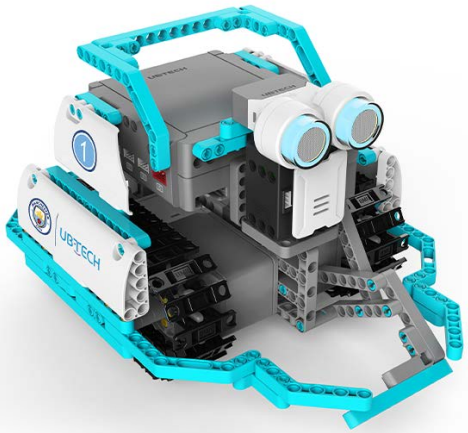
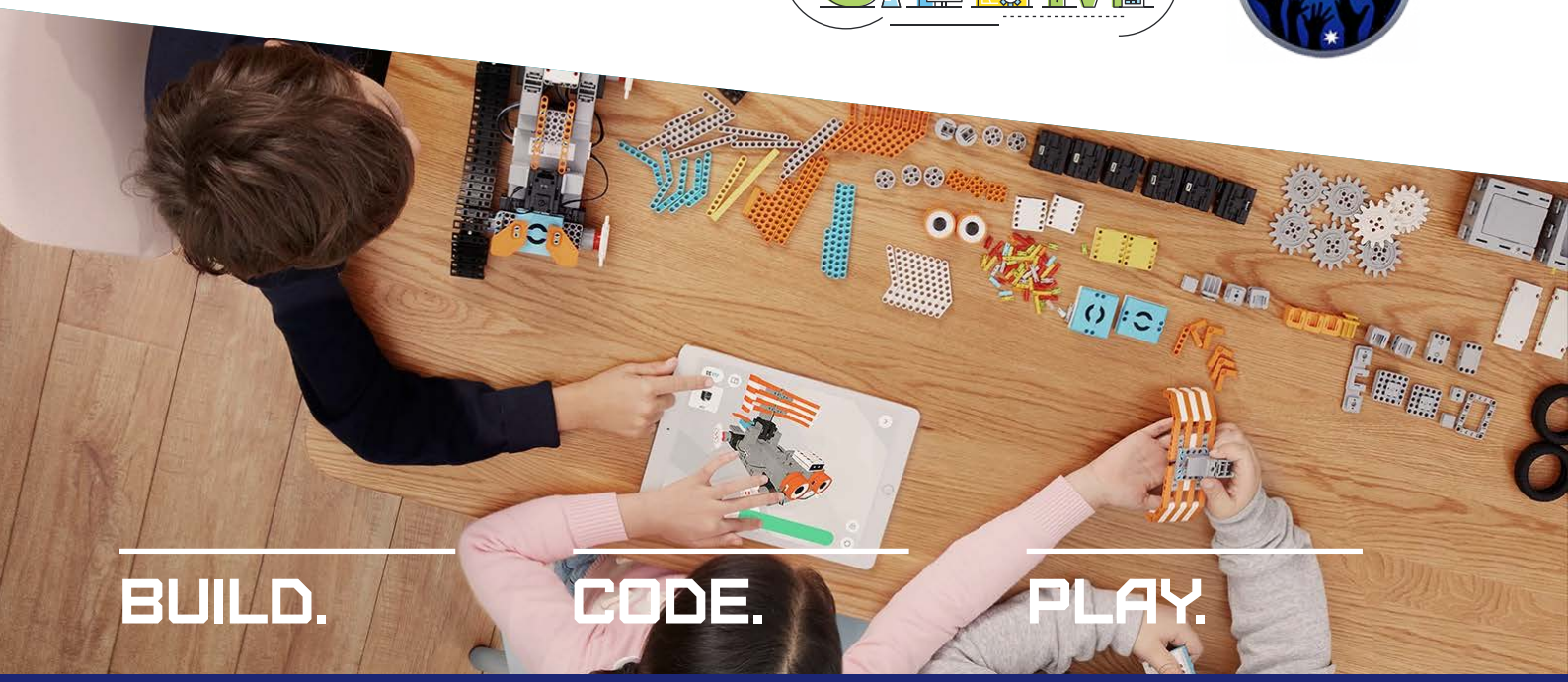
UBTECH
GOLF CHALLENGE



RATIONALE FOR THE CHALLENGE

- To increase the participation of school aged students in innovative, engaging and creative STEM robotics and coding learning experiences.
- To support the growth of creative thinking in children to enhance their future opportunities.
- To develop skills for future workforce, such as teamwork and collaboration.
- To inspire and equip participants to achieve anything they can imagine.



