

CLASS DESCRIPTIONS JULY 2018

A: class title	Class description
<p>Ancient Greek Archaeology: Digging into the mysteries of the past</p> <p>Years 5-6</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • What is Archaeology? • Garbage talks: looking at material found on "digs" and how to use this to answer questions • Visit to the Ancient History Museum • Piecing it together: finding broken artefacts and how to put them back together • What lasts in the ground? • How to do a dig: excavation
B: class title	Class description
<p>Bright Sparks</p> <p>Years 3-4</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Human circuits • Testing conductors and insulators • Fruit batteries • Circus relay • Building circuits – lights and buzzers • Steady hand game
<p>Bubbleology</p> <p>Years K-1</p> <p>**Learning activities will go until 4.00pm only. Care is available until 5.30pm and children will play inside and outside from 4.00pm - 5.30pm. You can collect your child anytime from 4.00pm - 5.30pm.**</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • The science of bubbles • What ingredients make the best bubbles? • Unbreakable bubbles! • I'm in love with the shape of... bubbles! • Sunshine, rainbows and... GIANT BUBBLES

C: class title	Class description
<p>Call the Dr</p> <p>Years 6-7</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Principles and practice of electrophoresis Whose DNA was left behind? (Fake) Blood-based cancer diagnostics • Detecting sickle-cell anaemia • Which orange juice has the most vitamin C? • Community immunity • Genetic engineering and disease
<p>Coding with Processing</p> <p>Years 4-6</p>	<p>Learning experiences include:</p> <p>Learn to code using Processing (Java language) Processing is a visual programming language designed for creative people incorporating digital multi-media.</p> <ul style="list-style-type: none"> • Processing is based on Java so you learn Java coding • Learn to draw shapes in different colours and move them around the screen • Create your own avatar • Interact with your creations • Check out processing.org for more information
<p>CSI</p> <p>Years 5-6</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Collect evidence <ul style="list-style-type: none"> ▪ fingerprinting ▪ dental forensics ▪ footprint analysis ▪ chromatography ▪ handwriting analysis • Solve a crime in your group!

D: class title	Class description
<p>Day of the Dinosaur</p> <p>Years K-1</p> <p>**Learning activities will go until 4.00pm only. Care is available until 5.30pm and children will play inside and outside from 4.00pm - 5.30pm. You can collect your child anytime from 4.00pm - 5.30pm.**</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Fizzing dinosaur eggs • Make fossil imprints • T-rex tag • Bird feather bonanza • Touch and feel bird experience • Pasta skeleton • How big is a dinosaur's foot?
<p>DNA and Evolution</p> <p>Years 4-6</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Alike but different • Tree of genetic traits • DNA model • Dog DNA: interpreting the code • Extracting strawberry DNA • Preying on beans: evolution and natural selection • Bird beak adaptations
E: class title	Class description
<p>Earth and Solar System</p> <p>Years 2-3</p>	<p>Learning experience include:</p> <ul style="list-style-type: none"> • Making Earth's defence - our magnetic field • The charged particle game • How do moon craters form? • Oreo moon cycle • Make a model of the Earth, Sun and Moon • Check out a solar telescope

F: class title	Class description
<p>Falling with Style (Flight)</p> <p>Years 2-3</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • What is flight? Flight and forces • Perfecting the paper plane: dart planes, hang gliders, circular planes • Flight contest: furthest and longest • Making a paper helicopter • The flight of hot air balloons
<p>Flight (3 day course)</p> <p>Years 4-6</p>	<p>Learning experiences include:</p> <p>Everyday</p> <ul style="list-style-type: none"> • Explore concepts related to flight. • Time to play/have fun with things that fly. • Time to make a model of something that flies • Provide opportunities for students to engage with all ideas and time and support to investigate some in more depth • Activities to develop skills of Working Scientifically and Working Technologically <p>Day 1</p> <ul style="list-style-type: none"> • “Get to know you” games (but related to things that fly) • General safety, rules and expectations • What does it mean to say something flies? • Adaptations of living things that can fly • Design and make a seed casing • Intro to forces: drag, thrust, lift, gravity (explored mostly in one dimension) • Play with things that fly <p>Continued Next Page...</p>

Day 2

- Drama activity: how flight forces act on a paper plane; flying paper planes safely indoors/outdoors
- Intro to paper plane construction: Nakamura lock plane
- Air has weight and can apply pressure
- Exploring ways to generate lift related to changes in air pressure
- Modifying paper plane to change its flight path by changing way air moves over the wings
- Play with things that fly

Day 3

- More paper planes: which one can fly the furthest? For longest time? In a circle? Upside down? Land on a target?
- Exploring ways to generate thrust: propellers, stored energy (elastic bands - paper plane launcher), electrical/chemical energy (batteries)
- Powered flight for paper planes
- Flight forces in space: how are they the same/different?
- Play with things that fly
- SHOWCASE: parents will be invited for a Showcase at the end of the 3rd day, where the children will share and present on the fun of the past 3 days.

