

RESET EARTH  
TEACHER'S  
HANDBOOK  
EPISODE I LESSON I



# WHY IT MATTERS

**The ozone layer is an invisible shield that exists 15-35km above the earth's surface, protecting us from harmful ultraviolet, or UV, radiation, and in doing so protecting all earth.**

But in the 1980s, scientists discovered a huge and harmful hole in the ozone layer. The hole was caused by chemicals and gases known as ozone-depleting substances, which at the time were found in almost everything – from aerosol cans to fridges, from computer equipment to the soles of your shoes!

***The story of the ozone layer and how the world joined together to protect it, is a story of hope.***

Across the world, scientists, policy makers and governments worked together, taking urgent steps to control and phase out these ozone-depleting substances. Together they developed the Vienna Convention, and then the Montreal Protocol which became one of the most successful environmental treaties of all time, universally endorsed by 197 nations of the world and the European Union.

And it worked! Thanks to the Vienna Convention, followed by the Montreal Protocol, the hole in the ozone layer is healing, with ozone expected to return to pre-1980s levels by the 2060s.

But the story is not over. In fact, it might never be over. We have to make sure we keep monitoring the gases that enter our atmosphere and the impact that they have on the ozone layer.

The next generation of young people faces many challenges. But the story of the ozone layer and how the world joined together to protect it, is a story of hope. A story that proves that it can be done. That when we act together, and are guided by science, we can solve major global crises.

# DEAR TEACHERS

In January 2021 the Ozone Secretariat of the United Nations Environment Programme launched a short animation series and mobile game called Reset Earth to raise awareness and inspire action among young people about the importance of the ozone layer, and the continued need to protect it.

This teaching toolkit has been designed to build on this, and provide you with ideas, activities, games and discussions that will empower you to engage your students on the issues of the ozone layer. Using the Reset Earth animation series as the foundation, three different lessons have been developed. An accompanying teacher toolkit to help navigate through the content has also been created, including a corresponding student workbook. These printable documents can be adapted and made your own to share with your students.

**INSPIRE YOUNG  
PEOPLE TO CONTINUE  
PROTECTING THE  
OZONE LAYER:  
ANIMATIONS,  
INTERACTIVE GAMES,  
DISCUSSIONS AND  
ACTIVITIES.**

The lessons are diverse and varied. Teachers are encouraged to use what will work best for their students, or adapt and make it their own. Whether the lessons run over three days, three weeks or three months; only one idea is used, or all of them, it is up to you, the teacher, to decide, as you know what's best for you and your students. Most of all we at the Ozone Secretariat hope that through the animations, games, discussions, and activities, you can help us bring the story of the ozone layer to life, and inspire the next generation of young people to continue to protect the ozone layer and the global environment.

*Lesson plans and workbooks are based on fictional animations and not entirely on scientific fact. For facts and accurate timelines, please visit <https://ozone.unep.org/>. If you've used any of our teacher resources, please send feedback, photos or any related learner artwork to [stephanie.haysmith@un.org](mailto:stephanie.haysmith@un.org).*



# CONTENTS

## The world without an ozone layer

Watch Episode 1 of Reset Earth and see what the students understand about the ozone layer, why it's so important to the world, and imagine what the world might have looked like if we hadn't acted to protect it.

- > **Introduction activity:** Mind map on the ozone layer.
- > **Video & discussion:** Watch Episode 1 of Reset Earth and discuss students' thoughts and feelings about what they saw.
- > **Worksheet:** Compare exercise – think about how the world looked different in 2021 and 2100, what changed and why.
- > **Worksheet:** Characteristics of a hero – identify and discuss the characteristics demonstrated by the characters that would help in the journey to save the ozone layer.

## Additional assets to use:

- > **Educational animation:** [Short video](#) explaining what the ozone layer is.