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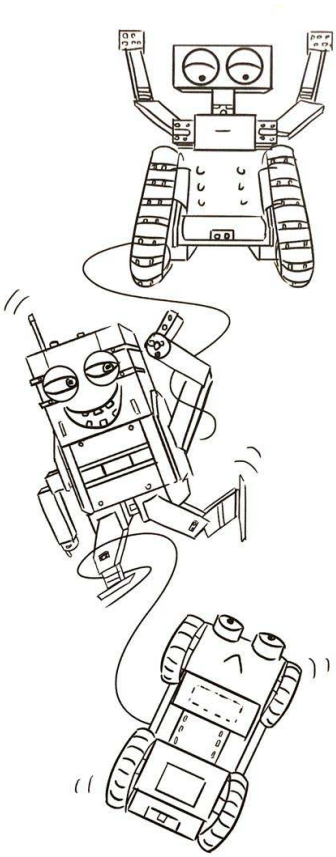

WHY ROBOTICS?

Robotics provide a real-world context of discovery and learning that leads to engaged, active problem solvers of all ages. By combining practical experiences in engineering and mechanics, this program allows you to be a creator and designer, not just a user and consumer of technology.

COMMUNICATION

By using the UBTECH Robot kits, important communication skills will develop – explaining ideas, describing the process and challenges along the way.

PERSEVERANCE

Using UBTECH kits encourages persisting with a task to see the vision realised. Having a go, taking time and perseverance to complete the challenge will give an immense satisfaction when the completed work is successful. This has an immensely positive affect on one's confidence and self-esteem.

CODING FUNDAMENTALS

Programming can be too abstract. By having to control a physical robot and seeing what goes wrong, we can learn what UBTECH robots are able to do. Very quickly it is recognised that precise instructions are required.

WHY UBTECH ROBOTS?

Our robotics programs establish the strong foundation students need to thrive. We have created a high-quality STEM program integrated with the development of 21st century skills and computational literacy. UBTECH robots will spark greater curiousity, innovation and ingenuity in all ages.

JIMU ROBOTS AND SPORT

Jump into building this sporty robot that has the ability to score goals and achieve a 'Hole in one'! This interactive, building block system takes creativity and learning out into the sports field! The kit comes with interlocking and interchangeable parts – it can avoid obstacles, has accurate movement and is fast and flexible.

TO START:

1. Open the kit and lay all the components out on a clear, flat space.
2. Download the app - **BEING CAREFUL TO CHOOSE THE CORRECT KIT!**
3. Follow the instructions to build.
4. Register and log in – unlock your robot through the Learning Modules.
5. Once you have opened all 8 padlocks – you are now ready to take part in our unique **'out of this world'** challenge!

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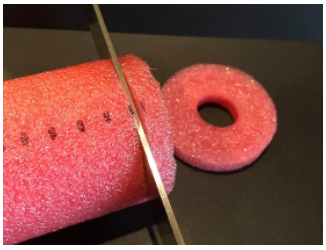
STEM CHALLENGE – CREATE YOUR OWN GOLF COURSE!

YOU WILL NEED

- A pool noodle
- 9 Toothpicks
- 1 mailing label
- Ruler
- Permanent marker
- Glue
- Cardboard paper towel tubes
- Scissors
- Blutack
- Cardboard
- Paper
- Sand
- Aquarium gravel
- Masking tape or chalk
- Serrated knife

PROCEDURE

1. With the ruler and using the permanent marker, measure.

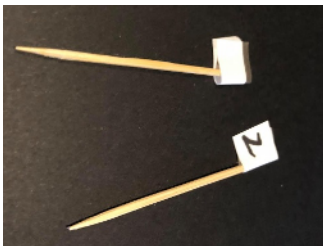


2. Using the serrated knife, cut the pool noodle, creating 12 slices each one 1 cm thick.

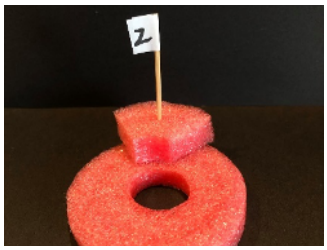
3. Put 9 pool noodle slices to the side.

4. Using scissors, cut up the remaining 3 slices in half and then half again (making 12 quarters).

5. With the glue stick, glue a quarter of the pool noodle slice about half a centimetre from the hole in the centre. Repeat for all 9 pool noodle slices.



6. Cut up the sticky label into small flags. Remove the backing and wrap the label to the top of the toothpick. Using the permanent marker, label each flag 1 – 9. slices.



7. Push toothpick flag into the double thickness pool noodle slice.

8. Repeat to make 9 golf holes with flags.

Cardboard and paper can be used to make ramps.
Cardboard tubing can be used to make tunnels.
Sand and gravel can be used as obstacles.
Use Blutack to secure the golf holes to the ground.
Masking tape or chalk can be used to mark out the course.

BUILD. CODE. PLAY.

