

**CARBON FOOTPRINT**

**ANALYSIS IN**

**SCHOOL**





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## Eco Pathway: Shaping SustainableGreen Education in Schools Empowered by AI Tools

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# What is Carbon Footprint?



Carbon footprint is the total amount of **greenhouse gases** produced by human activities.

It's usually measured in **CO<sub>2</sub> Equivalent**

# Environmental Impacts of CO<sub>2</sub>

- > It increases the earth's temperature, causing global warming
- > It causes loss of biodiversity and ecosystem changes
- > It causes soil and water pollution
- > It produces acid rains which damages the plant life



# What Affects Carbon Footprint?



Emissions  
caused by  
burning fossil  
fuels  
E.g. driving a  
car



Buying goods  
including  
clothing and  
other products



Heating  
systems such as  
powering  
homes with  
natural gas or  
electricity



Waste  
production from  
excessive  
packaging or  
food waste



# School Sustainability Audits

1

Sources of energy consumption  
*e.g. lights left on in an empty classroom*

A school sustainability audit is a process used to evaluate how environmentally sustainable a school is.

2

Waste production  
*e.g. food waste from canteen*

3

Water usage  
*e.g. leaking taps or toilets*

4

Opportunities to reduce environmental impact



# Where Does a School's Carbon Footprint Come From?



Food



Transport



Energy



Materials

A close-up photograph of vibrant green grass blades, each covered with numerous small, clear water droplets. The blades are oriented in various directions, creating a dense, textured pattern. The lighting is soft, highlighting the texture of the grass and the glistening surface of the water droplets.

# Carbon Footprint Analysis

Carbon footprint analysis is the process of calculating the total greenhouse gas emissions produced by an activity, person, organization or building.



# How Do We Calculate CO<sub>2</sub> Emissions?

Carbon footprint calculations are based on a simple principle:

**Activity Data × Emission Factor = CO<sub>2</sub> Emissions**

- **Activity Data** → how much of something we use  
(e.g., kilometers travelled, electricity used, number of meals)
- **Emission Factor** → how much CO<sub>2</sub> is produced per unit of that activity

The emission factors come from environmental research databases such as:

- IPCC
- European Environment Agency
- national climate databases

# Example Calculation

## Transportation Example

A student travels to school by car.

Distance: 5 km

Average emission factor for cars:

0.2 kg CO<sub>2</sub> per km

Calculation:

CO<sub>2</sub> = distance × emission factor

5 km × 0.2 kg

= 1 kg CO<sub>2</sub> per trip

# Example of Carbon Footprint Calculation of A school

## Scenario

### Example School :

- 200 students
- 20 teachers
- School Days per Year: 180

We calculate the footprint of:

Transportation

Electricity

School lunch

Paper usage

## 1 Transportation

Transport	Students	CO <sub>2</sub> per trip
Car	80	0.4 kg
Bus	70	0.1 kg
Walking/Bike	50	0 kg

## 2 School Electricity

Example daily use:

Source	CO <sub>2</sub>
Lighting	12 kg
Computers	8 kg
Heating	30 kg

### 3 School Lunch

Lunch types:


Lunch	Students	CO <sub>2</sub> per meal
Meat meal	120	2.5 kg
Vegetarian meal	80	0.9 kg

### 4 Paper Use

School prints **5000 pages per week**

Carbon footprint estimate:

1 page  $\approx$  5 g CO<sub>2</sub>



LET'S CALCULATE  
OUR CARBONFOOT  
PRINT

# Let's see you :)

Please scan the code and answer the questions and share your carbon footprint average.

