

<Understanding Angles>

Subject: Math**Level:** P3**Unit:****Topic:** Angles**Summary**

Students to identify and differentiate between right angles, obtuse angles and acute angles using manipulatives and micro:bits.

Prior Knowledge:	Students should already know: 1. Refer to the P3 IG
Learning Objectives:	By the end of the lesson, students should be able to: 1. Identify and differentiate between Right angles, angles greater than (obtuse) / smaller than a right angle (acute).

Time	Teacher Activities	Purpose	Resources Needed
Introduction/Pre-activity			
Lesson Introduction	<p><u>Engagement (Tuning-in):</u></p> <ul style="list-style-type: none"> Teacher to play an introductory video on right angles, obtuse angles and acute angles. https://www.youtube.com/watch?v=NVuMULQjb3o Before playing the video, teacher will ask the pupils to pay special attention to the specific right angles, obtuse and acute angles in the video. After watching the video, students to mention (verbally) the angles (right angles, obtuse and acute angles) that were shown in the video. 	<ul style="list-style-type: none"> Introduce right angles, obtuse angles and acute angles to students. 	<ul style="list-style-type: none"> Manipulatives Workbook
Lesson development/Main activities			
Lesson Development 1	<p><u>Students learn right angles, obtuse angles and acute angles</u></p> <ul style="list-style-type: none"> Teacher to engage students using authentic examples (with the help of PPT) to explain and differentiate right angles, obtuse angles and acute angles. Students to explore the mathematical content using hands-on activities and manipulatives (Papers and paper fasteners): <ol style="list-style-type: none"> Students to align the papers and fasten them at a point as shown in P3 Maths Workbook page 62. Teacher to guide students to slowly turn one of the paper until it makes 	<ul style="list-style-type: none"> Students learn the concept of right angles, obtuse angles and acute angles. Students will relate the hands-on experience to representations. 	<ul style="list-style-type: none"> Manipulatives Authentic examples provided by teachers(PPT)

Lesson Plan

	<p>an L-shape with the other paper to form the right angle.</p> <p>3. Teacher to guide students to slowly turn one of the paper until it makes an angle greater than a right angle (obtuse) and then an angle smaller than a right angle (acute).</p>		
Lesson Development 2	<p><u>Students explore angles using micro:bit</u></p> <ul style="list-style-type: none"> • Students to work in pairs • Students will take turns to tilt the microbit to measure angles of shapes manipulatives provided. (squares, rectangles and triangles) This will display the angle on the LED grid. Pupils should be able to identify the 3 different angles. • Students need to communicate their mathematical knowledge through interactive micro:bit which will be programmed prior lesson. (eg. This angle is lesser than 90 so this is an acute angle.) • Their partner will check and provide feedback based on their answers and self - assessment rubrics provided. 	<ul style="list-style-type: none"> • The students explore concept by using interactive micro:bit. • Students learn how to communicate mathematical knowledge on angles through formative assessment with element of fun. 	<ul style="list-style-type: none"> ♣ micro:bit with battery pack ♣ Self - assessment rubrics
Lesson Development 3	<p><u>Students show understanding through hands-on activities with mini whiteboards and markers:</u></p> <ul style="list-style-type: none"> • Teachers use interactive micro:bit to pose random question on angles to class (eg: on a visualiser / kahoot) • Students to compete in answering angle questions posed by teachers by writing answers on mini whiteboards or answering on Kahoot. 	<ul style="list-style-type: none"> • To challenge students to think fast and accurately • Showcase their understanding through abstract representation 	<ul style="list-style-type: none"> ♣ micro:bit with battery pack ♣ mini whiteboards and markers / TAB - Kahoot
Closure and consolidation/Post-activity			
Lesson Closure	<ul style="list-style-type: none"> • Teacher to pose questions on explanation of angles to check students' understanding. • Students to complete the exercise in Workbook page 68. 	<ul style="list-style-type: none"> • Students will get to practise identifying the different types of angles. 	<ul style="list-style-type: none"> ♣ Workbook

Contributed by:

Name of School: Zhonghua Primary School

Name of Teacher (Optional):

Date:

Lesson Plan