Grade: 4th
Strategy: Questioning
Technique: Student Generated Questions
Text Type: Science

Climate Change

Aims of the lesson:

- Encourage the development of critical thinking skills.
- Promote meaningful questioning and exploration of the topic.
- Teach students how to effectively organize their writing.
- Actively engage students with the text to enhance comprehension.
- Facilitate discussions that result in complex, open-ended answers driven by student interests and choices.
- Support students in developing independence and confidence as learners.

Climate change is the change in the Earth's climate caused by natural factors but mainly by human activities. People burn fuels like coal, gas, and oil to power cars, factories, and homes. Cutting down too many trees and certain farming activities also affect the climate. These actions trap the Sun's heat in the air, making the Earth warmer. This is called the **greenhouse effect**. Some gases that cause this effect are carbon dioxide, methane, and nitrous oxide.

Because of climate change, the Earth is getting hotter. This causes many problems, such as changes in rain and snow, rising sea levels, stronger storms, and long periods without rain (droughts). Ice in the mountains and glaciers is melting, and the weather is becoming more extreme in different parts of the world.

Scientists agree that the way we use energy is making climate change worse. This affects not only nature but also people, homes, and jobs. Some

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areas, like Latin America and the Caribbean, are especially vulnerable. Climate change is a big problem for the whole planet, and we all need to work together to help protect the Earth.

What Can We Do to Help?
Even though climate change is a big challenge, we can all take action to help:

- **Save energy**: Turn off lights and electronics when not in use.
- **Use clean energy**: Solar and wind power do not pollute the air.
- **Reduce, reuse, and recycle**: This helps create less waste and pollution.
- **Plant trees**: Trees absorb carbon dioxide and help keep the air clean.
- **Use less plastic**: Plastic waste harms animals and pollutes the environment.
- **Walk, bike, or use public transport**: Cars produce pollution that worsens climate change.

If everyone makes small changes, we can slow down climate change and protect our planet for future generations!

Process phase 1: Planning (Teachers' perspective)
During this stage, the teacher has planned and prepared a suitable text for the reading.
Materials to support engagement, such as diagrams and illustrations of the Earth, climate maps, and flashcards with key terms like "climate change," "greenhouse effect," "global warming," "carbon dioxide," "pollution," and "recycling."

A framework to guide students in generating questions, including prompts and question stems (e.g., "Why is the Earth getting warmer?" or "What can we do to help reduce climate change?").

Cognitive stage 1: Pre-reading (Students' perspective)
Students are introduced to the text through a fun **brainstorming activity**:

- What do you think climate change means?
- Have you noticed any changes in the weather where you live?
- Why do you think the Earth is getting hotter?
- What happens when the ice in the mountains melts?
- How can we help protect our planet?

Teacher ask students to create a **KWL chart.**

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Process phase 2: Teaching (Teachers' perspective)
The teacher reads the story aloud, pausing at key points to model and guide question generation.The teacher encourages students to ask their peers' questions aloud and discuss possible answers.

KWL chart:

Question Words	Student Questions	Student Answers
Who?		
Where?		
When?		
Why?		
What?		
How?		

E.g.

Who is responsible for climate change?
Where do we see the effects of climate change?
When did climate change start to get worse?
Why is the Earth getting hotter?
What can we do to stop climate change?
How does pollution affect animals and people?

Cognitive stage 2: During the reading (Students' perspective)
Students engage with the text by:

- Listening carefully to identify details that answer their thin questions.
- Reflecting on and discussing their thick questions in pairs or groups.
- Adding new questions as they learn more about climate change.

Process phase 3: Feedback (Teachers' perspective)
The teacher walks around the students or pairs and supports their work with advice and feedback.

Cognitive stage 3: Post reading (Students' perspective)
Students reflect on what they learned by completing their KWL chart. They discuss:

- The most interesting fact they discovered about climate change.
- How their understanding of climate change has changed.
- What new questions they have after reading.

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Creativity. Students create a **poster** or **drawing** that shows ways to protect the Earth, such as saving water, recycling, and planting trees.

Ways of Communication:

- **Interpretive (receptive)** – students read the text and determine the relevant qualities of the characters.
- **Interpersonal (mixed)** – students work in groups and advise each other on the correct connection of the table.
- **Presentational (productive)** – the groups present to the class the answers they have indicated.

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