



## TSS Primary ICT MTP 2021-2022 Year 4 Block 5 – WeDo 2.0

Week	Key Targets and Learning Objectives	Key Activities	Key Vocabulary
1	<p>Introduce building and coding using WeDo 2.0.</p> <ul style="list-style-type: none"><li>• I can use the Light Block</li><li>• I can use the Motor Power Block</li><li>• I can use the Motion Sensor Block</li></ul>	<p>Students will complete the following first project activities within the Lego WeDo 2.0 programming app.</p> <ul style="list-style-type: none"><li>• Glowing Snail</li><li>• Cooling Fan</li><li>• Moving Satellite</li><li>• Spy Robot</li></ul> <p><a href="https://education.lego.com/en-us/lessons/wedo-2-mini-lessons">https://education.lego.com/en-us/lessons/wedo-2-mini-lessons</a></p>	<ul style="list-style-type: none"><li>• Block</li><li>• Brick</li><li>• Instructions</li><li>• Light</li><li>• motion sensor</li><li>• motor</li></ul>
2	<ul style="list-style-type: none"><li>• Create and program Milo the Science Rover using WeDo 2.0.</li></ul>	<p>Students will complete the following getting started activities within the Lego WeDo 2.0 programming app.</p> <ul style="list-style-type: none"><li>• Explore different ways scientists and engineers reach remote places.</li><li>• Create and program Milo the Science Rover.</li></ul> <p><a href="https://education.lego.com/en-us/lessons/wedo-2-science/getting-started-project-a">https://education.lego.com/en-us/lessons/wedo-2-science/getting-started-project-a</a></p>	<ul style="list-style-type: none"><li>• Block</li><li>• Brick</li><li>• Instructions</li><li>• Light</li><li>• motion sensor</li><li>• motor</li><li>• program</li></ul>
3	<ul style="list-style-type: none"><li>• Create and program Milo's object-detector arm using the Motion Sensor Input.</li><li>• Create and program Milo's messaging arm using the Tilt Sensor.</li><li>• Program and use 2 robots to move an object.</li><li>• Document how Milo has found and moved the special plant specimen and his communication with the base.</li></ul>	<p>Students will complete the following getting started activities within the Lego WeDo 2.0 programming app.</p> <ul style="list-style-type: none"><li>• Part B: Milo's Motion Sensor</li><li>• Part C: Milo's Tilt Sensor</li><li>• Part D: Collaborating with Milo</li></ul> <p><a href="https://education.lego.com/en-us/lessons/wedo-2-science/getting-started-project-b">https://education.lego.com/en-us/lessons/wedo-2-science/getting-started-project-b</a> <a href="https://education.lego.com/en-us/lessons/wedo-2-science/getting-started-project-c">https://education.lego.com/en-us/lessons/wedo-2-science/getting-started-project-c</a> <a href="https://education.lego.com/en-us/lessons/wedo-2-science/getting-started-project-d">https://education.lego.com/en-us/lessons/wedo-2-science/getting-started-project-d</a></p>	<ul style="list-style-type: none"><li>• Block</li><li>• Brick</li><li>• Instructions</li><li>• Light</li><li>• motion sensor</li><li>• motor</li><li>• program</li></ul>



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4	<p>Construct and execute an algorithm (set of step-by-step instructions) that includes sequencing</p> <ul style="list-style-type: none"><li>• Create a robot that can drive and turn using Lego WeDo 2.0</li><li>• Program it to move on a surface.</li></ul>	<p>Moon Base Part 1</p> <ul style="list-style-type: none"><li>• Explore why and how we could set up a base on the moon</li><li>• Create and program a robot to move on the surface of the moon</li></ul>	<ul style="list-style-type: none"><li>• Block</li><li>• Brick</li><li>• Instructions</li><li>• Light</li><li>• motion sensor</li><li>• motor</li><li>• program</li><li>• algorithm</li><li>• sequence</li></ul>
5	<p>Construct and execute an algorithm (set of step-by-step instructions) that includes sequencing</p> <ul style="list-style-type: none"><li>• Test and edit code to assemble items at a specific location</li><li>• Document their investigation</li></ul>	<p>Moon Base Part 2</p> <ul style="list-style-type: none"><li>• The students collect the small modules or build their own items to collect.</li><li>• Students will use the document tool for comments, images and code snippets</li><li>• Students will share their code and strategies to succeed in this mission</li></ul>	<ul style="list-style-type: none"><li>• Block</li><li>• Brick</li><li>• Instructions</li><li>• Light</li><li>• motion sensor</li><li>• motor</li><li>• program</li><li>• algorithm</li><li>• sequence</li></ul>
6	<p>Construct and execute an algorithm (set of step-by-step instructions) that includes sequencing and inputs</p> <ul style="list-style-type: none"><li>• Create a robot arm that can grab and lift using Lego WeDo 2.0</li><li>• Program it to move objects to and from specific locations</li></ul>	<p>Grabbing Objects Part 1</p> <ul style="list-style-type: none"><li>• Explore how prosthetic designs help people with disabilities</li><li>• The students will build a robotic hand that they can program to grab, lift and place objects. The hand is equipped with a Motion Sensor that can be used to detect objects, detect a table and detect movement of the arm.</li></ul>	<ul style="list-style-type: none"><li>• Block</li><li>• Brick</li><li>• Instructions</li><li>• Light</li><li>• motion sensor</li><li>• motor</li><li>• program</li><li>• algorithm</li><li>• sequence</li><li>• input</li><li>• output</li></ul>
7	<p>Construct and execute an algorithm (set of step-by-step instructions) that includes sequencing and inputs</p> <ul style="list-style-type: none"><li>• Test and edit code to move objects to and from specific locations</li></ul>	<p>Grabbing Objects Part 2</p> <ul style="list-style-type: none"><li>• The students will use their robotic hand to move small objects. Their first task is to grab a flower and place it on the table.</li></ul>	<ul style="list-style-type: none"><li>• Block</li><li>• Brick</li><li>• Instructions</li><li>• Light</li></ul>



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	<ul style="list-style-type: none"><li>• Document their investigation</li></ul>	<p>Their second task is to grab an electric plug and insert it into the socket. The students can also choose to build their own objects to use in these tasks.</p> <ul style="list-style-type: none"><li>• Students will use the document tool for comments, images and code snippets</li><li>• Students will share their code and strategies to succeed in this mission</li></ul>	<ul style="list-style-type: none"><li>• motion sensor</li><li>• motor</li><li>• program</li><li>• algorithm</li><li>• sequence</li><li>• input</li><li>• output</li></ul>
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<https://le-www-live-s.legocdn.com/wedo/pdfs/computationalthinkingteacherguide/computationalthinkingteacherguide-en-us-v1.pdf>

The unit outlined on page 16 and 17 of the teacher guide linked above actually contains 4 guided projects as opposed to the 2 in this plan. Depending on time and ability the other 2 projects that introduce iteration, conditions and parallel programming may be used. They could also be used as differentiation for HAP pairs.