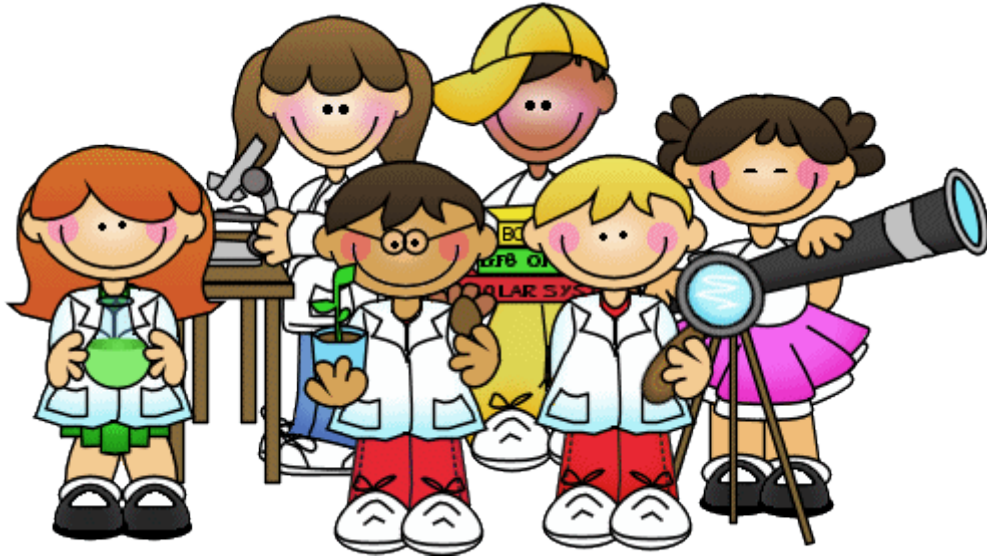


Discovery Log



Kilcoole Primary School

AoSME WW004

Step 2: Technology

- Team teaching 3rd class to 6th
- Hour of Code
- Lego Robotics Club
- Pupil upload of Log of Evidence - 3rd Class
- Powerpoint on Cockapoos

Team Teaching 5th and 6th Classes

For Team Teaching this term all pupils in 5th and 6th classes got a chance to develop their coding and problem solving skills through a series of targeted lessons from the Crystal ICT programme which we have available in the school. Using creativity, problem solving and various ICT skills the pupils were guided through a series of adventures and activities that developed the pupils' basic logo skills to the point where they could write routines and complete programmes themselves. The pupils really enjoyed these lessons and by the end of the session all pupils had added hugely to their digital literacy skills. Both digital literacy and problem-solving are 21st Century skills and in great demand in the workplace. For the next term the team teaching plan is to continue with this programme in both 3rd and 4th classes.

Hour of Code

On the 6th of December, 4th classes were presented with a fantastic opportunity to participate alongside tens of millions of young people all over the world in an Hour of Code, which is a global movement to provide children with an opportunity to learn the basics of coding in

collaboration with Microsoft and Code.org. Here in KPS, the students were building upon prior knowledge and experience of coding and were delighted to further enhance their coding skills through this tutorial which was teamed with the very popular Minecraft. It focused on students learning to write code that helped their Agent overcome obstacles and to problem solve and think critically to achieve their goals. All students thoroughly enjoyed and were challenged by the tutorial and were thrilled to receive a certificate at the end of the tutorial and some Microsoft goodies too. A massive thank you to the team who delivered the tutorial:

Stafford Quaid, Bridget Beirne, Audrey Barry and Valerie Conaty. The students look forward to consolidating and extending these skills in terms 2 and 3.

Lego Robotics Club

Kilcoole Primary School has again been invited to compete at the First Lego League national championships in Galway in February 2018. We are sending a team of eight 5th and 6th class students who have been working hard since September to design a robot for the competition. Students who earned their place on the program this year are: Seamus Darcy, Reece Finnerty, Cayden Elliott, Madeleine Scott, Sophia Wang Arngrimsson, Jake Burns, Andrew Curley, and Jamie Conaty.

First Lego League teams build a robot made of Lego to compete with 30 other schools and clubs from around Ireland. The robot must perform a number of missions in a 2.5 minute time limit, earning points for each mission completed successfully. For example, the robot might deliver something to a target area of the competition board, or manipulate a machine to retrieve an object.

This year's theme is Hydrodynamics, so our missions all have something to do with the human water cycle. In one mission, our robot flushes a Lego toilet, which then activates a model of a sewer network to eject Lego water and sludge. The robot must perform each task autonomously, which means that the robot does everything by itself, based on the programs we write and install on the robot's on-board computer. Robots are programmed using a visual programming language called Labview. Sensors are used during the missions, such as colour sensors to detect and follow black lines on the mission board. The robot is also equipped with a gyroscopic sensor to help identify its position during each mission. Our program reads the sensors using program loops and then reacts when the sensors reach a certain value. The robot uses motors, gears and attachments built by us to manipulate objects on the competition board. In addition to the robot game, the competition has three other judged sections. The first

judging session, 'Core Values, determines how the team works together and uses First Lego League Core Values in everything we do. Values we learn about include Inspiration, Teamwork, and Gracious Professionalism. In the Robot Design, or technical judging, we demonstrate the mechanical design, programming, and strategy of our robot. Finally, in the Project, we give a 5-minute presentation on our project to solve a human water cycle problem. For this section, our team invented a shower timer to help people save money and water by taking shorter showers. We are building a prototype of the timer using Lego electronics, and are working on a business plan to make sure our timer can be successfully sold and used. Our timer is unique because it uses a sound sensor to detect when the shower is turned on.

Lego robotics is challenging because we only have a few months to get ready for the competition. Even though it can be stressful, we're learning a lot about engineering and programming, plus it's fun to see what our robot can do. We are looking forward to spending the day in Galway and show the other teams our robot and project solution.

Powerpoint on Cockapoos

