

WINTER CAMP 2020

Junior Robotics and STEM - Week 3

Day	Robotics (WeDo 1.0 & 2.0) 9:00 am to 10:30 am	STEM Activity 10:45 am to 12 pm
Sunday 27/12/2020	Icebreaker Activity (15 minutes) Build a Spy Robot and program a motion sensor to detect an object. Record your own voice and make the robot play it. Program the robot to do other things.	How do sharks float? Design a device that has properties of shark to explore how a huge animal like shark stays afloat in water. Discover what is it about the sharks that does not cause it to sink.
Monday 28/12/2020	Build a Smart Spinner that will release the spinning top when the motion sensor senses it's close to the floor. Explore how the size of spinning tops affects the speed of the top.	Jumping frogs and runaway cans Explore how static electricity affects materials around us with these two activities. Discover how weight of the object affects the electrostatic forces.
Tuesday 29/12/2020	Create and program a Race Car to investigate what factors would make it go faster. Change the small wheels to big ones and explore how this change in wheels affected the distance covered by the car.	Marble run Get your thinking caps on! Create a marble run that is tricky for your opponent. The team member who creates the toughest marble run is the winner.
Wednesday 30/12/2020	Create and program a Recycling Truck that will sort recyclables according to their size and shape. Use the motion sensor input to detect the shape of the object.	Windmill Design a windmill that can convert wind energy to mechanical energy. Explore how the blades of the windmill affect the speed of the rotation of the windmill in turn affecting the capacity of the windmill to lift weight.
Thursday 31/12/2020	Open-ended Project - Design and program a predator or a prey in order to explore relationship between them. Get inspired by models from the design library and program the model as required.	Popsicle stick LED flashlight Learn about circuits, conductors, insulators, and battery by creating a fun LED flashlight.

BREAK (10:30 am to 10:45 am)