# GLOSSARY

**SCIENCE**



**HUMAN IMPACT**



**LONG-TERM PROGRESS**



**EXTRA EXAMPLES**



**WRITTEN ACTIVITY**



**DISCUSSION POINTS**



**WATCH A VIDEO**





## THE BIG IDEA

Ozone layer depletion leads to changes over time that directly impact world health and safety. Uncertainty and lack of information can drive fear about the future but can help drive change through a sense of urgency and need for protection. A variety of character traits can empower and hinder heroes in their mission for change.

## CRITICAL QUESTIONS

- > Does depletion of the ozone layer increase ground-level ultraviolet, or UV, radiation?
- > Does depletion of the ozone layer impact global climate change?

## I CAN / I WILL / OUTCOME STATEMENT FOR STUDENTS

- > I will compare and contrast community changes due to ozone layer depletion over time, predicting future outcomes if ozone layer depletion continues.
- > I will empathise with those affected by ozone layer degradation and those faced with uncertainty about their future.
- > I can identify characteristics of change makers, and which characteristics I share with the characters.

# LESSON 1 GUIDE

The below suggested times of activities are a helpful guide for this lesson. Actual time can differ based on needs and interests of students, resources, and available time.

## INTRO

### LESSON TIME:

0-10 MINS

### GLOBAL COMPETENCY:

**GC1** - Examine local, global and intercultural issues.

### LESSON DESCRIPTION:

Pre-Lesson Survey.

### Personal mind map on ozone layer:

Write ozone layer in the middle of a piece of paper, and with one colour, write down all of the things that you can think of when you hear that word.

### MIND MAP EXAMPLE

For ideas on mind maps have a look [here](#)



### LEARNER OBJECTIVES:

*Reflection*



### Science

**S1** - Explain ozone layer formation and characteristics.

**S2** - Recognise the important role of the ozone layer in protecting species from UV radiation.

**S3** - Identify how the ozone layer and climate are connected, but not causal.

**S4** - Acknowledge ozone layer recovery and seasonal changes.

**S5** - Understand natural impacts on the ozone layer such as volcanoes and the sun.



### Human Impact

**H1** - Identify the pollution that affects the ozone layer - ODS (ozone-depleting substances such as CFCs and the halons).

**H2** - Recognise that pollution from the previous generation persists and will impact future generations.

**H3** - Appreciate that this challenge requires international regulations and cooperation.

**H4** - Appreciate that individual personal behaviours and consumer choices have an impact on the ozone layer.

**H5** - Recognise the impact of the ozone layer at a local, regional and global scale.



### Long-term Progress

**L1** - Identify the consequences of continued ozone layer depletion.

**L2** - Acknowledge the role of global regulations and the ozone treaties.

**L3** - Acknowledge that continued progress on ozone layer requires a broad base of awareness and support.

**L4** - Understand continued progress relies on Assessment Panels.

**L5** - Acknowledge ozone layer recovery is a source of hope for other global environmental challenges.

# PRIMER VIDEO

## LESSON TIME:

10-20 MINS

## GLOBAL COMPETENCY:

N/A

## LESSON DESCRIPTION:

Watch [Reset Earth Episode 1](#) and [What is the Ozone Layer](#) and use the worksheets to take your students on a fun journey of learning what the ozone layer is and how different the world might have looked if the ozone layer was destroyed.

## GO TO

[Reset Earth Episode 1](#)



