

EaD Comprehensive Lesson Plans

Strand:	Algebra	Sub-Strand:	Patterns and Relations
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or







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<https://www.TeachersAvenue.net>

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BASIC 8

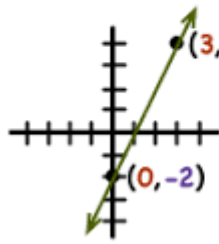
WEEKLY LESSON PLAN – WEEK 6

Content Standard:	B8.2.1.1 Demonstrate the ability to draw table of values for a linear relation, graph the relation in a number plane, determine the gradient of the line and use it to write equation of a line of the form $y = mx + c$.				
Indicator (s)	B8.2.1.1.2 1 Calculate the gradient of a line and use it to write equation of a line of the form $y = mx + c$.		Performance Indicator Learners can calculate the gradient of lines.		
Week Ending	18-10-2024				
Class	B.S.8	Class Size:		Duration:	
Subject	Mathematics				
Reference	Mathematics Curriculum, Teachers Resource Pack, Learners Resource Pack, Textbook.				
Teaching / Learning Resources	Poster, Pictures, Word Chart		Core Competencies:	Demonstrate a thorough understanding of a generalized concept and facts specific to task or situation	
DAY/DATE	PHASE 1 : STARTER	PHASE 2: MAIN			PHASE 3: REFLECTION
MONDAY	Using a Poster showing the steepness slope of hills, roof of buildings, climbing a ladder, explain the concept of gradient.	<div>1. Discuss with learners 5 real life examples of gradients.</div> <div>2. Learners in small groups discuss to discover the practical meaning of gradient.</div> <div>3. Assist Learners to explain the types of gradients.</div> <div>Gradient; the rate of change with respect to distance of a variable quantity, as temperature or pressure, in the direction of maximum change. a curve representing such a rate of change</div> <div>real-life applications of slope; including roofs, roads, handicap ramps, funiculars, cable cars, mountains for skiing, downhill cycling, and snowboarding/dirt boarding, roller coasters, skate ramps, and BMX jumps</div> <div><div>Types of Gradient Slope</div><div>There are four types of "Gradient" or "Slope"</div><div><div><div>Positive (Uphill)</div></div><div><div>Negative (Downhill)</div></div><div><div>Zero (Flat)</div></div><div><div>Vertical (Steepest / Climbable)</div></div></div><div><small>Images Purchased from Photodisc.com</small></div></div> <td><div>Summarize the lesson.</div><div>Exercise;<div>1. State the types of gradients.</div><div>2. Explain 2 types of gradients.</div></div><div>Write 2 real life examples of gradients.</div></td>			<div>Summarize the lesson.</div> <div>Exercise;<div>1. State the types of gradients.</div><div>2. Explain 2 types of gradients.</div></div> <div>Write 2 real life examples of gradients.</div>

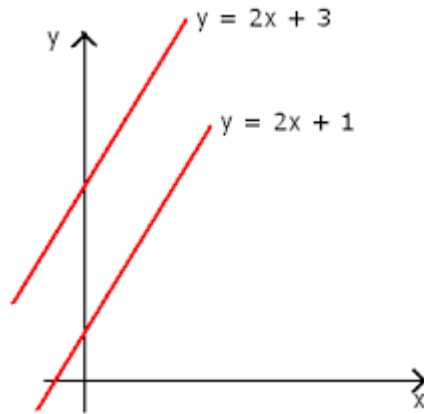
<p>WEDNESDAY</p>	<p>Discuss with Learners the formular for calculating gradient of lines.</p>	<ol style="list-style-type: none"> 1. Demonstrate solving gradients of real-life stories. 2. Assist Learners to solve more questions on finding for gradients . <div data-bbox="544 163 924 465"> <p>Gradient of a Line</p> <p>The gradient of a line shows how steep the straight line is. In the general equation of straight line, $y = mx + c$, the gradient is denoted by the letter m.</p> <p>To calculate the gradient of a straight line through two coordinates (x_1, y_1) and (x_2, y_2):</p> $m = \frac{y_2 - y_1}{x_2 - x_1}$ <p>E.g.</p> $m = \frac{5 - 1}{4 - 2} = \frac{4}{2} = 2$ <p>It can be helpful to think about this formula as: "Change in y divided by change in x" or "Rise over run"</p> </div> <p>How do you calculate the gradient of a slope?</p> <p>Convert the rise and run to the</p> <div data-bbox="544 624 1214 927"> <p style="text-align: center;">SLOPE = 1 : 12</p> </div> <p>same units and then divide the rise by the run. Multiply this number by 100 and you have the percentage slope. For instance, 3" rise divided by 36" run = .083 x 100 = an 8.3% slope</p>	<p>Through questions and answers, conclude the lesson.</p>
<p>FRIDAY</p>	<p>Through questions and answers, review Learners knowledge on the previous lesson.</p>	<ol style="list-style-type: none"> 1. Demonstrate solving questions on finding gradients with two coordinates given. 2. Learners in small groups to practice solving gradients when two coordinates are given. 3. Assist Learners to find the gradients of lines that passes through points. <p>Gradient Slope Formula</p> <div data-bbox="544 1440 1083 1724"> <p>To find the GRADIENT between two points: Point A and Point B</p> <p>The Gradient "m" is:</p> $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\Delta Y}{\Delta X}$ <p>Δ means "change in"</p> </div>	<p>Reflect on Learners understanding of the gradient concept.</p> <p>Exercise;</p> <p>Find the gradient of a line which passes through the point;</p> <ol style="list-style-type: none"> i. A(1,1) and B(7,2) ii. P(-2,4) and Q(3,5) iii. C(3,-2) and D(-3,4)

Find the Slope

A line passing through $(0, -2)$ and $(3, 4)$
 $x_1 \ y_1 \quad x_2 \ y_2$



$$\begin{aligned}\text{Slope} &= \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{4 - (-2)}{3 - 0} = \frac{6}{3}\end{aligned}$$



Name of Teacher:

School:

District: