May 20, 2015

## Warm-Up

Today you will need your pencil, notebook and countdown folder.
Notebook Check on Friday.

- ***Just Checking In:***

**How many pages do you have left to work on in your countdown folders?**

## Reflecting on Yesterday

Homework

- What are a few examples of the questions that were included in the ecological footprint quizzes?
- What did all of the questions have in common?
- **2. What types of actions generate an ecological footprint?**
- Consumption of goods, use of energy which pollutes, generation of waste….

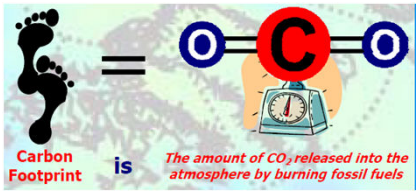
## Ecological Footprint

Homework

- **Definition**
- A measure of human demand on the Earth's ecosystems

## Electronics

- By far one of the most obvious connections to your footprint are the electronics that you use daily.
- This is because most of our electricity in the USA and in North Carolina comes from the burning of fossil fuels which release carbon dioxide.
- For this reason, ecological footprint is sometimes referred to as your carbon footprint.




## ppm

Homework

- **Definition:**
- Parts per million. 1 milligram of something **per** liter.
- **Application:**
- Can be used to describe the amount of carbon dioxide in the air.

## Calculating the Increase!

Homework

**4. Calculate the percent $CO_2$ concentration increase between 1914 and 1960 using the below information:**

1914 $CO_2$ concentration = 301 ppm

1960 $CO_2$ concentration = 316 ppm

**Formula:**

$$Perecent\ Increase = \frac{Difference\ in\ ppm\ concentration}{earlier\ amount\ of\ carbon\ dioxide} x\ 100$$

**Plug in values!:**

$$Perecent\ Increase = \frac{15}{301} x\ 100 = 4.98\%$$

## How about more recently?

**Whiteboards!**

- Predictions? Calculate it!
- Between 1961 and 2007, in about a half century, the average amount (concentration) of carbon dioxide in the Earth's atmosphere has increased from 317 parts per million (ppm) to 384ppm.

**Formula:**

$$Perecent\ Increase = \frac{Difference\ in\ ppm\ concentration}{earlier\ amount\ of\ carbon\ dioxide} x\ 100$$

**Plug in values!:**

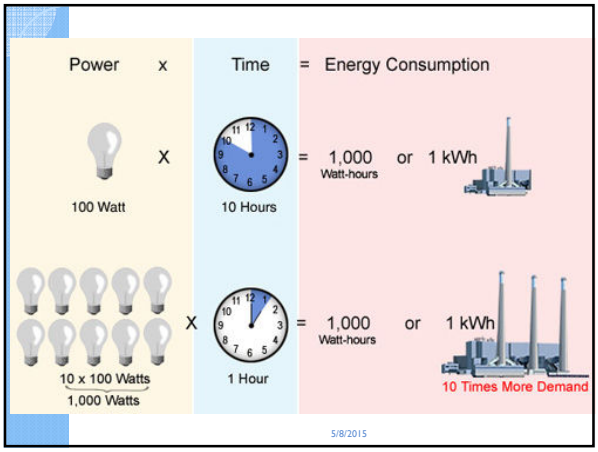
$$Perecent\ Increase = \frac{67}{317} x\ 100 = 21.14\%$$

## Electronics require Electricity…


**kWh**

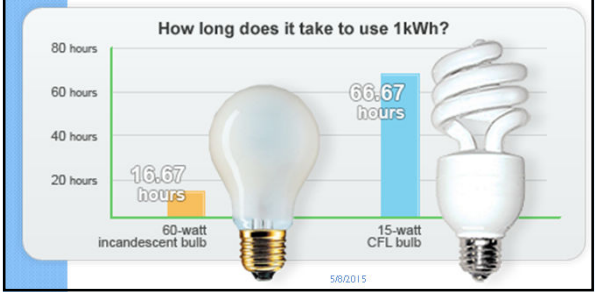
- **Definition:**
- kilowatt-hour, a unit of energy especially electricity

- **Example:**
- Leaving one 100 Watt light-bulb on for 10 hours is 1 kWh worth of energy




## Why make the switch?

- CFL – Compact Fluorescent Lamp




## What do you use?

**Whiteboards!**

- On your boards write down which of the following items you use almost on a daily basis…


Clock Radio


Television


Computer

DVD Player


Cell Phone Charger

## Electricity Usage

**Whiteboards!**

- 1,000 watts = 1 kilowatt
- Calculate the number of watts you use when all of your appliances are used for one day.

| Appliance | Electricity for a Day (Watts) |
|---|---|
| Television | 100 |
| Clock Radio | 10 |
| Computer | 270 |
| Cell Phone Charger | 5 |
| DVD Player | 12 |

How much does your entire table use?

## Move to standby…

**Whiteboards!**

- What if instead of keeping these items on all day you moved them to standby mode instead?
- Now calculate your totals…

| Appliance | Electricity for a Day (Watts) | Eletricity for a Day STAND BY (Watts) |
|---|---|---|
| Television | 100 | 10 |
| Clock Radio | 10 | 2 |
| Computer | 270 | 50 |
| Cell Phone Charger | 5 | 1 |
| DVD Player | 12 | 7 |

## Countdown Folder!

6 Days to Go!

Yesterday Make-Up: Weathering & Erosion

Today: Water Cycle & Pollution

Pages 23 - 26