

Stewards Pooi Kei Primary School × QTN-T EDUHK

2023 to 2024 2nd Term Science Scheme of Work (STREAM Project – Fruit Battery)

Class : J. 5

Course book : School-based project

Cycle	Date	Period	Module	Unit Title	Learning Objectives	Experiment & Activities	Follow-up Exercise	E.T.V. / e-resources	Remarks
14-15	22/1 - 21/2	6	/	Fruit Battery	<ul style="list-style-type: none"> ◆ Understand the uses of batteries (S) ◆ Understand the basic principle of fruit battery (S) ◆ Using digital multimeter/voltmeter to measure the voltage generated by fruit battery (T) ◆ Read the articles about the history and importance of battery (R) ◆ Plot the data by using graph paper (M) ◆ Data handling (M) 	<p>Lesson 1 (35 minutes)</p> <ul style="list-style-type: none"> ◆ Students read the two articles about the history and the importance of batteries, and then think-pair-share with groupmates. ◆ Teacher invites the group representatives to share, and then point out the importance and uses of batteries ◆ Teacher shows the videos about how the fruit battery work <p>Lesson 2 (35 minutes)</p> <ul style="list-style-type: none"> ◆ Students point out the three main components of a circuit (power source, wires, and electrical transducer), now the fruit battery can provide electricity to drive an LED on. ◆ Teacher discusses the experimental procedures with the students, students can identify the independent variables, controlled variables, and dependent variables. ◆ Students can construct the circuit diagram to measure the voltage generated by lemons with the connection of the LED, switch and digital multimeter/voltmeter. <p>Lesson 3-4 (70 minutes)</p> <ul style="list-style-type: none"> ◆ Teacher guides the experimental procedure to students. ◆ Students form groups, conduct the experiments, and record the results by using padlet. 	<ul style="list-style-type: none"> ◆ Fruits ◆ Wires ◆ Cu, Zn strip ◆ Digital multimeter ◆ LED 	<ul style="list-style-type: none"> ◆ PHET ◆ Padlet 	

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						Lesson 5-6 (70 minutes) <ul style="list-style-type: none">◆ Students form groups, conduct the experiments, and record the results by using padlet.◆ Students plot the graph by using graph paper / google spreadsheet / ms excel.◆ Teacher discusses the precautions and errors with students	◆ Fruits ◆ Wires ◆ Cu, Zn strip ◆ Digital multimeter ◆ LED	◆ Padlet	
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