

Name:

AP Environmental Science Summer Assignment

Calculate

The following calculations are assumed knowledge for AP Environmental Science that will appear in various contexts throughout the course.

1. Perform the following unit conversions:
 - 5 km → meters
 - 2500 g → kg
 - 3.5 days → hours
 - 1200 mL → liters
2. Calculations like this will appear in our Free-Response Questions (FRQs):
 - a. If a light bulb uses 60 watts for 5 hours, how many watt-hours are used?
 - b. Convert your answer to kilowatt-hours (kWh)
3. Percent change will also appear frequently as a method of analyzing trends over time.

A town has 2,000 people and grows by 5% per year

 - a. What is the population after 1 year?
 - b. After 2 years?

Analyze: Atmospheric CO₂ Levels (ppm)

Year	CO ₂ (ppm)
2000	370
2005	380
2010	390
2015	400
2020	415
2025	435

1. Create a graph of the data above (CO₂ by year):



2.
 - a. What trend do you observe?
 - b. Calculate the average increase per 5 years
 - c. Predict CO₂ levels in 2030

Analyze: Water Use

Water Usage Data (Household per Day)

Activity	Gallons Used
Shower	20
Toilet flushes	18
Laundry	25
Dishes	10

1. Calculate total daily water use across all activities (gallons)
2. Convert total gallons to liters (1 gallon = 3.785 L)

3. If usage drops by 15%, what is the new total?

4. Identify the largest contributor

Designing Solutions

You drive 30 miles per day

Your car emits 404 grams CO₂ per mile

1. Calculate daily CO₂ emissions (grams)
2. Convert to kilograms
3. Calculate yearly emissions
4. Suggest 2 ways to reduce this footprint
5. Estimate how much reduction each would provide