Class Title	Class Description
Ancient Rome Years 5-6	**Learning experiences include:** • The science of catapults: forces, motion and energy • Build a Roman shield • Meet an Archaeologist and explore ancient Roman weaponry • Build a mini catapult • Romans vs Barbarians: The battle has begun! Get your catapult ready, find the best ammunition and use your knowledge of forces, motion, and energy to seize the day!
Archaeology Years 5-6	**Learning experiences include:** • Learn what Archaeology is and what it can teach us about the past • Sort the evidence - Categorise materials like an Archaeologist and interpret the life of ancient cultures • Ancient artefact jigsaw - Putting the pieces together • Make your own artefact with clay • Meet an Archaeologist and learn how to conduct your own archaeology dig!
Attractive Science Years 3-4	**Learning experiences include:** • Get all charged up learning about electrostatics • May the force be with you - Attraction and repulsion with electrostatics • Levitating Rings - Predict and experiment to levitate your rings • Hair raising science - Using the Van der Graff generator • Magnetic forces - Investigate with magnets to work out what sorts of things are magnetic • Make a compass • Gone fishing - Use your knowledge of magnetic forces to create a fun game to take home

Bird Time Lucky Years 2-3	**Learning experiences include:** • What makes a bird? • Bird Spotting - Discover the abundance of birds on campus • Go on an excursion to the Macquarie Univerisy Biology Museum! • How to attract a mate - Bird Essentials 101 • Get down with Darwin and explore the evolution of bird beaks • Nesting Time! Choose your inner bird and build your own nest
Bright Sparks Years 3-4	**Learning experiences include:** • The human circuit - Learning how to power up your body • Electricity 101 - Testing conductors and insulators • Make a fruit battery • Circuit Relay - Be the circuit in this active game about electrical circuits • Build a circuit with lights and buzzers using your own mini electrical kit • Use your circuit knowledge to make your own steady hand game (like the Operation game!)
Bubbleology Years K-1 Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4pm-5.30pm.	**Learning experiences include:** • The science of bubbles • What makes the best bubble? • Make your own touchable bubbles • Create spooky dry ice bubbles • Learn about how rainbows form by making giant bubbles!

Building Old Town Road Years 3-4 **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	**Learning experiences include:** • An exciting STEM project, developing your engineering skills as you construct your own mini city • Learn about shapes and 3D objects, what they are and how to create them • Construct your own buildings for the city using Make Do tool kits and LOTS of cardboard • Use your new skills and tools to create a huge geodesic dome • Put your town planner hat on as you complete the finishing touches to your city • Take home the favourite building you made for the town
Call the Dr Years 6-7	**Learning experiences include:** • Get a taste of a day in the life of a Doctor! • Passing it on - How do we get sick? How can we prevent sickness? • Detecting cancer - Become a pathologist and diagnose 'patients' • Get your blood pumping - How exercise affects your heart rate and blood pressure • Electrophoresis - Analyse DNA to find genetic diseases • Detecting sickle-cell anaemia • Vitamin C - Which juice has the most?
Coding with Processing Years 4-6 **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	**Learning experiences include:** • Learn to code with Processing, using Java, a visual programming language designed for creative people • Learn how to "speak" Java • Code your own shapes using coordinates and make them move around the screen • Explore colours in Processing • Design and create your own Avatar • Randomness - The element of surprise in coding • Keep Processing at home! Check out https://processing.org for more information (free to download!)

CSI Years 5-6	**Learning experiences include:** • Learn how to look for evidence and solve crimes as a Forensic Scientist • Analysing fingerprints • Dental forensics - Find out who the "murderer" is in your class by analysing their bite • Footprint analysis • Using chromatography to solve crime • Become a handwriting expert to find the criminal • Under the microscope - Get close up on hair and fibre evidence • Put all your knowledge to the test and solve a crime with your group
Day of the Dinosaur Years K-1 Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4.00pm-5.30pm.	**Learning experiences include:** • Hatch a Dino - Fizzing dinosaur eggs! • Make your own fossil imprints • T-rex tag • Are birds dinosaurs? • Feathers, bones and much more - Touch-and-feel talk and tour of the Biology Museum • How big is a dinosaur's foot? • Pasta Skeleton
DNA & Evolution Years 4-6	**Learning experiences include:** • How are we alike? How are we different? • Tree of genetic traits - Where do you fit? • Create a DNA model • Dog DNA - Interpret the code then create your own species • Extracting strawberry DNA • Preying on beans - Evolution and natural selection • Bird beak adaptations - How do species adapt to their environment for survival?

