Physics - Key Stage 3 - Energy

Lesson 10: Power and Energy

Mrs Evans

Independent practice: answer the questions

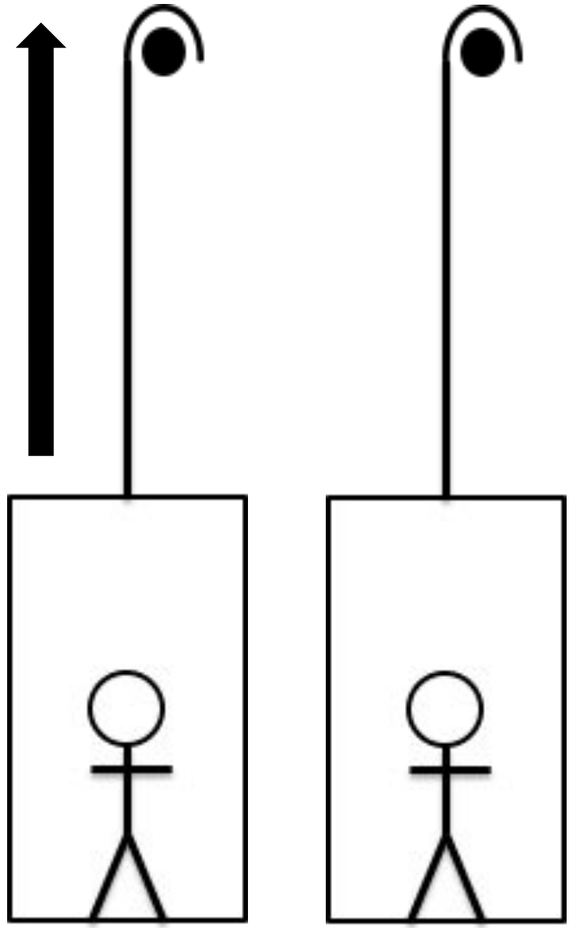
1. What is the definition for power?

2. Look at the diagrams:
a. Which lift is more powerful?

b. Which lift will raise the man faster?

c. Which lift transfers energy slower?

d. Which lift will take more time to raise the man?



Lift 1
Power of
200 W

Lift 2
Power of
300 W

Independent practice: complete the table

	mW	W	kW
a	4000	4	0.004
b	___ ? ___	26	___ ? ___
c	170	___ ? ___	___ ? ___
d	___ ? ___	___ ? ___	99

	An oven transfers **450 kJ** in **80 s**. What is the **power** of the oven?
Values **E**quation **S**ubstitute **R**earrange **A**nswer **U**nits	

Independent practice: calculate power for...

Round your answers to the nearest whole number

1. ...a bulb that transfers 300 J every 30 s?

2. ...a phone that transfers 750 J every 25 s?

3. ...a fan that transfers 8653 J every 19 s?

4. ...an oven that transfers 4 kJ every 60 s?

5. ...a toaster that transfers 200 mJ every 50 s?

Scaffolds for these questions, on the following pages

Values
Equation
Substitute
Rearrange
Answer
Units

Question 1	Calculate the power for a bulb that transfers 300 J every 30 s?
Values **E**quation **S**ubstitute **R**earrange **A**nswer **U**nits	

Question 2	Calculate the power for a phone that transfers 750 J every 25 s?
Values **E**quation **S**ubstitute **R**earrange **A**nswer **U**nits	

Question 3	Calculate the power for a fan that transfers 8653 J every 19 s?
Values **E**quation **S**ubstitute **R**earrange **A**nswer **U**nits	

Question 4	Calculate the power for an oven that transfers 4 kJ every 60 s?
Values **E**quation **S**ubstitute **R**earrange **A**nswer **U**nits	

Question 5	Calculate the power for a toaster that transfers 200 mJ every 50 s?
Values **E**quation **S**ubstitute **R**earrange **A**nswer **U**nits	