

Ch 4 - 1

Dec 9 - 8:01 PM

Work is.....

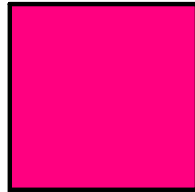
hard to find

money maker
Supporting

tiring
boring
spontaneous

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There must be force and motion,
and the force must be in the
direction of the motion.



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The formula for work is:

$$W = F \times D$$

$F = \text{force (N)}$
 $D = \text{distance (m)}$

What do we measure these in?

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A student's backpack weighs 10N. She lifts it from the floor to a table 0.75m high. How much work is being done?

$$W = 10 \cdot 0.75$$

$$7.5 \text{ J}$$

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How much work is being done when you lift a 18N object 1.5m off the ground?

$$18 \text{ N} \cdot 1.5 \text{ m}$$

$$27 \text{ J}$$

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A dancer lifts a 400N ballerina 1.4m off the ground and holds her for 5 seconds. How much work did he do?

$$400\text{N} \cdot 1.4\text{m}$$
$$560\text{J}$$



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