a 2nd-storey window it survives. | Systematic testing, recording  Link to car safety | If you don’t clean up messes well it will smell badly in a few days. |
| Make Icecream | <https://kidspot.co.nz/activities/make-ice-cream-in-a-bag/> | Salt lowers FPt ice, ice absorbs heat from icecream, icecream freezes | Hygiene |
| Dry Ice IceCream | <https://www.youtube.com/watch?v=qUQljVpXEKU> | Similar principles as making icecream, using crushed dry ice as coolant | Make sure the gas has dissipated and ice cream is soft to the touch before eating, else remnants of dry ice could still be there. Dry ice not safe to eat. |
| Butane and Coke Rockets | <https://www.youtube.com/watch?v=itRi5aziaWU>  Can also use carbonated water instead. Butane gas available from Kmart and The Warehouse. | Compressed gas, rockets, gravity | Best done outside as a demonstration activity. Beware sparking butane – it’s flammable |
| Oobleck on a Loudspeaker | <https://www.youtube.com/watch?v=3zoTKXXNQIU> | Corn starch thickens when disturbed. Sound | Use clingfilm to protect the speakers. |
| Vortex Rings | <https://bit.ly/2rSCAnY> If you have a school pool and some food colouring, this is amazing & fun to do | Observation & inference?? | - |
| Studying Science in a TV Show, Video, or movie | Put students in small groups to investigate a scientific phenomenon in pop culture. E.g., Could Tatooine planet exist? What effect would chopping down a video game tree have on the environment? Can you grow potatoes on Mars? | Applying science principles | - |
| World's Smallest Christmas Tree | <https://www.youtube.com/watch?v=KC_8sQw08-8> Observe silver crystals form on copper wire on a microscope slide under a Dissecting Microscope | Crystallisation, displacement reaction, ions | - |
| Alginate Worms | <https://www.youtube.com/watch?v=k1zEJHPBTro> | Polymers | - |
| Making Soap | <https://bit.ly/2NRWqbk> | Alkali-fat reaction | NaOH/lye is caustic, use gloves, add fat to lye not lye to fat. Test soap on small area of skin 1st to test for allergic response. |
| **Activity** | **Link &/or instructions** | **Teaching points** | **Safety** |
| Making Lip Balm | <https://www.stylecraze.com/articles/diy-lip-balm/#gref> Wax + scent + colouring | Cosmetics | Test lip balm Test soap on small area of skin 1st to test for allergy. |
| Make bridge with drinking straws | <https://bit.ly/32TCZ6g> Can also use paper straws | Strength of different geometric shapes | - |
| Frog life cycle | Term 4 is tadpole time. Grow some from eggs, photograph every few days, make poster, book etc to show life cycle | Life history, adaptations, native vs introduced frogs | - |
| Food Sci | Fair test with yeast, find diff ways to measure rxn rate, making bread. | Unicellular organisms, fermentation, raising agents | Use food tech room rather than eating in lab |
| Chromatography | Water-based felts in water. [Sugar in smarties stuffs up chromatography – *Colourful Chem* has a way to remove it.] | Density, | - |
| Growing giant crystals | Teach students how to grow CuSO4 crystals. Challenge them to see how can grow the biggest. | Crystals, chrystallisation | - |
| Ice activities | Ask students what do you know, what do you want to know about ice? Give them some ice to play with. Ice balloons. <https://www.exploratorium.edu/snacks/ice-balloons>. Ice cube on back plastic vs on Al. | States of matter, melting point, observations & inferences. | - |
| Alloying Cu | Making brass – use old 1c & 2c coins. Expensive expt. <https://www.stevespanglerscience.com/lab/experiments/gold-pennies/> | Making compound, alloys | You may want to warn tuckshop as students wIll try to palm these off as $1 coins |
| Paper planes | Designing the paper plane that flies furthest, can do tricks etc. <https://blog.doublehelix.csiro.au/paper-plane-designs/> | Flight, systematic testing | - |
| E Pro 8 | A NZ competition, an engineering and problem solving race.  <https://epro8challenge.co.nz/> | Engineering, forces, systematic testing | - |

Many thanks to the teachers and technicians who contributed to this.

MikeStone, Learning Solutions, 2019