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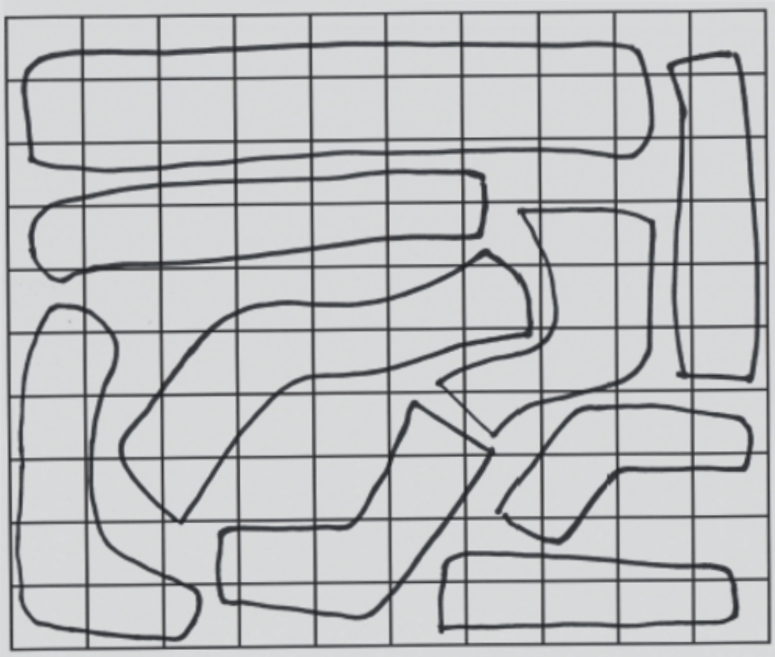
You may compete against others, keeping score in the number of strokes it takes to complete the course.

Other ideas:

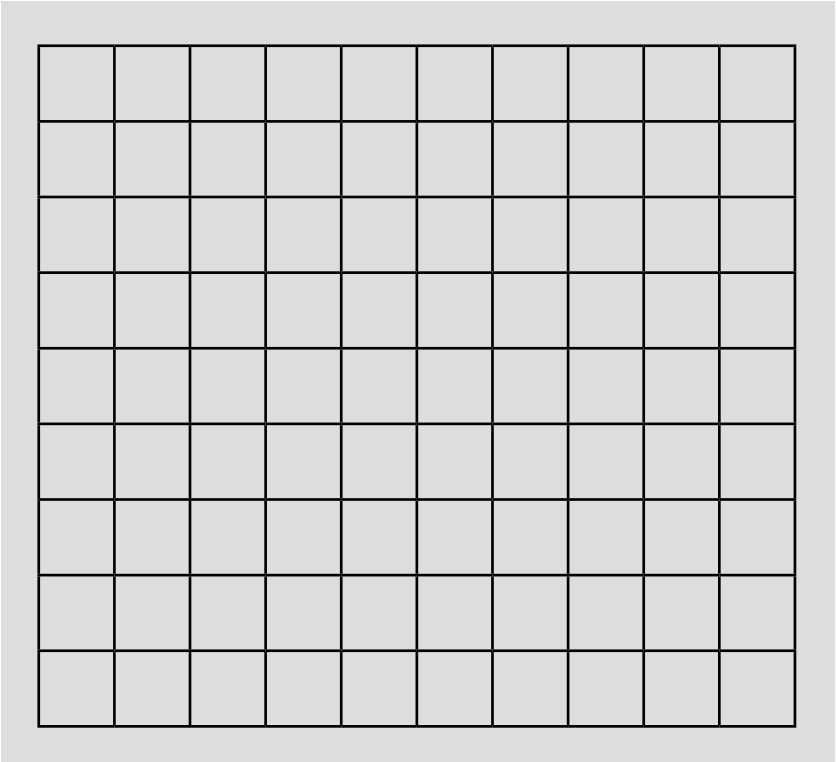
Timing how long it takes to complete the course against others.

Design harder courses.

Program the robot to complete the course at the press of a button.



A grid is supplied in case you wish to design your own golf course.



Create a 2 – 3 minute video of your Moon or Mars Astro Challenge and upload to the website: **onegiantleapfoundation.com.au/ubtech**

AUSTRALIAN CURRICULUM

GRADE 5 AND 6

STANDARD IDENTIFIER	LEARNING AREA	STANDARD DESCRIPTION
ACTDIP019	Digital Technologies	Design, modify and follow simple algorithms involving sequences of steps, branching and iteration (repetition).
ACTDIP020	Digital Technologies	Implement digital solutions as simple visual programs involving branching, iteration (repetition), and user input.
ACMMG108	Mathematics	Choose appropriate units of measurement for length, area, volume, capacity and mass.
ACMMG113	Mathematics	Use a grid reference system to describe locations. Describe routes using landmarks and directional language.
ACMMG137	Mathematics	Solve problems involving the comparison of lengths and areas using appropriate units.