



WWF

STARTER  
KIT

MALAYSIA

2019

Eco-Schools Programme Starter Kit

ENERGY



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# WHAT IS ECO-SCHOOLS STARTER KIT?

The Starter Kit is a handbook for both students and teachers which provides them with a series of ideas to organise and carry out Action Plans and activities related to the ten Eco-Schools themes. By using the starter kit as a guide, students will be able to combine creativity and problem-solving elements to engage their school community in protecting the environment.

Remember, this starter kit is just a guideline! We encourage students to come up with their own initiatives and ideas based on the Seven Steps Methodology and Eco-Themes.

The Seven Steps Methodology will also help your school to implement the eco-projects smoothly.



## ENERGY

Suggests ways in which all members of the school can work together to increase awareness and to improve energy efficiency within the school.

# DEFINITIONS

## **Problem(s) :**

The environmental issue(s) your school is facing.  
(Ex: To reduce 10% of the water bill by July 2019)

## **Goal :**

The problem(s) which you want to solve at your school. (Ex:  
To increase awareness)

## **Target Audience :**

A group of individuals/people specifically identified to carry  
out certain activities.  
(Ex: Eco-committee/canteen operator/gardener)

## **Measure of Success :**

Methods to determine the success of the activities.  
(Ex: Measurement using water bill/electricity bill)

## **Collaborators :**

Individuals/organisations/city councils that you may want to  
work with to achieve your goal. (Ex: Engage with an  
environmental NGO (Non-Governmental Organisation) to  
present water conservation to students & teachers)

## **Resource Streams :**

Source of funding to run your activities.  
(Ex: Fundraising/In-kind donation)

## **Cost :**

The estimated amount of money needed to carry out the  
entire activity.

# SUGGESTED ACTIVITIES FOR ENERGY

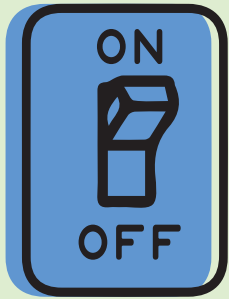
## To achieve Sustainable Development Goals (SDGs) 7,12 and 13



For more info,  
please visit [sustainabledevelopment.un.org/?menu=1300](https://sustainabledevelopment.un.org/?menu=1300)  
For additional resources on the SDGs,  
check out [worldslargestlesson.globalgoals.org/](https://worldslargestlesson.globalgoals.org/)

DIFFICULTY: ★☆☆

# TALK & SEMINAR



Give talks about 'Save Energy' and educate children and parents to learn about saving energy.

## TIPS:

- Invite other Eco-Schools from other states/countries to share their energy projects.
- Invite expert speakers to share about the importance of energy saving.

All the contents above are only suggestions

02

# HOW CAN WE DO IT?

## Problem(s)?

High wastage of electricity and high electricity bill at home and school.

## Goal?

To encourage energy users to reduce usage and cost of electricity, & to improve electrical safety within school compound.

## Target Audience?

Parents, students, teachers, non-teaching staff and the public.

## Measure of Success?

A decrease in electricity bill.

## Collaborators?

Parent-Teacher Association (PTA), students and expert speakers in energy efficiency.

## Resource Streams?

NGOs, Parent-Teacher Association (PTA), Maintenance Department.

## Cost?

<RM100

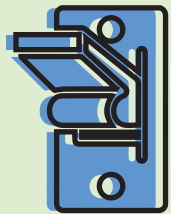
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All the contents above are only suggestions

03

DIFFICULTY: ★☆☆

# LABELS & STICKERS



Please turn  
off the light  
when not  
in use



Unplug  
electrical  
appliances when  
not in use.  
(only if the wall plug  
has no switch)

Place stickers near  
switches as reminders.

Place stickers around switches  
and sockets to remind students  
and staff to switch it off etc.

## TIPS:

Some electrical appliances have energy saving mode where you can switch to when the appliance is not being used.

## DID YOU KNOW?

When plugged in but not being used, electrical appliances still draw energy and can account for 10% of the electricity bill each month.

# HOW CAN WE DO IT?

## Problem(s)?

High wastage of electricity and less awareness and practice about saving energy.

## Goal?

To reduce the number of electrical appliances that are switched on but not in use.

## Target Audience?

Students and non-teaching staff.

## Measure of Success?

Decrease in electricity bill and positive attitudes toward energy saving practices.

## Collaborators?

Students, parents, teachers and Facilities/Maintenance Department.