Float My Boat

Years 5-6

Learning experiences include:

- Learn about buoyancy, gravity and other water forces
- Discover who Archimedes was and why he loved taking baths!
- Will it sink or float? experimenting with buoyancy
- Design your own cargo boat challenge.
- Sticky water! Learning about water cohesion and adhesion
- Experiment with gravity and the use of sails and keels.

<p>Funky Physics</p> <p>Years K-1</p> <p>**Learning activities will go until 4.00pm only. Care is available until 5.30pm and children will play inside and outside from 4.00pm - 5.30pm. You can collect your child anytime from 4.00pm - 5.30pm.**</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • We'll explode ... safely! • We'll apply force and propel and hit targets • We'll push and pull and drop and explore gravity • At the end of today we will understand Earth a little better!
<p>G: class title</p>	<p>Class description</p>
<p>Geology Rocks!</p> <p>Years 3-4</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • The rock cycle • What rock is that? • Rock abrasion • Minerals under the microscope and looking at mineral density • Build an earthquake resistant building • Meet a real, live geologist! What do they do anyway?
<p>Good Vibrations</p> <p>Years 3-4</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Sensing Sound: using your ears • What's that Sound? • Good Vibrations: learning that sounds are vibrations • Making different sounds • Sound Travels: making a string telephone • Water and Sound • The Science of Music • Sound Art

H: class title	Class description
<p>The Human Circulatory System</p> <p>Years 2-3</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Make a heart, a lung, and blood • Model the circulation of blood around the body • Sheep heart and lung dissection • What can you see in the chest x-ray of a child? • Experiment: what gets our heart pumping the most?
<p>Human Movement</p> <p>Years 4-5</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Strike a pose • The human skeleton • Our bones • The human hand • Our lungs • Depth perception and reaction time
I: class title	Class description
<p>Incredible Forces</p> <p>Years 2-3</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Balloon rockets • Egg-citing science • Push and pull dance • Magnetic forces • Make a bridge that can withstand strong push forces

L: class title	Class description
<p>Lets Get Physics</p> <p>Years 3-4</p>	<p>Learning experiences include:</p> <p>Will Egg-bert survive the day? Use your newfound knowledge and skills to make sure Egg-bert makes it (or not, that's fun too!).</p> <ul style="list-style-type: none"> • Do activities and games on energy • Test your reaction time • Know your hand preference • Learn about how you balance
<p>Light of My Life</p> <p>Years 5-6</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Learn about wavelengths and the rainbow of colours that make up white light • Experiment with colour mixing, comparing paint vs. light • Play with coloured shadows • Understand the concept of persistence of vision looking into optical illusions • Make your own optical illusion • Learn about the Stroop Effect • Understanding colour: Why is the Sky blue?

M: class title	Class description
<p>Matter Mayhem</p> <p>Years K-1</p> <p>**Learning activities will go until 4.00pm only. Care is available until 5.30pm and children will play inside and outside from 4.00pm - 5.30pm. You can collect your child anytime from 4.00pm - 5.30pm.**</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • It's all about adding and subtracting and making something new • Do elephant's use toothpaste? • Is slime really slippery? • Do cupcakes really need all those ingredients?

<p>Magic Tricks</p> <p>Years K-1</p> <p>**Learning activities will go until 4.00pm only. Care is available until 5.30pm and children will play inside and outside from 4.00pm - 5.30pm. You can collect your child anytime from 4.00pm - 5.30pm.**</p>	<p>Learning experiences include:</p> <p>Make some magic (it's really just science)!</p> <ul style="list-style-type: none"> • First, make your wand • Walking on water • Lemon volcano • Magic potion • Heat changing slime • Electric eels • Put on a show!
<p>P: class title</p>	<p>Class description</p>
<p>Paper Science</p> <p>Years 3-4</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Paper is one of humanity's great inventions and we are still learning more about its uses! • Examine paper under a microscope • Test paper's strength • Engineer a paper plane • Make your own paper • Learn the Miura-ori fold and discover how it is revolutionizing design
<p>Programming Electronics with Micro:Bit</p> <p>Years 3-4 Years 5-6</p> <p>** Two separate classes will be run dividing the students into years grouped by Stage. Teachers will deliver content targeted for the appropriate age groups. **</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Learn to think like a Computer Scientist! • Discover the hardware and software concepts behind everyday objects like TV's, microwaves and traffic lights • Learn the difference between hardware and software • Create 'new technologies' and solve problems using hardware and software • Learn to program electronics with the Micro:bit!