Dr. Egg Adventures - Puzzle Game Design Years 3-5 **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	JSA has partnered with the creators at Dr Egg Adventures lab to bring Junior Scientists and puzzle enthusiasts an exciting new course. Pull on your lab coats and join fellow creators in this creative course, where small teams will work with real-life game designers for a fun-day of design thinking, interactive TWINE story writing and puzzle creation. **Learning experiences include:** • Create science puzzle games and interactive stories, assisted by real-life game developers, using storytelling software • Engage with STEM concepts such as design thinking and critical and creative thinking • Tackle challenges in the Dr Egg Adventures story world and discover the mysteries of Dr Moon's fibres, Ardash's Germs and Vivi's adventures • Write an interactive dialogue script for the main twin scientists, Dr Egg and Dr Moon, as they discuss their inventions
Earth & Solar System Years 2-3	**Learning experiences include:** • Understand why we have day and night • The power of the Sun • Making Earth's defence - Our magnetic field • How do craters form? Make your own impact • Make a model of the Earth, Sun and Moon to understand their positions in our Solar System • Understanding the cycles of the Moon using Oreos

Earth Explorers Years K-1 Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4pm-5.30pm.	**Learning experiences include:** • Deep inside the Earth - Make your own model of the Earths layers • Water magic - How water fundamentally changed our planets geology • Volcanic eruptions! • The wonders of rocks on Earth • Make your own Martian sand to take home! • Touch and observe ancient fossils - What can they tell us about the past?
Eco Warriors Years 1-2	**Learning experience include:** • Learn about our oceans and how they keep our planet healthy • Classifying Plastic - How long does it take to break down? • Mini Worm Farm - Learn how composters work and create a mini-composter to take home • Learn about some exciting solutions to plastic pollution • Make your own Zero Waste products that you can take home! All recipes will be sent to parents so you can continue your plastic-free journey at home. • Create your own mermaid-friendly art from items that typically end up in our oceans
EV3 Level 1 Years 6-7 **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	**Learning experiences include:** • This is the 1st class in the EV3 Robot Series • Unleash your creativity with the latest evolution of LEGO Mindstorm technology • Familiarise yourself with the EV3 equipment: intelligent bricks, motors and sensors • Build and program a driverless car • Learn essential programming skills to drive your car: straight moves, tank moves, and stopping at objects. • Challenge yourself to make your robot perform as you want it to

Fish You Were Here Years 3-4	**Learning experiences include:** • Learn the basics for keeping freshwater fish in a home aquarium • Explore essential aquarium equipment on a working fish tank • Experiment with water chemistry, purifying tap water and adjusting pH to make it safe for your fish • Create a happy and peaceful tank community as you learn about fish compatibility • Put your learning in action and let your creativitiy flow as you design your own aquarium • Discover the nitrogen cycle, learning how to do water tests and water changes to keep your fish healthy
Float My Boat Years 4-6	**Learning experiences include:** • Discover the science of sailing, learning about density, buoyancy and other water forces • Learn who Archimedes was and why he loved taking baths • Will it sink or float? - Experimenting with buoyancy • Create a density tower • Design your own cargo boat challenge - Who can carry the most cargo? • Experiment with gravity using sails and keels and test your design in a boat race!
Funky Physics Years K-1 Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4pm-5.30pm.	**Learning experiences include:** • Energy and movement - Exploring the pendulum • Making catapults - Who can launch a marshmallow the furthest? • Galileo's gravity experiment • Balancing act - Design your own balance toy • Newton's first Law of Physics - Using eggs! • Explosions - What is the force behind them? • Exploring fair tests with paper helicopters

Good Vibrations Years K-1 Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4pm-5.30pm.	**Learning experiences include:** • Sensing Sound - How does hearing work? What's that sound? • Good Vibrations - Exploring the vibrations of sound • Make some noise! - Investigating different sounds and how to make them • How sound travels - Making a string telephone • Seeing sound - Dancing salt experiment • The science behind the sound - Understanding how musical instruments make different sounds
HTML Basics Years 4-6 **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	**Learning experiences include:** • Discover what HTML, or Hyper Text Mark-up Language is, and what it can create • Practice your coding skills online as you learn about code tags and website design • Develop a concept for your own website • Learn about how information is shared on the internet • Expand your coding knowledge as you learn about hexadecimals and CSS coding • Put your learning into action as you develop your own website using HTML code
Human Circulatory System Years 2-3	**Learning experiences include:** • 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 a chest x-ray? • Experiment - What gets our heart pumping the most?

