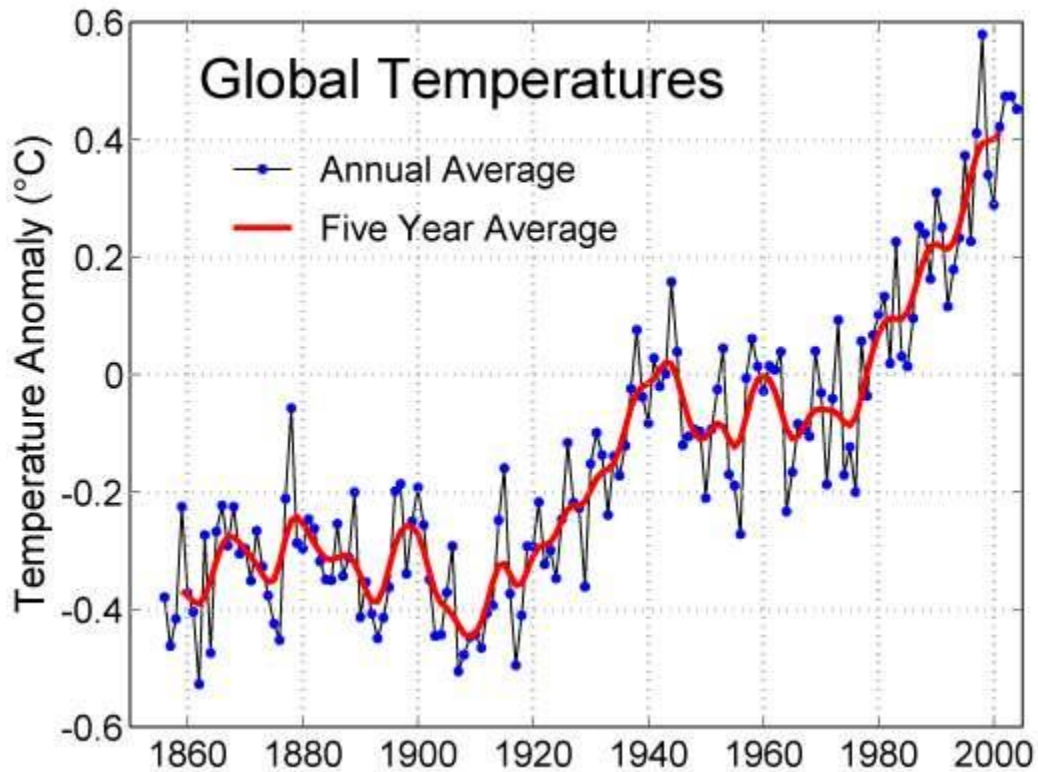


Get Moving: Global Warming & a Glimpse into the Future

The greatest threat to our planet is the belief that someone else will save it.”
– Robert Swan

An Teaching Unit created by Robert Bartholomew for
students at Mission Heights Junior College in Auckland, New Zealand
Term 3, July-September 2021



Global Warming Unit – An Overview

Achievement Objective: Level 5:

Understand how the ideas and actions of people in the past have had a significant impact on people's lives

Focus of learning/key conceptual understandings: Students will investigate, explore, and gain understanding of:

1. The impact of global warming/climate change on the planet & what we can do to reverse the trend with a focus on the future of transportation
2. The broad concept of sustainability and the economic, social and impact that this is having on humanity and its future.

Learning Outcomes: Students will be able to:

1. Know key glossary terms related to Global Warming and Sustainability
 2. Tell the difference between global warming and climate change
 3. Be knowledgeable about key facts surrounding the projected impact of global warming on New Zealand and globally
 4. Be able to describe the history of human development and its impact on the environment
 5. Know how people can help reverse the global warming trend
- critical thinking, and the importance of future technological advancements in the field of transportation.

Key Concepts:

1. Place and Environment
2. The economic world
3. Consequences for communities.

The 3 Areas of Focus

Section 1: Introduction and Basic Information

Section 2: The Reality of Climate Change
(The evidence for climate change and global warming)

Section 3: How We Can Create a More Sustainable World
(Transportation of the future).

