

Teaching notes

This petal book explores the topic with some calculations and key concepts. The image below shows the completed activity.

The activity could be differentiated by giving students a choice of petals to complete.

The centre can be used by students in different ways e.g.

- write down the 5 most important keywords
- record the thing they find most difficult about the topic
- write down a question they have about the topic.



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| What is the equation for work done? | work done = force x distance ($W = F s$) |
| A man pushes a box with a force of 40 N a distance of 500 cm. How much work is being done? | $40 \text{ N} \times 5 \text{ m} = 200 \text{ J}$ |
| A car drives 5 km and the engine provides a force of 1000 N. How much work is being done? | $1\,000 \text{ N} \times 5\,000 \text{ m} = 5\,000\,000 \text{ J}$ $= 5\,000 \text{ kJ}$ |
| How are work done and energy linked? | Work done is equal to the energy transferred. They are both measured in joules. |
| A weightlifter used 100 N of force to lift a weight 0.75 m. How much work is he doing? | $100 \text{ N} \times 0.75 \text{ m} = 75 \text{ J}$ |
| Calculate the work done when a pushchair is moved 2 m up a road with a force of 12 N. | $12 \text{ N} \times 2 \text{ m} = 24 \text{ J}$ |
| List 3 examples of work being done and energy being transferred. | |
| What units are force, work done, energy and distance measured in? | Force: newtons, N Work done: joules, J Energy: joules, J Distance: metres, m |

Task

Cut out the petal book.

Write the answers to the questions on the other side of each petal.