I'm A Survivor Years 4-6	**Learning experiences include:** • Learn the essential skills for survival in this practical class on the science of survival • Survival means water, food, shelter & fire - Take part in a dramatic scenario to survive your day! • Discover how to find and purify water • Find out about edible bush tucker and how to keep yourself nourished in a survival situation • Make a trap you could use to catch food • Learn how to create a shelter and fire
Incredible Forces Years 2-3	**Learning experiences include:** • Balloon rockets - Learn about forces when creating your own balloon rocket • Egg-citing science - Whose egg survives? Experimenting with the force of gravity using parachutes • Froggy friction - Learn about friction force as you help your frog climb the string • Magnetic forces - Understanding how magnets work • Balancing forces - Become an engineer and design the strongest bridge
Let It Grow Years K-1 Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4pm-5.30pm.	**Learning experiences include:** • The science of gardening - Do you know what it takes to grow? • Rainbow flowers - Experiment on how plants use water • Learn about edible gardens • Why do leaves change colour? • Garden Scavenger Hunt • Make your own grass head to take home!

Let's Get Physics Years 3-4	**Learning experiences include:** • Bouncing balls - Learn that energy can neither be created nor destroyed, playing with kinetic energy • How fast are you? - Test your reaction time • Are you a lefty or a righty? - Discover your dominant side and learn about handedness • Balance tricks - Test your balance and find your centre of gravity, designing a balancing sculpture • Build a bike helmet
Life on Mars Years 5-6	**Learning experiences include:** • Creating Martians - Understanding environmental pressures and adaptations for survival • Testing for life in the Martian soil • Did evidence for Martian life come to us in a meteorite? • Become a NASA Flight Director and land safely on Mars • Constructing a Martian home - Build a geodesic dome • Surviving frostbite on Mars
Magic Tricks Years K-1 Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4pm-5.30pm.	**Learning experiences include:** • Make some magic (it's really just science) - First, make your wand! • Walking Water - How does the water travel in this experiment? • Make a lemon volcano • Bubble bubble boil and trouble - Design your own magic potion • Magic heat changing slime - See what hot and cold does to your slime creations • Magic art - Wax paper painting, how does it work? • Electric eels - Magically bring your gummy worms to life

Matter Mayhem
Years K-1

Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4pm-5.30pm.

Learning experiences include:

- Cooking science - Making honeycomb to discover science in cooking
- Birdseed ornaments - Discover what ingredients bind others together
- Iodine clock - Witness a chemical reaction right before your eyes
- Elephant toothpaste - Do elephants really use toothpaste or are we actually making chemical reactions?
- Making slime - Explore chemical reactions and a non-Newtonian fluid
- Blow it up! - Experimenting with gas

Mechanics
Years 3-4

ELIGIBLE FOR CREATIVE KIDS VOUCHER

Learning experiences include:

- Develop your design skills creating simple machines in this introductory class on mechanics
- Make a cam, gear, inclined plane, a pawl and rachet, and an inclined pulley
- Use your newfound knowledge to complete The Hammer Challenge!
- Meet an engineer from Cochlear Australia who will show you mechanics in action, demonstrating some exciting equipment used in the Cochlear Engineering Labs

Micro:bit
Years 3-4

ELIGIBLE FOR CREATIVE KIDS VOUCHER

Learning experiences include:

- Learn to think like a Computer Scientist!
- Discover the hardware and software concepts behind objects like TV's, microwaves & 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!

Microscope Magic Years 4-5	**Learning experiences include:** • Become a master at using a microscope • Collect and examine your own DNA • Discover the secret life of little critters living in our pond water • Compare the cells collected from humans, plants and bacteria • Explore the life cycle of a Sea Monkey
Minibeasts Years K-1 Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4pm-5.30pm.	**Learning experiences include:** • What is a minibeast? • Life as a worm • Ooey gooey worms - Make your own using a chemical reaction • Beautiful bees - Learn how important bees are and why we need to take care of them • Minibeast safari • Minibeast hotel • Make your own minibeast!
Once Upon A Slime Years K-1 Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4pm-5.30pm.	**Learning experiences include:** • Discover the science behind slime! • Learn what a base and an activator are and how they can change the properties of slime • Experiment with different activators as you test your slimey hypothesis • Create monster slime art, to take home your slimey creations in style • Practice the recipe for edible slime that you can make and eat at home

Science is Real Years 1-2	**Learning experiences include:** • Coloured celery experiment - How do plants absorb water? • An apple a day - Experiment to understand oxidisation in fruit • Marble boat float - Play with physics to save your boat from sinking • Where is my tree? - Test your other senses using a blindfold to explore • Coke chemistry - Chemical reactions and explosions! • Up up and away - How many balloons does it take to lift a bag?
Scratch Me If You Can Years 2-3 **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	**Learning experiences include:** • Learn about the basics of coding with Scratch! • Communicate in binary • Follow the sequence with motion blocks • Make shapes and code your own name • Pick a project and get coding • Code your own game!
Scratch Junior Years K-1 Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4pm-5.30pm. **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	**Learning experiences include:** • With Scratch Jr, young children (ages 5-7) can program their own interactive stories and games • Snap together graphical programming blocks to make characters move, jump, dance, and sing • Make and modify characters in the paint editor • Add your own voice and sounds, and even insert photos of yourself! • Use the programming blocks to make your characters come to life

Slick Science Years 1-2	**Learning experiences include:** • Explore the scientific concepts relating to the familiar substances of oil and water • Make butter - Learn what butter is and how to make it as you create your own • Mixing oil and water - Experiment as you explore the physical properties of various substances • Environmental protector - Clean up an oil spill • Walking on water - Predict and test as you learn about buoyancy and displacement • Salty eggs - Get your scientific mind working as you test what makes your egg sink or float • Oil and water art - Use what you have learnt about oil and water today to create a work of art! • Make a lava lamp
Space Cadets Years K-1 Learning activities finish 4pm. Care is available until 5.30pm. Children can be picked up between 4pm-5.30pm.	**Learning experiences include:** • Explore the birth and death of stars • Invent your own nebula (and take it home!) • Create your own UV bracelet that tells you when you need sun protection • Model the creation of a planet • Design and build a space station and rocket!
Special Effects Years 4-6	**Learning experiences include:** • Make spooky potions that change colour • Make and use invisible inks • Learn about the brain in a sheep's brain dissection • Spread the Zombie virus • Make fake blood and create fake wounds

Spike Prime Level 1 Years 4-6 **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	**Learning experiences include:** • This is the 1st class in the Spike Prime Series, developed with LEGO Education • Build a foundation of robotics and coding skills as you begin the Spike Prime RoboCamp Series • Unlock your creative potential and critical thinking skills as you design and build robots using LEGO • Bring your robot to life, connecting to your programmable hub and coding using Scratch language • Join the Invention squad with project-based learning activities
Spike Prime Level 2 Years 4-6 **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	**Learning experiences include:** • This is the 2nd class in the Spike Prime Series, developed with LEGO Education • Before taking this class children should first complete Spike Prime Level 1 • Level up your robotics and coding skills as you continue to explore and develop with Spike Prime kits • Use LEGO and Spike Prime multi-port hubs to create robots to compete in a range of challenges • Expand your knowledge about Scratch coding language • Use your engineering/building skills, developed in Spike Level1, to create new robots and step up your computer science skills as you explore awesome activities and challenges
Take Charge Years 1-2	**Learning experiences include:** • Using snap circuit kits to explore electricity and flow of electrons • Making space sounds with electric circuits • Exploring and/or/not gates • Using switches to modify the flow of electrons • Power a fan and blow the competition away • Create a wire buzz maze to test learning skills as well as concentration!

Take To The Skies Years 4-5	**Learning experiences include:** • Discover things that fly • Make the best paper plane - Fly Phantom, Nakamura and Cardinal designs, then make your own • How are birds able to fly? • Learn about seeds that fly then create your own • Make your own flying toy! • How heavy is air? - Explore air resistance and pressure to break objects
Theme Park Designers Years 2-3	**Learning experiences include:** • Learn all about the science behind your favourite theme park rides • Explore spinning rides and make your own handheld Gravitron • Build a working miniature Pirate Ship ride • Engineer and create your own marble Rollercoaster • Design a brand new theme park ride or game to take home!
Tricks and Bricks (previously Robotics Tinker Time) Years 5-7 **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	**Learning experiences include:** • An explorative class, designed for students to improve and practice their Spike Prime or EV3 skills • Before taking this class children should first complete either Spike Prime Level 1 or EV3 Level 1 • Students will choose to work with their own Spike Prime or EV3 robot • This class is designed for students to tinker, play, explore, make mistakes, problem solve and challenge themselves to make their robot do what they tell it to. Educators will provide stimulus, support and guidance but students should be capable of tinkering with a robot in a free-form learning environment

