PHYSICS YEAR 11 - MODULE 2 - LESSON 2

Vector Forces — Resolution and Equilibrium

Use this worksheet after reading the lesson to practise the key ideas and prove you can meet the success criteria.

Name _____

Date _____

Class _____

1. Key Ideas

Forces do not just add up — they add up in the direction they point. Getting the direction wrong means getting the answer wrong.

- What a resultant force is
- Why vector addition is not the same as scalar addition

2. Success Criteria

By the end, you should be able to:

- What a resultant force is
- How to add forces in 1D algebraically
- What $F_x = F\cos\theta$ and $F_y = F\sin\theta$ mean

3. Key Terms

Key idea
The central concept from Vector Forces — Resolution and Equilibrium.

Evidence
Information, observations or calculations used to support an answer.

Explain
Give a reasoned answer that links cause and effect.

Apply
Use a learned idea in a new example, problem or scenario.

4. Activity: Build the Lesson Map

Use the lesson to complete the table. Keep answers brief but specific.

Prompt	Your answer
Main concept	
Important example	
Common mistake to avoid	
How this links to the next lesson	

5. Short Answer Questions

1. Explain this lesson goal in your own words: "What a resultant force is". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "How to add forces in 1D algebraically". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Vector Forces — Resolution and Equilibrium: "What $F_x = F\cos\theta$ and $F_y = F\sin\theta$ mean".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Vector Forces — Resolution and Equilibrium but does not use evidence or reasoning.

Improve the answer by writing a stronger response that uses accurate terminology, a relevant example and a clear explanation.

7. Multiple Choice

1. What is the best first step when answering a question about Vector Forces — Resolution and Equilibrium?

☐ A. Identify the key concept being tested

☐ B. Write every fact from memory

☐ C. Ignore the command word

☐ D. Skip examples and evidence

2. Which answer would show stronger understanding of Vector Forces — Resolution and Equilibrium?

☐ A. An answer with accurate terms and reasoning

☐ B. A copied definition only

☐ C. A single-word response

☐ D. An answer with no example

3. What should you do if a question asks you to explain?

☐ A. Link the idea to a reason or cause

☐ B. List unrelated facts

☐ C. Only draw a diagram

☐ D. Write the shortest possible answer

8. Success Criteria Proof

Finish with evidence that you can do each success criterion.

SUCCESS CRITERION 1

Prove that you can: What a resultant force is

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: How to add forces in 1D algebraically

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: What $F_x = F\cos\theta$ and $F_y = F\sin\theta$ mean

BAND 5 4 MARKS

One thing I still need help with: