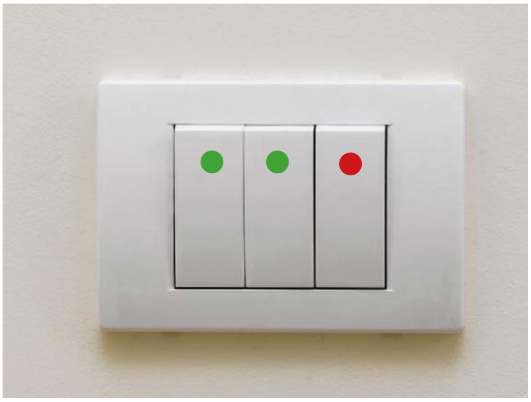
Opportunity 1 – Labelling Light Switches

Common practice in a school is for all of the lights in a classroom/hall to be automatically switched on when entering the room without checking to see if there is sufficient natural light and whether some or all of the lights need to be switched on.

Often with new LED lighting all of the lights are on one switch but if lights are arranged in banks or rows in a room with multiple light switches it's possible to switch rows of lights on or off independently therefore only using lights as necessary, reducing energy usage, emissions and saving money. This can be achieved by carrying out the following:

1. With pupils from the Action Team identify which rooms have multiple light switches.
2. On a day when there is a lot of natural daylight, not too sunny nor too overcast proceed as follows:

- Turn off all the lights and starting furthest from the window, switch each row back on, one at a time, estimating each time if there is enough light to work with.
- When there's agreement that there is sufficient light in the room, stop switching lights on
- Consult with the class teacher for each room to get agreement on which rows of lights could normally be left switched off.
- **Circular red stickers or red crosses** to be used to mark the switches of lights to be left off once agreement has been reached so that pupils and staff will know that these lights are NOT to be switched on during normal daylight hours.
- **Green circular stickers or green ticks** could be used to mark the switches for lights that are needed for normal usage.
- **Red circles or red crosses** – Do not switch on
- **Green circles or green ticks** – Switch lights on as necessary



- This will need to be trialled to ensure all staff are happy with the system and once approved the stickers could be replaced with red and green permanent marker pen as appropriate.
- Common sense has to be used as light levels vary during the day and time of year.

Additional areas to be included in this activity:

- Light switches in corridors. Lights in corridors are often left on continuously and their use needs to be monitored with lights being switched off as daylight levels increase.
- Lights above cupboards offer little benefit therefore can usually be left off permanently
- Lights are often left on in storage cupboards and should be switched off after use

- Toilets are problem areas with lights often being left on all day

Motion sensors that can be fitted to lighting systems cause the lights to come on when movement is detected. They are a good idea in cupboards and toilets where there is no natural daylight.

Installing them in areas where there is natural daylight can result in lights coming on unnecessarily when there is sufficient natural daylight. If motion sensors are to be fitted a recommendation would be to fit them in conjunction with lux, or light level, sensors that will only activate the lights if the level of natural light is below a certain level. Ensure that your school has instructions for turning lights off during holidays.

Something else to consider when installing motion and lux sensors is that staff and pupils will not be learning the behaviour change required as the sensors are doing the work for everyone and the behaviours will not be replicated at home and in the wider community.

Arrange an assembly with pupil participation to inform everyone of what you are trying to achieve and their role in this.

Organise a poster and sticker competition for winning posters and stickers to be displayed all around the school to remind everyone constantly to only use lights as necessary and to switch off after use.

How much could be saved?

Lighting accounts for approximately 20% of a school's electricity costs therefore reducing the number of lights being used will save a proportion of the 20%.

To give you an idea of what can be saved carry out the following:

Calculate 20% of your annual electricity bill	**£**	**A**
Approximate % of lights that can now be kept switched off	**%**	**B**
Amount of money that could be saved is A x B/100 = C	**£**	**C**

Other methods of reducing energy from lighting

- Upgrade lighting to energy efficient Light Emitting Diodes (LED). The reduction in energy usage and costs are substantial and enable a very short payback period. For example, a 60W light bulb costs £17 to run for 2,000 hours whereas a 12W LED bulkhead light costs £3.40.

- Install Solar Photovoltaic Panels (Solar PV) but only after doing all you can to reduce the electricity consumed in the school