

Mathematics in Education and Industry

Over 50 years at the forefront of Mathematics Education



Practical activities in mechanics

Warm up

If it takes 3 men 5 days to paint 2 houses, how long will it take 5 men to paint 4 houses?





What assumptions did you make?







Common assumptions in mechanics

- The object is a particle
- No air resistance
- No friction ('smooth')
- Uniform objects
- Light objects (e.g. strings)
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5 mechanics practicals

 Being developed as part of an MEI project with the IET.

• Effective demonstration of mechanics principles in mathematics.

 Use readily and cheaply available equipment and materials.

Suitable for the new 2017 A level curriculum.



5 mechanics practicals

1. Pulleys: connected particles in motion

- 2. Inclined planes: friction and resolving forces
- 3. Pulleys: forces in equilibrium
- 4. Beam and mass: exploring moments

5. Projectiles: motion in two dimensions

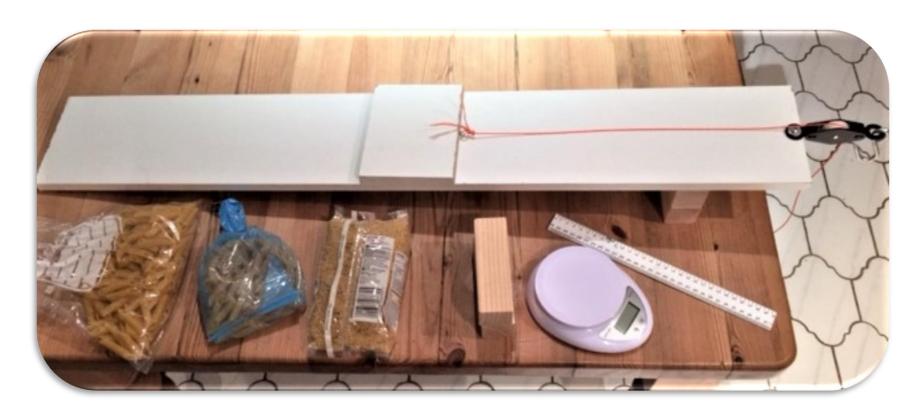


1. Pulleys: connected particles in motion



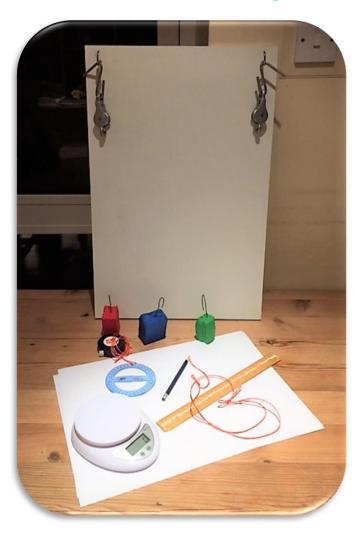


2. Inclined planes: friction and resolving forces





3. Pulleys: forces in equilibrium





4. Beam and mass: exploring moments





5. Projectiles: motion in two dimensions

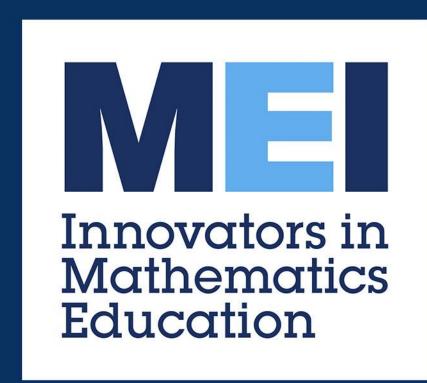




Practical activities in mechanics

- How easy were the practicals to master and complete?
- How would you use them to develop students' understanding?

Further thoughts and suggestions.



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More mechanics in action...

Another balancing act

Projectile motion