

Intro to Weather and Climate Change

Weather

1. Define Weather and Climate with examples
2. Weather measuring devices
 - a. Thermometer - temp
 - b. Barometer - pressure
 - c. Hygrometer - humidity
 - d. Anemometer - wind speed
 - e. Weather vane - wind direction
 - f. Clouds - types of weather arriving
 - i. Cirrus, Stratus, Cumulus
 - ii. The higher the clouds the better the weather
 - g. Radar - particles in air
 - h. Weather satellites - cloud movement
 - i. Computers - models, prediction
3. Energy from Sun drives the weather systems
 - a. Radiation, Conduction, Convection
4. Earth - its behaviour affects energy movement
 - a. Round - Unequal heating
 - b. Spins - Rotation
 - c. Angle of rotation
 - d. Revolution
5. Water - water cycle moves energy
 - a. State gas, liquid, solid
 - b. Heat capacity
 - c. Heating curve
6. Atmosphere - moves in three dimensions
 - a. Composition
 - b. Layers
 - c. Pressure
 - d. Temperature
 - e. Water solubility
 - f. Wind - Convection current
 - g. Global winds
 - h. Coriolis Effect

7. Oceans - moves large amount of energy affecting climates
 - a. Convection
 - i. Temperature
 - ii. Salinity
 - b. Global ocean currents
 - c. Warm vs Cold ocean currents
 - d. El Nino - Ocean current impact

Climate Change

1. The Truth of Climate Change Video
 - a. Are we changing the planet?
 - i. Evidence
 - b. Can we save the planet?
 - i. Seven Slices
2. What is Climate Change, Greenhouse Effect and Global Warming
3. Climate
 - a. Factors that influence climate
4. Greenhouse Effect
 - a. Visible Light vs Infrared Radiation
 - b. Greenhouse Gases
5. Global Warming
 - a. Greenhouse gases
 - b. Energy Budget
6. Climate Patterns
 - a. Past Evidence
7. Climate Change Concerns
 - a. Monitoring
 - b. Carbon Cycle
8. Solutions
 - a. Government
 - i. Groups
 - ii. Agreements - Kyoto and Paris
 - iii. Taxes
 - iv. Carbon Trading
 - v. Education
 - b. Innovative Industry
 - i. Reduction
 - ii. Carbon capture
 - iii. Alternatives
 - c. Simple personal choices
 - i. Carbon Footprint

Unit 4: Weather and Climate Change

Weather:

Climate:

Global Warming:

Climate change:

Weather Tools

Thermometer	Clouds
Barometer	Radar
Hygrometer	Weather satellites
Anemometer	Computers
Weather vane	