R: class title	Class description
<p>Rube Goldberg Machines</p> <p>Years 3-4</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Learn about and make: Levers, inclined planes, wheel and axels, pulleys, wedges, screws and gears • Create a simple Rube Goldberg machine and exhibit it to the class • Check out Rube Goldberg machines on You Tube for the kinds of things that you could make!

S: class title	Class description
<p>Science is Real</p> <p>Years 1-2</p> <p>**Learning activities will go until 4.00pm only. Care is available until 5.30pm and children will play inside and outside from 4.00pm - 5.30pm. You can collect your child anytime from 4.00pm - 5.30pm.**</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Purple celery experiment • How much does an insect eat? • Marble physics • Where is my tree? • Film canister rockets • It's all natural
<p>Slick Science</p> <p>Years 1-2</p> <p>**Learning activities will go until 4.00pm only. Care is available until 5.30pm and children will play inside and outside from 4.00pm - 5.30pm. You can collect your child anytime from 4.00pm - 5.30pm.**</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Experiment: clean up an oil spill • Make oil art (marbling) • Move a cardboard boat through water without touching it • Water density: what floats and what sinks • What dissolves in water? What doesn't? • Experiment: which fabrics absorb more water than others?

<p>Smart Materials</p> <p>Years 5-6</p>	<p>Learning experience include:</p> <ul style="list-style-type: none"> • Exploring the key concepts of chemistry • What are atoms, molecules and elements? • What are polymers and plastics? • What are smart materials? • Experimenting and playing with polymers • Thermochromic polymers – colour change slime!
<p>Special Effects Science</p> <p>Years 4-5</p>	<p>Learning experience include:</p> <ul style="list-style-type: none"> • Making Spooky potions that change colour • Making and using a variety of invisible inks • A brain dissection • Spreading the Zombie virus • Making fake blood • Creating fake wounds
<p>Super Science</p> <p>Years 1-2</p> <p>**Learning activities will go until 4.00pm only. Care is available until 5.30pm and children will play inside and outside from 4.00pm - 5.30pm. You can collect your child anytime from 4.00pm - 5.30pm.**</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Proprioception – your place in space • Animal athletes – can you jump as high as a flea? • Sock walk – what do our feet find in the bush? • Whose scat is that? Make animal scat (playdough) • Looking at our ears and how we hear – make an amplifier

V: class title	Class description
<p>The Vikings: Longships, Compasses and Magnetism</p> <p>Years 5-6</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Learn who the Vikings were and why were their ships the best of their time? • Make your own Viking longship • Investigating the compass • Discover magnetism with magnetic sand and magnetic slime • Create your own compass • Use your new skills to take part in a Treasure Hunt!
W: class title	Class description
<p>The Wonder Gears</p> <p>Years 3-4</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Simple machines- why use gears? • How to make working gears DIY • Building gear train models using different gear types • Gaining control- how gears impact torque, direction and speed • Being an engineer- designing and building complex machines to solve everyday problems with gears
<p>Weaponry of Ancient Rome: Catapults</p> <p>Years 4-5</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Science of catapults: Forces, Motion and Energy • Build a Roman Shield • Ancient Roman Weaponry Show at the Ancient History Museum • Flying Balloons • Build a mini catapult • Romans vs Barbarians: The battle has begun! Your only weapons are marshmallows to attack and a cardboard shield to protect you and your team. Use your knowledge of forces, motion, and energy to seize the day!

<p>What's the Matter?</p> <p>Years 3-4</p>	<p>Learning experiences include:</p> <ul style="list-style-type: none"> • Making a thermometer • Chemistry magic show • Molecule tag • Dancing ooblek • See an invisible gas • Classic candle experiment • Test items: are they acids or bases?
<p>Z: class title</p> <p>Zippy Balloon Science</p> <p>Years 3-4</p>	<p>Class description</p> <p>Learning experiences include:</p> <ul style="list-style-type: none"> • The exploding bag • Flushed away • Making ice-cream • Making sherbet • Heat conduction activity • Make a hovercraft • Marshmallow puff tube experiment