## LEARNER OBJECTIVES:

*Reflection*



## Science

**S2** - Recognise the important role of the ozone layer in protecting species from UV radiation.



## Human Impact

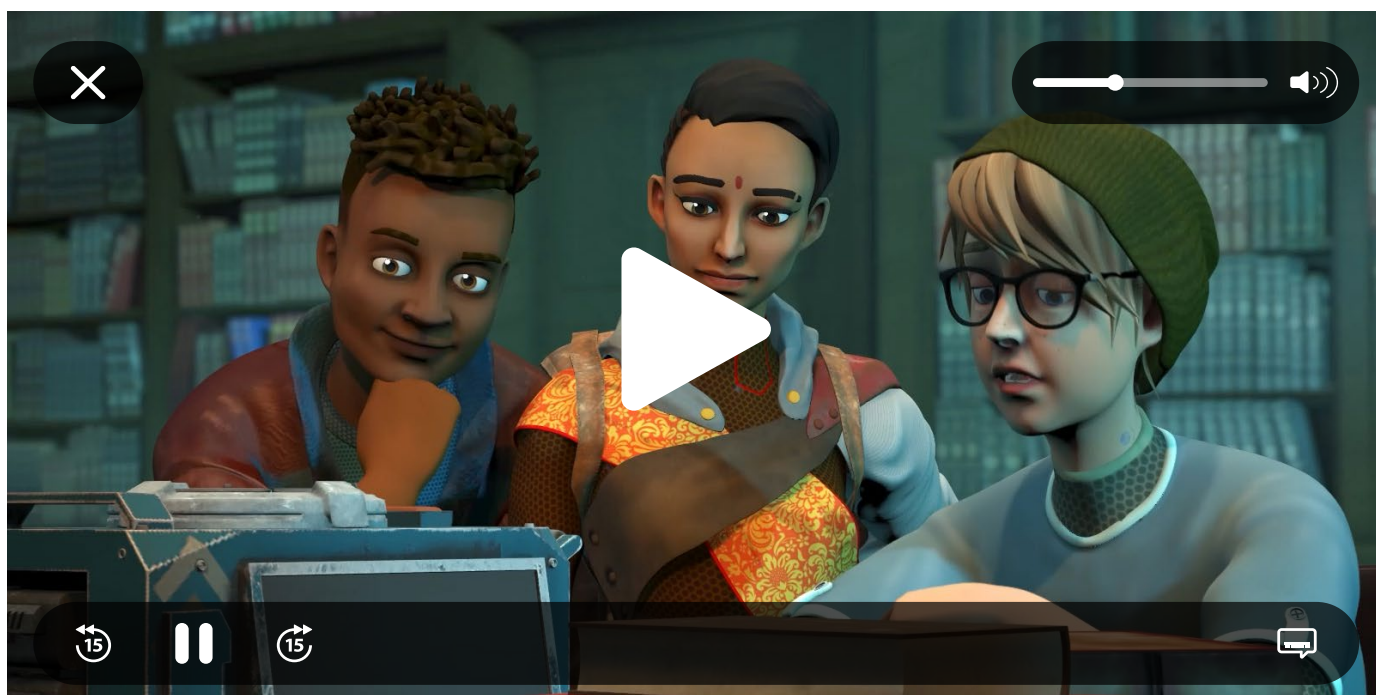
**H5** - Recognise the impact of the ozone layer on a local / regional / global scale.



## Long-term Progress

**L1** - Identify the consequences of continued ozone layer depletion.

# CLASS ACTIVITY



# DISCUSSION

## LESSON TIME:

20-30 MINS

## GLOBAL COMPETENCY:

**GC2** - Understand and appreciate the perspectives and world views of others.

## LESSON DESCRIPTION:

Have an open discussion with your class about the video, or divide the class into groups and allow them to have a group discussion and jot down their thoughts.

Examples of questions you can ask:

- > What are your thoughts after watching this video?
- > How did it make you feel?
- > What do you think it was trying to tell us?
- > What are the key takeaways?

## LEARNER OBJECTIVES:

*Combined*



### Science

**S2** - Recognise the important role of the ozone layer in protecting species from UV radiation.



### Human Impact

**H5** - Recognise the impact of the ozone layer on a local / regional / global scale.



### Long-term Progress

**L1** - Identify the consequences of continued ozone layer depletion.

# CLASS ACTIVITY

## QUESTIONS TO ASK:

- > Note 3 things you saw
- > 3 things you felt
- > 3 things you learnt

If you were Knox, how would you feel?