## Resource Streams?

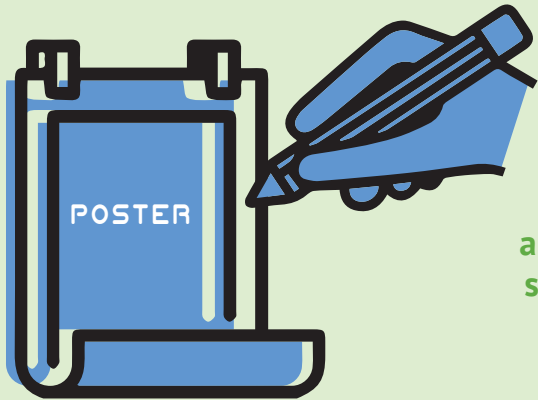
Parent-Teacher Association (PTA) & art supplies.

## Cost?

<RM100

DIFFICULTY: ★☆☆

# POSTER COMPETITION



Organise poster competition to raise awareness about energy saving among students.

## TIPS:

- Red text can be used to draw attention, but avoid blue and yellow, which are hard to read.
- Try to use cartoons or infographic to illustrate your messages.

# HOW CAN WE DO IT?

## Problem(s)?

High wastage of electricity and less awareness about saving energy.

## Goal?

Increase awareness among students and non-teaching staff to be more conscious of energy usage.

## Target Audience?

Students and non-teaching staff.

## Measure of Success?

A decrease in electricity bill and positive attitudes toward energy saving practices.

## Collaborators?

Students, parents, teachers, art class and environmental oriented club.

## Resource Streams?

Art supplies.

## Cost?

RM100-RM300

DIFFICULTY: ★★☆☆ +

# IMPROVE SCHOOL POLICY & TIMETABLE

Rotations during break and lunch by eco-committee, prefects or teachers in charge to check if the electrical appliances are switched off or not.

Duties	Mon	Tue	Wed	Thu	Fri
Switch off the computer	Ali	Hui Ru	Jia Hui	Yin Herng	Devi
	Ngee Siang	Jung Sion	Muthu	David	Fatimah
Switch off the lights	Felicia	Siti	Atiqah	Malini	Nadiyah
	Muhammad	Nasma	Wen Yi	Aikim	Cynthia
Switch off the fans	Xin Ping	Yu Tong	Munirah	Wei Jia	Lavis
Switch off the air conditioner	Natasha	Win Sim	Nikitha	Joshua	Henry

Have a timetable in each class of who is in charge of the electrical appliances in their classroom.

## DID YOU KNOW?

The school's usage of electricity usually exceeded its average monthly cost, incurring an excess expenditure of 10-20%.

# HOW CAN WE DO IT?

## Problem(s)?

Not many students are aware of excess energy consumption and school's high electricity bill.

## Goal?

Students and teachers will adopt an energy saving habit.

## Target Audience?

Students, teachers and non-teaching staff.

## Measure of Success?

A decrease in electricity bill.

## Collaborators?

Eco-committee, class teachers, class monitors, Parent-Teacher Association (PTA) and Prefect Board.

## Resource Streams?

Parent-Teacher Association (PTA) and class fund.

## Cost?

<RM100



DIFFICULTY: ★★☆☆

# HOUSE POINTS & REWARDS



Get classes and school management to keep track of their energy saving practices. Give rewards for classes which have earned the highest points.

## WHY REWARDS?

- Encourages positive behaviour
- Provides motivation and healthy competition
- Creates excitement by gamifying tasks
- Boosts self-esteem

All the contents above are only suggestions

# HOW CAN WE DO IT?

## Problem(s)?

High usage of electricity.

## Goal?

Increase awareness among students and non-teaching staff to be more conscious of energy usage.

## Target Audience?

Non-teaching staff, teachers, students and parents.

## Measure of Success?

A decrease in electricity bill and instill positive attitudes toward energy saving practices.

## Collaborators?

Prefect Board, environmental oriented club.

## Resource Streams?

Parent-Teacher Association (PTA) and environmental oriented club.

## Cost?

RM100-RM300

All the contents above are only suggestions

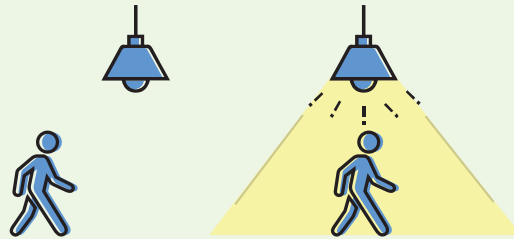


DIFFICULTY: ★★☆☆

# CHANGE OF LIGHT



Replace all the light bulbs in school with LED/energy efficient light bulbs.



If your school has an extra fund, change all external lights to motion sensor lights.

## DID YOU KNOW?

Current LED bulbs are 6-7 times more energy efficient than conventional incandescent lights and reduce energy usage by more than 80%.

All the contents above are only suggestions

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# HOW CAN WE DO IT?

