

# 2D SCIENCE 'MOTION UNIT'

## Unit Outline

Page	Topic		Activities	Text ref.
<b>Chapter 9</b>				
1.	Significant Figures	<input type="checkbox"/>	<b>HANDOUT:</b> Significant Figures	344 - 349
2.		<input type="checkbox"/>	<b>HANDOUT:</b> Rules	
3.		<input type="checkbox"/>	<b>WKSHT:</b> Significant Figures	
4.		<input type="checkbox"/>	<b>ASSIGNMENT:</b>	
5.		<input type="checkbox"/>	<b>WKSHT:</b> 9.5 Introduction to Motion	354 - 359
6.		<input type="checkbox"/>	<b>QUESTIONS:</b> # 1, 2, 7 & 9	358
7.	Distance – time graphs	<input type="checkbox"/>	<b>HANDOUT:</b> 9.7 Distance – Time Graphs	362 - 365
8.		<input type="checkbox"/>	<b>ACTIVITY:</b> Constructing a Line Graph	
9.		<input type="checkbox"/>	<b>QUESTIONS:</b> # 3, 5, & 6	365
10.		<input type="checkbox"/>	<b>WKSHT:</b> Determining the Speed from d/t Graphs	
11.		<input type="checkbox"/>	<b>HANDOUT:</b>	
12.		<input type="checkbox"/>	<b>LAB:</b> Ticker Tape (formal lab write-up)	
13.		<input type="checkbox"/>	<b>REVIEW QUESTIONS:</b> # 4, 9, 10, 11	376
14.		<input type="checkbox"/>	<b>QUEST:</b> Chapter 9	
<b>Chapter 11</b>				
15.	Introduction to vectors	<input type="checkbox"/>	<b>WKSHT:</b> 11.1 Vectors – Position and Displacement	412 - 417
16.		<input type="checkbox"/>	<b>QUESTIONS:</b> # 5, 6, 8	417
17.		<input type="checkbox"/>	<b>WKSHT:</b> 11.1 Review	
18.	Adding vectors on a straight line	<input type="checkbox"/>	<b>WKSHT:</b> 11.3 Adding Vectors Along A Straight Line (sample problems)	420 - 423
20.		<input type="checkbox"/>	<b>QUESTIONS:</b> # 3, 5, 6, 10	423
21.		<input type="checkbox"/>	<b>ACTIVITY:</b> Bug Race	
22.	Adding vectors on an angle	<input type="checkbox"/>	<b>WKSHT:</b> 11.5 Adding Vectors on an Angle	426 - 429
23.		<input type="checkbox"/>	<b>QUESTIONS:</b> # 1, 2, 3, 5a & b	
24.		<input type="checkbox"/>	<b>ACTIVITY:</b> Finding Directions	
25.		<input type="checkbox"/>	<b>WKSHT:</b> BM 11.5b Adding Vectors: Exercise	
26.		<input type="checkbox"/>	<b>ASSIGNMENT:</b>	
27.	Velocity	<input type="checkbox"/>	<b>NOTES:</b> 11.7 Velocity	432 - 435
28.		<input type="checkbox"/>	<b>QUESTIONS:</b> # 3, 5, 7 p. 436	
29.		<input type="checkbox"/>	<b>ACTIVITY:</b> BM 11.7c Velocity Calculations: Exercise	
30.		<input type="checkbox"/>	<b>ACTIVITY:</b> Hiking Trail	
31.		<input type="checkbox"/>	<b>REVIEW QUESTIONS:</b> # 4, 6, 10, 15	442 - 443
32.		<input type="checkbox"/>	<b>QUEST:</b> Chapter 11	
<b>Chapter 12</b>				
33.	Position – time graphs	<input type="checkbox"/>	<b>NOTES:</b> 12.1 Position - Time Graphs	446 - 450
34.		<input type="checkbox"/>	<b>QUESTIONS:</b> # 1, 5	450
35.		<input type="checkbox"/>	<b>ACTIVITY:</b> Describing Position – Time Graphs “Walking the Dog”	
36.		<input type="checkbox"/>	<b>ACTIVITY:</b> Helicopter Challenge	
37.		<input type="checkbox"/>	<b>ACTIVITY:</b> BM 12.1c Position – Time Graphs: Exercise	
38.	Velocity – time graphs	<input type="checkbox"/>	<b>NOTE:</b> 12.2 Velocity – Time Graphs	452 - 457
39.		<input type="checkbox"/>	<b>WKSHT:</b>	
40.		<input type="checkbox"/>	<b>QUESTIONS:</b> # 2, 7	
41.		<input type="checkbox"/>	<b>ACTIVITY:</b> BM 12.2c Velocity – Time Graphs: Exercise	
42.		<input type="checkbox"/>	<b>ACTIVITY:</b> Stunt Driving	
43.	Acceleration	<input type="checkbox"/>	<b>NOTES:</b> 12.5 Acceleration and Velocity	462 - 465
44.		<input type="checkbox"/>	<b>QUESTIONS:</b> # 5, 7, 8	
45.	Displacement	<input type="checkbox"/>	<b>WKSHT:</b> 12.6 Displacement from a Velocity – Time Graph	466
46.		<input type="checkbox"/>	<b>NOTE:</b> Displacement - Constant Acceleration	467 - 473
47.		<input type="checkbox"/>	<b>QUESTIONS:</b> # 4, 7 12	

48.		<input type="checkbox"/>	<b>REVIEW QUESTIONS:</b> # 1 to 5, 7, 16, 19	490 - 491
49.		<input type="checkbox"/>	<b>ACTIVITY:</b> Understanding Concepts	
50.		<input type="checkbox"/>	<b>TEST:</b> Motion Unit 'Wrap-up'	

**Formulas:**

<b>Average velocity</b>	$\vec{V}_{av} = \frac{\vec{\Delta d}_R}{\Delta t}$	$\vec{V}_{av} = \frac{\vec{\Delta d}_1 + \vec{\Delta d}_2}{\Delta t}$
	$\vec{V}_{av} = \frac{\vec{\Delta d}}{\Delta t}$	$\vec{V}_{av} = \frac{\vec{\Delta d}_2 - \vec{\Delta d}_1}{\Delta t}$
<b>Acceleration</b>	$\vec{A}_{av} = \frac{\vec{\Delta V}}{\Delta t}$	$\vec{A}_{av} = \frac{\vec{\Delta v}_2 - \vec{\Delta v}_1}{\Delta t}$
	$\vec{V}_1 = \vec{V}_2 - (\vec{a}_{av} \times \Delta t)$	
	$\vec{V}_2 = \vec{V}_1 + (\vec{a}_{av} \times \Delta t)$	