🎬 **Lesson Title: "The Adventures of Temperature: The Battle for Balance"**

🧠 **Learning Objectives (from URCA)**

- Understand the concept of **temperature anomalies** using historical data.
- Interpret **line charts** and detect upward trends.
- Connect **human activity (CO_2 emissions)** to changes in Earth's temperature.

👥 **Class Profile Summary (from URCA + Questionnaire)**

- Grade: 5th (age 10), 20 students
- Visual learners, enjoy group interaction
- Some students with reading and attention challenges
- Familiar with bar charts; developing line chart and abstract reasoning skills
- Vague understanding of climate change but positive attitudes toward science stories

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Act 1: Meet the Hero – "Steady Temperature"

Objective: Introduce the idea of Earth's temperature as something that *wants to stay stable*.

Scene: Begin with a simple storybook-style slide or video:

"Once upon a time, Earth's temperature liked to stay just right—not too hot, not too cold. For thousands of years, it stayed pretty steady, like a cozy blanket."

🎨 **Visual**: A chart showing mostly flat temperature line over thousands of years (simplified, no labels yet).
👀 **Activity**: Ask, "How do you think Temperature is feeling here?" – let them describe with emojis or faces.

Act 2: The Challenge – "CO_2 and the Great Disruption"

Objective: Show how human activities lead to temperature anomalies.

📈 **Chart Exploration**: Present a line graph showing global temperature anomalies from ~1880–present. Guide them in reading it:

- "What's happening to the line?"
- "Is Temperature staying steady?"

📊 **Interactive**: Color-coded zones on the chart (blue = below average, red = above average). Ask students to point out when the chart starts to change. 🧠 **Mini-Discussion**: Introduce "anomaly" = "not what's expected." Temperature isn't acting as usual.

📘 **Story Moment**:

"As people burned more fossil fuels, the skies filled with invisible gases like CO_2. These gases made it harder for Earth to cool off. Poor Temperature tried to stay steady... but it started to rise!"

🖍️ **Group Drawing**: Each group draws a comic panel:

1. Temperature relaxing
2. CO_2 entering
3. Temperature struggling

Act 3: The Decision – "What Will You Do?"

Objective: Empower students to connect human action and solutions.

🧩 **Interactive Story Chart**: "Help Temperature!" game with cause-and-effect cards (e.g., "Riding a bike" → "Less CO_2" → "Temperature relaxes")

📈 **Chart Detective**: Give small groups printed sections of line charts from different time periods. Their job is to:

- Identify the trend
- Describe if Temperature is "happy, worried, or overheating"

🗣️ **Reflection Discussion**:

- "Why do you think the line started going up?"

- “How can we help Temperature feel better?”

📝 **Exit Ticket**:
“Write one thing you learned about temperature anomalies and one thing you can do to help.”

🧩 Modifications for Diverse Learners

- Visual supports and icons throughout
- Group work to support students with reading challenges
- Optional voice-over or video explanation for key concepts
- Fidget tools or movement breaks for the student with ADHD