## Problem(s)?

High usage of electricity.

## Goal?

To replace all light bulbs in schools with LED light bulbs.

## Target Audience?

Teachers, parents, students and non-teaching staff.

## Measure of Success?

A decrease in electricity bill.

## Collaborators?

Parent-Teacher Association (PTA), TNB, NGOs and local council

## Resource Streams?

Parent-Teacher Association (PTA), electrical companies and local council.

## Cost?

>RM300

All the contents above are only suggestions

13

DIFFICULTY: ★★☆☆

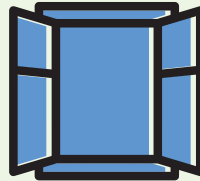
# AIR CONDITIONER USAGE



Replace the older air-conditioners with energy saving air conditioners in classes. It will help the ozone layer and also saves money.



Encourage the usage of open-air classrooms or outdoor learning areas for teaching.



Have a day where air conditioners are to be switched off, especially during morning class or rainy days.

## DID YOU KNOW?

Leaving the air conditioner on in an office/classroom for one extra hour a day uses enough energy in a month to power a TV for more than a year.

# HOW CAN WE DO IT?

### Problem(s)?

High amount of carbon/F gases emission to the atmosphere and high energy consumption.

### Goal?

To ensure efficient use of air conditioning units in school.

### Target Audience?

Students, teachers, parents and non-teaching staff.

### Measure of Success?

A decrease in electricity bill.

### Collaborators?

Electrical appliance companies, local council, Parent-Teacher Association (PTA) and Suruhanjaya Tenaga.

### Resource Streams?

Fundraising/donations, Parent-Teacher Association (PTA) and local council.

### Cost?

>RM300

DIFFICULTY: ★★ ★

# ENERGY MONITORING



An hourly/daily monitoring system of energy use.



Have air-conditioner and lighting management systems in school.  
Tips: Speak to your school's maintenance department for more inputs.



Conduct an environmental review of energy consumption. Collect data and use the findings to develop your action plan.

## WHY ENERGY MONITORING?

Energy monitoring helps in assessing your electrical appliance's performance & spotting the problem that are leading to higher energy consumption.

All the contents above are only suggestions

# HOW CAN WE DO IT?

### Problem(s)?

Unable to recognise which electrical appliances that consume most energy.

### Goal?

Better tracking of energy usage.

### Target Audience?

Students and Maintenance Department.

### Measure of Success?

Reduction in energy costs.

### Collaborators?

Energy management services and local council.

### Resource Streams?

Local council, fundraising effort and Parent-Teacher Association (PTA).

### Cost?



All the contents above are only suggestions

+ DIFFICULTY: ★★★ ◇

# SCIENCE FAIR ON RENEWABLE ENERGY



### Science Exhibition

Get your students to exhibit their projects related to RE.



### Science Talk

Invite expert speakers to speak on future of RE.



### Science Workshop

Organise a science workshop and invite other Eco-Schools to showcase projects on RE to public.

## DID YOU KNOW?

One wind turbine can produce enough electricity to power up to 300 homes.

All the contents above are only suggestions

# HOW CAN WE DO IT?

### Problem(s)?

Lack of public awareness about energy consumption and the existing renewable energy that can be used.

### Goal?

Increase in awareness and preferences for renewable energy.

### Target Audience?

Students, teachers and public.

### Measure of Success?

Surveys on how much the public knows about renewable energy.

### Collaborators?

NGOs, local council and Parent-Teacher Association (PTA).

### Resource Streams?

Fundraising, sponsorship and local council.

### Cost?

>RM300

All the contents above are only suggestions

DIFFICULTY: ★★★

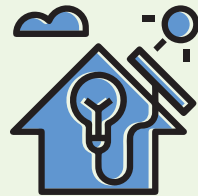
# SOLAR PANELS PROJECT



Conduct fundraising events along with sponsors from solar panel companies.



Invite speakers to talk about the benefits of using solar energy.



Encourage solar panels to be installed in homes or schools.

## DID YOU KNOW?

Solar power may account for the world's main source of power by 2050.

