



I Can Statement - Year 8

Pressure & Moments

Unit/Topic Overview	Pre-taught Vocabulary	
This topic explores the fact that Pressure and moments are two fundamental concepts in physics that describe how forces affect the objects around us. Pressure measures how a force is spread out over a specific surface area; a sharp knife cuts easily because it concentrates a large force onto a tiny area, creating high pressure. In contrast, moments are all about the turning effect of a force around a fixed pivot, or fulcrum. Whether you are using a see-saw, opening a door, or loosening a tight bolt with a wrench, you are using a moment. By understanding how force, area, and distance interact, we can learn how to manipulate forces to make heavy lifting and everyday tasks much easier.	pressure	clockwise
	moment	equilibrium
	area	lever
	pivot	effort
	perpendicular	load

RAG Rating:		Start	End
1.	I can define pressure as the force exerted per unit area. They should understand that a force spread over a large area produces low pressure, while the same force over a small area produces high pressure.		
2.	I can calculate pressure using the standard formula and apply the correct units (Newtons per square metre, N/m ² or Pascals, Pa). $P=F/A$		
3.	I can explain real-life applications of solid pressure, such as why snowshoes have a large area to prevent sinking (low pressure) and why a knife has a sharp edge (high pressure).		
4.	I can explain that pressure in liquids acts in all directions and increases with depth due to the weight of the water above.		
5.	I can describe how the Earth is surrounded by a layer of air that exerts pressure and explain why atmospheric pressure decreases as altitude increases (fewer air molecules overhead).		
6.	I can define a Moment as the turning effect of a force and identify the pivot (or fulcrum) around which the rotation occurs.		
7.	I can calculate the size of a moment using the force applied and the perpendicular distance from the pivot, using the unit Newton-metres (Nm). Moment = Force x Perpendicular Distance from Pivot		
8.	I can explain that for an object to be in equilibrium (balanced), the sum of the clockwise moments must equal the sum of the anti-clockwise moments.		
9.	I can describe how levers (like crowbars or scissors) work as force multipliers, allowing a small effort to move a large load by increasing the distance from the pivot.		
10.	I can identify how gears and pulleys utilize the principles of moments to change the direction or magnitude of a force in mechanical systems.		

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