Week 1 – The Week of July 26 to August 1, 2021

Week 1: Lesson 1: Welcome back to a new term. While the unit for the new term is on global warming, we will begin our first lesson with a Current Event and class discussion.

Week 1: Lesson 2 – An Introduction to Global Warming

Success Criteria

Students will gain a thorough understanding of the concept of global warming which is now accepted as a fact by the mainstream scientific community because the weight of evidence is overwhelming. The only credible debate that remains is the extent to which this change will occur and the speed at which it will happen.

Activities:

1. Reading
2. Writing
3. Class Discussion

Tasks – Setting up Books and Class Discussion

Task 1: Set up Red Books (Write the unit title at the top of a blank page of your Red Book. One-third of the way down the page, draw a line across the page. Below the line write the 5 Unit Goals that appear below):

Learning Goals:

1. Know key glossary terms related to Global Warming and Sustainability
2. Tell the difference between global warming and climate change
3. Be knowledgeable about on the projected impact of global warming on New Zealand and the world
4. Be able to describe the history of human development and its impact on the environment
5. Know how people can help reverse global warming and the importance of future advancements in transportation to slow warming, specifically electric vehicles

Task 2. Class Discussion Points:

- **How many students believe that global warming has not been proven or is a hoax?**
- **Of these, how many can honestly say that their views reflect the beliefs of their parents or relatives?**

- **What data do students have to support the claim that climate change is not real? What do you base your evidence on? What about climate change believers?**
- **Many different surveys of climate scientists reveal that 97% have reached the conclusion that global warming is real, and over 90% think it is caused by humans and the release of CO² into the atmosphere.**

Task 3: View and respond to the 2 short video clips below by Professor Neil DeGrasse-Tyson and CNN's Brian Stelter

Clip #1: DeGrasse-Tyson <https://www.youtube.com/watch?v=y1MZ8U8C9c8&t=100s>

Clip #2: Brian Stelter - <https://www.youtube.com/watch?v=cbjPQisjyFM>

Homework: Write the heading below in your book –

“Why Global Warming is Considered Real” and summarise the mainstream scientific position on this subject.

**Class Discussion on the importance of sustainability.
Read the following as a class. What is Sustainability?**

Sustainability is a huge topic. At its core it is about how we can sustain ourselves as a species without becoming extinct and maintaining a high quality of life for everyone. The problem is, as we move forward – think of the invention of the automobile or the airplane – while these advancements improve our lives, they also create new problems such as air and noise pollution. We could ban automobile and plane travel, but that would hurt the economy and restrict the way people move around. Sustainability is about balancing our need to progress, with the need to respect the environment. In 2012, the United Nations Conference on Sustainable Development identified 17 serious issues that need to be addressed urgently. These include:

- The end of poverty and hunger
- Better standards of education
- Better healthcare - particularly as it pertains to sanitation
- Gender equality (e.g., equal pay, rights, etc.)
- Sustainable economic growth while promoting jobs and stronger economies
- Addressing the effects of climate change, pollution and other environmental issues that can harm health, livelihoods and lives.

Task: Glossary Words – write the following definitions into your Red Book. The first 2 definitions have been given to you – please write them down in full.

Definition.

1. Fossil Fuels: A group of energy sources formed over millions of years by the decomposing remains of plants and animals under heat and pressure. They are responsible for a big part of the problem with global warming. Examples include coal, petroleum, and natural gas. They are generating gasses that are responsible for the rise in the earth's temperatures.

2. Carbon dioxide (CO²): A gas that is produced by all plants and animals. Most CO² in the atmosphere is caused by the burning of fossil fuels.

3. Non-renewable energy:

4. Renewable energy:

5. Deforestation

6. Greenhouse Effect

7. Methane

8. Recycling

9. Intergovernmental Panel on Climate Change

10. Activism

11. Interpretation

12. Fact

13. Opinion

14. Extinction