All the contents above are only suggestions

# HOW CAN WE DO IT?

**Problem(s)?**  
High electricity bill.

**Goal?**  
To install solar panel in school compound.

**Target Audience?**  
Students, parents, non-teaching staff and community.

**Measure of Success?**  
A decrease in electricity bill.

**Collaborators?**  
Other schools, solar companies, NGOs and local council.

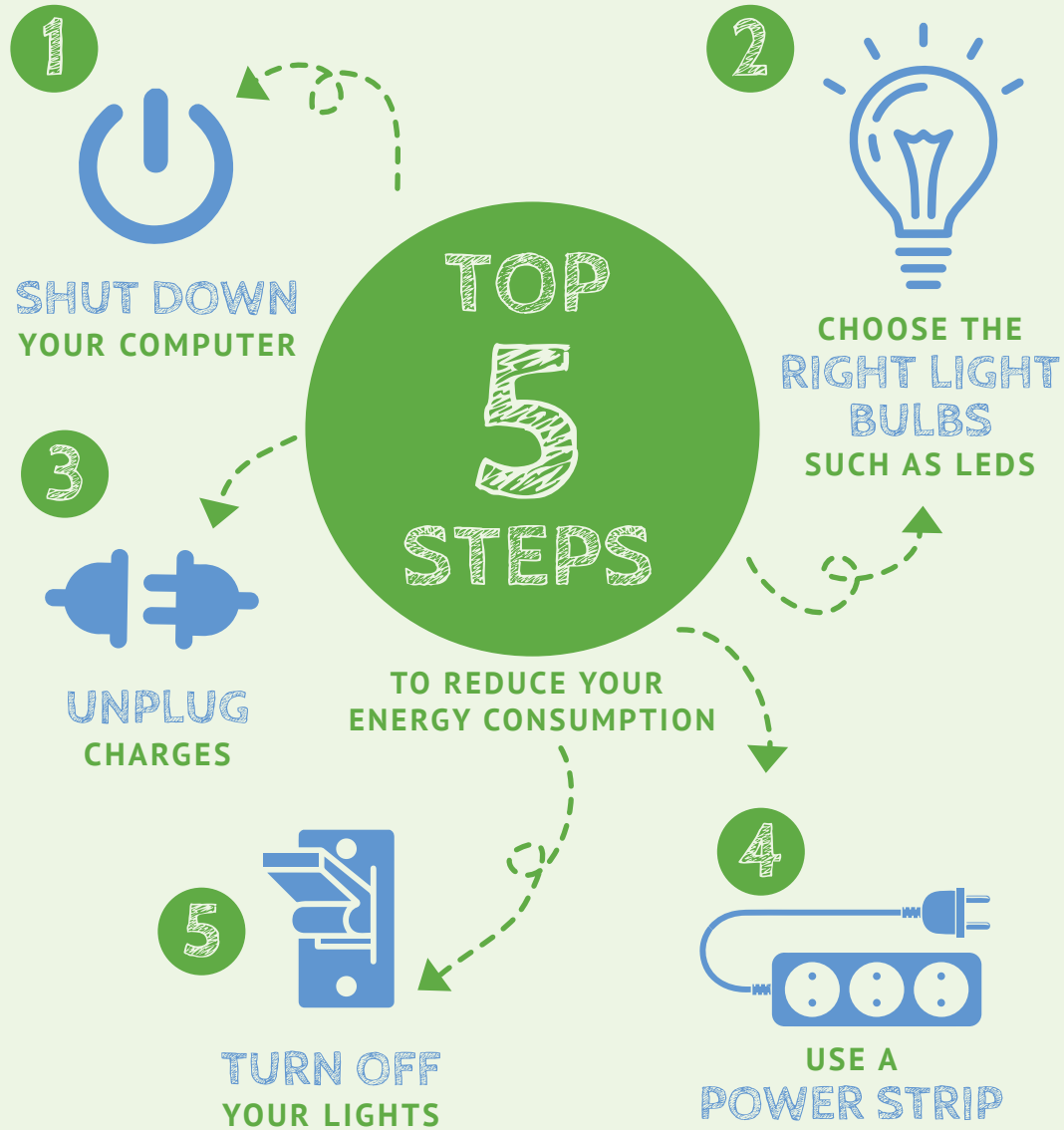
**Resource Streams?**  
Fundraising, sponsorship, Parent-Teacher Association (PTA) and local council.

**Cost?**

>RM300

All the contents above are only suggestions

# QUICK FACTS



Source: [green.harvard.edu/tools-resources/poster/top-5-steps-reduce-your-energy-consumption](http://green.harvard.edu/tools-resources/poster/top-5-steps-reduce-your-energy-consumption)

# QUICK FACTS



**COALS**  
I'm coal, the world's biggest source of energy for producing electricity.

**60-WATT LIGHT BULB**  
One single Google search consumes enough energy to turn me on for 17 seconds.





IT ONLY TAKES 1.5 °C TO HAVE

MORE HEAT WAVES,  
MORE CROP LOSSES,  
MORE WATER SHORTAGES,  
MORE FLOODED COASTAL CITIES,  
MORE DISEASES AND CONFLICTS.

MILLIONS MORE SUFFERING. LET'S  
CUT DOWN OUR CARBON EMISSIONS  
TODAY AND SAVE ENERGY.

