



Activity type	classroom <input checked="" type="checkbox"/> homework <input type="checkbox"/> independent learning <input type="checkbox"/> other <input type="checkbox"/>		
Activity objectives(s)	Introduce students to vectors as lines with direction and magnitude Show how to define vectors as directed line segments & as single lowercase letters Introduce equal, scalar and negative vectors Show how to add and subtract vectors on a grid diagram		
Activity resources(s)	This lesson is best done with an interactive whiteboard and a set of laptops or in a computer suite.		
Delivery mode	teacher led <input checked="" type="checkbox"/> student led <input type="checkbox"/>	Collaboration type	individual <input checked="" type="checkbox"/> pairs <input checked="" type="checkbox"/> groups <input type="checkbox"/>
Task description	<p>Whole Class Lesson</p> <p>You may wish students to take some notes</p> <p>Display Nat 5 Unit 1 Topic 17.1 on the board and use Examples 1 - 6 of the materials to</p> <ul style="list-style-type: none"> <li>- give the definition of a vector</li> <li>- define a vector as a directed line segment</li> <li>- define a vector with a lowercase letter</li> <li>- show equal vectors</li> <li>- show how to multiply a vector by a scalar</li> <li>- show how to make a vector negative</li> </ul> <p>Computer task</p> <p>Allow students to investigate how to add and subtract vectors using vector diagrams in the activity called Adding &amp; Subtracting vectors</p> <p>This activity shows how to draw the resultant vectors of</p> <p style="margin-left: 40px;"> <math>a + b</math>  <math>a + 2b</math>  <math>a - b</math>  <math>b - a</math>  <math>b - 2a</math> </p> <p>Students should then be equipped to try the Vectors in 2D exercise</p> <p>It covers reversing the direction, scaling, adding vectors, subtracting vectors, scaling &amp; adding and/or subtracting vectors and adding 3 vectors</p>		



# SCHOLAR Lesson Outline

Differentiation (Alternative use)	
Hints & Tips	<p>The materials save a lot of time and will save you from having to draw lots of diagrams on the board.</p> <p>The activity shows students how to draw vectors on a grid and how to put them together to find a resultant vector. The exercise allows students to add, subtract &amp; scale vectors and to move vectors around on the screen. The resultant vector is then drawn in automatically.</p> <p>Topic 17.1 goes on to look at vector journeys but it is a good idea to stop after the Vectors in 2D exercise and give students the opportunity to do some drawing of resultant vectors for themselves either from the board or from the textbook.</p> <p>Ask students to show you their score from the exercise and send them back to try again if they do not get 8/8. Remember it is only possible to get full marks if students construct the correct resultant vector. Questions are randomised so it is unlikely that they can copy their neighbour.</p> <p>Remind students that they can go back and look at the activity if they get stuck on the exercise.</p>
Notes	<p>This lesson may take 20-30 minutes or more on SCHOLAR depending on whether you get students to take notes or not.</p>