We Build This City Years 1-2	**Learning experiences include:** • Engineer a house for a mouse • Learn about buoyancy by building and testing your own floating boat • Design a bridge for your mouse to cross • Build a maze game for your mouse • Take home your awesome constructions
WeDo Dino Discovery Years 3-4 **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	**Learning experiences include:** • This class is an Advanced course in the WeDo Robotics Series, designed to be suitable for older students • Before taking this class children would benefit from first completing another WeDo class • Explore the world of Palaeontology, learn about discovering fossils from millions of years ago • Bring ancient organisms to life, building dinosaurs with the WeDo 2.0 Lego Kits • Experiment with movement and sound to replicate the predicted behaviour of extinct dinosaurs
WeDo Landslides Years 3-4 **ELIGIBLE FOR CREATIVE KIDS VOUCHER**	**Learning experiences include:** • This is class is part of our WeDo Robotics Series, designed to be suitable for older children • Before taking this class children would benefit from first completing WeDo Robotics Beginners • Predict and test the effect of landslides from hills and mountains on model houses • Learn how experiements help industry professionals plan for success • Build and program an earthquake simulator using the WeDo 2.0 Lego Robotics Kits • Design and built a robot that can alert populations and coordinate emergency assistance, grab objects (possible debris movement), inspect land, and rescue Lego people

WeDo Maker Robots
Years 3-4

ELIGIBLE FOR CREATIVE KIDS VOUCHER

Learning experiences include:

- This is the 1st class in the Maker Robots Series. Students would benefit from first completing WeDo Robotics Beginners
- Tap into and develop problem solving strategies to apply knowledge and create wonderful and wacky robotic solutions to set problems.
- Use creative and rhythmic thinking to develop a robot that can dance to music on beat
- Robots can be helpful in aspects of our daily life, design a robot to hack your life and make it easier!
- Ever wanted to make a band but not had enough hands? Make a robot to play a DIY instrument

WeDo Mission to Mars
Years 1-2

ELIGIBLE FOR CREATIVE KIDS VOUCHER

Learning experiences include:

- Before taking this class children would benefit from first completing WeDo Robotics Beginners
- Working Together - The importance of teamwork in a space expedition
- Create your own Space Rover to explore Mars
- Use your robot to detect motion on a new planet
- Collaborate with other teams to complete a mission
- Explore Newton's Law of Motion to help you create the strongest robot in space!
- Pick your own mission

WeDo Recycle Bots
Years 1-2

ELIGIBLE FOR CREATIVE KIDS VOUCHER

Learning experiences include:

- Before taking this class children would benefit from first completing WeDo Robotics Beginners
- Explore sustainability through the design process plan and create rubbish recycling robots
- Build a functional recycling truck that can sort items
- Gain inspiration from existing young sciencests on creating robots that collect pollutant materials from natural environments.
- Develop alternative ways to collect or process rubbish from environments and build functoinal models using robotics and coding

WeDo Robotics Beginners
Years 1-2

ELIGIBLE FOR CREATIVE KIDS VOUCHER

Learning experiences include:

- This is the first class in our WeDo Robotics Series
- This is a beginner level class. Children should complete this class before doing other WeDo classes
- Solve real-life problems using robotics!
- Use Lego Education WeDo 2.0 sets to build and code your own robots
- Construct a cooling fan and program the motor to turn at different speeds
- Build a spy robot
- Design and create a slithery snake
- Challenge yourself by building a satellite that can turn and change direction

What's the Matter
Years 3-4

Includes an excursion to a Macquarie University Science Lab for a Chemistry Magic Show!

Learning experiences include:

- Make your own thermometer
- Learn about the 3 states of matter in a game of 'Molecule Tag'
- Create some dancing ooblek slime
- Create chemical reactions to see invisible gas
- Classic candle experiment - Learn about the effect of heat on air particles
- Acid or base? Experiment on different substances to learn about pH
- Visit the Science Labs for a Chemistry Magic Show!

Zippy Balloon Science
Years 3-4

Learning experiences include:

- Balloon explosions - See the effects of conduction as you test how long the balloons can last
- Make a hovercraft and race your classmates to fly the furthest
- 3, 2, 1 ... Blast off - Create rockets with chemical reactions
- Flushed away - What can be flushed down the toilet? Are flushable wipes really flushable?
- Investigate the impact of salt on ice by making ice-cream (non-dairy options available)
- Marshmallow puff tube experiment - How far can you fire a marshmallow?
- Create a chemical reaction in your mouth! - Making sherbet