

Code Using Robots Workshops

Sutherland Dianella Primary School

Location/Venue:	Undercover Area, Sutherland Dianella Primary School (SDPS)
Address:	5 Sutherland Ave, Dianella WA 6059
Scope/Program:	The Code Using Robots–Geometry workshop is an introductory course to coding using Visual Programming Language (or Block Coding) on the Sphero Edu App with Sphero robots. The workshop aims to link coding with real world experiences and references material learnt (or learning) at school. It also integrates STEM education and concepts into the course.
Duration:	Seven (7) weeks in Term 3, 2017
Date/Day:	Held on Thursday’s afterschool, commencing Week 2 & concluding in Week 8. <i>Dates are 27 July, 3 August, 10 August, 17 August, 24 August, 31 August & 7 September.</i>
Time:	Session 1: 3.10 pm to 4.10 pm (1 hour) – for Year 2 and 3 Session 2: 4.15 pm to 5.15pm (1 hour) – for Year 4, 5 and 6
Participant Numbers:	Session 1: up to 12 participants Session 2: up to 12 participants
Equipment:	1. Bring Your Own Device (iPad, iPod, Android, Kindle) 2. UPlayWA to provide all teaching material and Sphero robots
Other requirements:	The workshop utilizes the following free downloadable Apps. These are required to be downloaded to the devices prior to the workshops: <ul style="list-style-type: none">• Sphero Edu App• Compass 12th App or similar compass app.
Cost:	Per participant is \$150. Costs inclusive of all learning material, refreshments (a juice box & biscuits) and use of Robots on a 1-on-1 basis.
Payment Details:	UPlayWA to coordinate all enrolments via TryBookings or EFT. Details to come shortly.
UPlayWA Contact Details	Michael Chua Mobile: 0427 059 257 or email: uplaywa@gmail.com Facebook: @uplaywa Instagram: #uplaywa
Parents involvement	As we transition from one industrial revolution to another, we believe that the kids in this generation need all the help that they can get. We encourage all parents to participant in our workshops and to learn coding with your child(ren). The idea is to act as guides and ask questions to raise their higher level thinking rather than give them the answers. Let Michael know if you’re keen to be involved.

Code Using Robots–Geometry Workshop Outline

- Program: Introduction to coding using Sphero robots, block coding, integrated with STEM education and concepts.
- Objective: Learn coding, spatial awareness, navigation, geometry – shapes & angles, math and STEM concepts to enhance reasoning, logical thought, critical thinking and problem-solving skills.
- Program duration: 7 individual sessions
- Session duration: 60 minutes per session

Course Outline (Typical for Years 4, 5 & 6)

Session 1 – Introduction to the Sphero Robot (**Week 2** – Thursday 27 July)

- ✓ Digital Technology – familiarisation with Sphero, Apps, device, Bluetooth connection, complete my first code

Session 2 – Coding with Sphero Edu App / Geometry 1 (**Week 3** – Thursday 3 August)

- ✓ Introduction to Coding – coding concepts, compass work, navigation, shapes
- ✓ Level 1/2 Shapes – simple shapes & angles at 90° & 45°), navigation, spatial awareness

Session 3 – Geometry 2 (**Week 4** – Thursday 10 August)

- ✓ Level 2/3 Shapes – coding, more shapes with more side and angles, navigation, spatial awareness, coding, creativity

Session 4 – Geometry 3 (**Week 5** – Thursday 17 August)

- ✓ Level 3/4 Shapes – coding, complex shapes with varying and more complex angles, navigation, spatial awareness, coding, creativity

Session 5 – Geometry 4 (**Week 6** – Thursday 24 August)

- ✓ Challenge Shapes – coding more challenging shapes and learn to think logically, critically and problem solve

Session 6 – LOOP Function (**Week 7** – Thursday 31 August)

- ✓ LOOP function – introduction to first advanced coding function. Illustrates importance of writing efficient codes. Draws on critical thinking and problem-solving skills.

Session 7 – Mini Race Course Challenge (**Week 8** – Thursday 7 September)

- ✓ Use learnt concepts to code the race track design (provided) – use knowledge of angles, navigation, time, speed and distance concepts, problem solving, critical thinking, decision making

Note: For Years 2 & 3, the content is similar however we take a little more time to work through the material and the contents complexity are varied to suit.