

Worksheet 1.3.5 Using electricity responsibly

1 Comparing bulbs



We can compare a traditional filament bulb with a modern CF or low energy bulb.

1. What do people want to be true about a light bulb?

.....

2. Why are some people very keen on low energy, or CF, bulbs?

.....

3. Why do some people not like them?

.....

2 Comparing costs



By looking at the cost of buying each type of bulb and paying for the amount of electricity it uses we can compare the total running cost. Enter your answers in the table.

	Type of bulb	Filament	Compact fluorescent	LED
Cost of buying bulb	Cost of purchase	£0.99	£4.99	£9.98
	Number of hours before failing:	1,000 hours	10,000 hours	20,000 hours
	Life expectancy, if used for 1000 hours per year: years years years
	Cost of bulb per year (purchase cost/life expectancy)	£.....	£.....	£.....
Cost of supplying bulb with electricity	Number of units of electricity used per day (in three hours):	0.3	0.06	0.03
	Cost of electricity/unit	8p	8p	8p
	Cost of electricity per dayppp
	Cost of electricity per year	£.....	£.....	£.....
Total	Running cost of bulb per year (cost of bulb per year + cost of electricity per year)	£.....	£.....	£.....

Worksheet 1.3.5 Using electricity responsibly

4. Look at the filament bulb and see how many hours use we can expect to get from it. If we use it for 1,000 hours per year, how long will it last?

.....

5. Now work out how much we would be spending on bulbs (for that one lamp) for the year.

.....

6. If the filament bulb uses 0.3 units of electricity a day, how much will that cost?

.....

7. How much will it cost per year

.....

8. Now add up the cost of providing the bulb for a year to the cost of the electricity it uses.

.....

9. Repeat for the other two types of bulb.

.....
.....
.....
.....
.....

3 Making a decision



10. What happens to the argument if:
a. The bulb is used for fewer hours in a day?

.....

- b. Electricity goes up in price?

.....

- c. LED bulbs come down in price?

.....