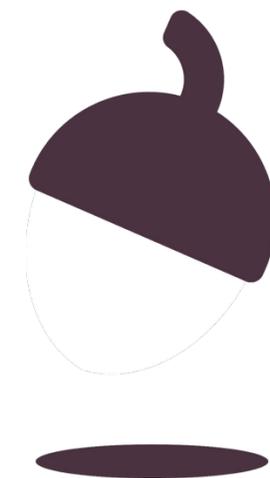


Science - Key Stage 3  
Electricity and Magnetism

# Lewis Howard Latimer - Worksheet

The man who lit up London

Miss White



**OAK**  
NATIONAL  
ACADEMY

# Questions from video



# Independent task

Give two advantages and one disadvantage of LED bulbs over filament bulbs

Think about:

Which is more efficient?

Which lasts longer?

Which costs more?



# Comparing different bulbs

1. Compare the **efficiency** of the bulbs

The LED bulb is \_\_\_\_\_times more efficient than the Carbon filament bulb

2. Compare the **lifetime** of the bulbs

3. Which bulb is best? Give a reason for your answer.

The LED bulb is\_\_\_\_\_, this is because...

Type of bulb	Efficiency	Lifetime in hrs
Carbon Filament bulb	20%	10 000
LED bulb	60%	90 000



# Answers



# Independent task - Answers

Two advantages:

1. LED bulbs are **more efficient**  
(or waste less energy)
2. They **last longer**

One disadvantage

1. They **cost more**



Credit: Wikipedia



# Comparing different bulbs - answers

1. The LED bulb is **three times more efficient** than the Carbon filament bulb
2. The LED bulb lasts **nine times longer** than the carbon filament bulb.

You could also say:

The carbon filament bulb lasts a **ninth of the time** as the LED bulb.

3. The **LED bulb** is best because...

It lasts longer

It's more efficient (wastes less proportion of its energy)

It has a lower power input (uses less energy per second)

