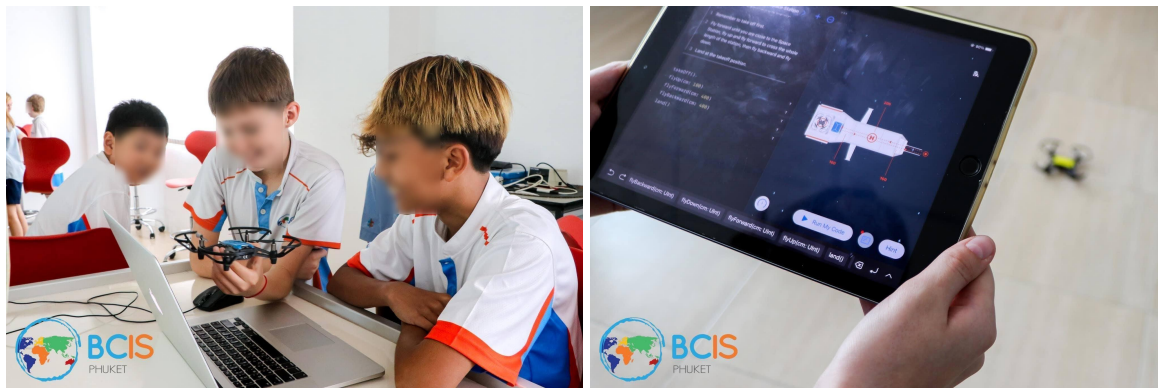


Y7 Robotics Lesson Plan





Robotics Lesson Plan

Tuesday, September 5, 2023

Time / Subject	Lesson Progression	Differentiation	Resources
Tuesday Y7-b 10:30 - 11:25 Robotics Lab B309 23 Learners Age: 11-13 55 minutes	Fly Tello Drones around a Space Station. Inquiry: How can we use the drone to make precise and controlled movements? <u>LO:</u> To learn how to execute controlled movements such as straight move, point turn, and curved move using a drone. <u>Review:</u> Swift Playgrounds. Loops. Basic programming. (5 minutes) <u>Engage:</u> Introduce the obstacle course by explaining to students how a drone can be an important security tool for the	Group work Lower: Spend extra time with a group of students that needs support and provide tips on design and coding. Simplify the obstacle course. Higher: Have the students suggest different ways to program the	Classroom resources. Computers/iPads Swift Playgrounds toptech.gg DJI Tello Education Drones Course obstacles/props

	Space Fleet. Explain the challenge, explain that it is important to maintain a safe distance from the space station at all times while completing the challenge. Demonstrate drone capabilities to move, turn and flip in the air. Check understanding: quick quiz. (15 minutes) <u>Explore:</u> Students evaluate their drone model and their piloting skills, they configure their drone if necessary. Students use Swift Playgrounds to create their code for the drone. They observe the moves and turns of their drone and learn to develop their models and code based on the results of the iterative testing to achieve optimal design. Ongoing assessment: questioning. (10 minutes) <u>Elaborate:</u> Students find the way to get their flying robot to execute the programme precisely and to activate the camera at designated spots. Students discuss their drone performance; students reflect on the difficulty of the tasks and point out key success factors for completing the challenge. Students submit their coding solution via toptech.gg Success criteria: Each team will have 3 attempts, the score for the best attempt will be used. Drone has to complete three 'patrol missions' around the space station (each time it should be a rectangle shape). There should be less than 15 lines of code. (20 minutes)	turning using different functions and units (seconds/degrees).	
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	Exit ticket: Reflection. Tell me what felt easy and what felt hard, why. (5 minutes)		
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