# WORKSHEET - COMPARE

## LESSON TIME:

30-45 MINS

## GLOBAL COMPETENCY:

**GC1** - Examine local, global and intercultural issues.

## LESSON DESCRIPTION:

Compare 2055 and 2084 and how they are depicted in the film. How do these time frames compare to 2021? Do you notice any similarities or differences? If Knox is unable to stop the GROW, what do you think 2100 will look like?

# CLASS ACTIVITY

A comparative drawing between 2021/2055/2084/2100. You can play/pause the video when these times are visited to give the students inspiration.

## LEARNER OBJECTIVES:

*Reflection*



### Science

**S2** - Recognise the important role of ozone layer protecting species from UV radiation.



### Human Impact

**H2** - Recognise that pollution from the previous generation persists and will impact future generations.



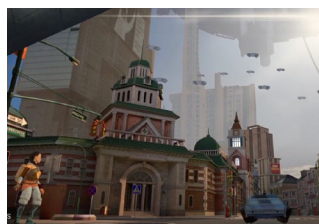
### Long-term Progress

**L1** - Identify the consequences of continued ozone layer depletion.

2021



2055



2084



2100



**ADDITION:** What caused the differences between 2021, 2055, 2084 and 2100? (ozone layer depletion, introduction of smog)

**EXTENSION:** Do you think the entire world looks like Knox's community? What are some factors that might contribute to some differences (i.e. temperature, wealth, resources, latitude?)

# WORKSHEET - CHARACTERISTICS OF A HERO

## LESSON TIME:

45-55 MINS

## GLOBAL COMPETENCY:

**GC2** - Understand and appreciate the perspectives and world views of others.

## LESSON DESCRIPTION:

**Template** - Use the template provided, or create your own activity that allows students to identify the character traits demonstrated by Knox, Sagan and the Mystery Time Machine lady.

## LEARNER OBJECTIVES:

Action



### Human Impact

**H3** - Appreciate that this challenge requires international regulations and cooperation.

**H4** - Appreciate that individual personal behaviours and consumer choices have an impact on the ozone layer.

## CLASS ACTIVITY

- > Circle which character traits are demonstrated by Knox, Sagan and the Mystery Time Machine lady

Adventurous	Afraid	Brave	Caring	Cautious
Cheerful	Confident	Energetic	Fair	Funny
Generous	Humble	Loyal	Mature	Mean
Mysterious	Nice	Nosy	Outgoing	Sassy
Selfish	Sensitive	Serious	Talented	Timid

## DISCUSSION POINTS:

- > How do they think these characteristics will help in the journey to save the ozone layer?
- > What characteristics drive the characters to want to make a difference?
- > Highlight in different colours: the characteristics you think would help someone be an ozone hero? And which characteristics might limit you.

# CLOSE - LINK LESSON 2

## LESSON TIME:

55-60 MINS

## GLOBAL COMPETENCY:

N/A

## LESSON DESCRIPTION:

The end of the episode indicated that the heroes in the story needed some help... what kind of help do you think they will get?

## LEARNER OBJECTIVES:

*Reflection*



## Long-term Progress

**L1** - Identify the consequences of continued ozone layer depletion.

# CLASS ACTIVITY



- > Plot out your predictions for the next episode
- > What kind of person might help Sagan and Knox with their mission?
- > What knowledge do they have? What are they missing?

# LESSON RESOURCES

Click on the links below to download the lesson resources:

- > [Reset Earth Character Profiles](#)
- > [Lesson 1 Worksheet \(colour\)](#)
- > [Lesson 1 Worksheet \(print friendly\)](#)
- > [Reset Earth Story Book Chapter 1](#)
- > [UNEP Q&A](#)

# PREPARATION

- > Access to Reset Earth Episode 1
- > Lesson 1 Worksheet
- > Materials to draw on worksheet





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