Lesson Plan 1.3: Global Climate Change
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Lesson Objective	Students will observe and discuss trends in climate change data visualizations. Students will then use evidence from the data to explain the connection between human-caused greenhouse gas emissions and climate change.
Standards Addressed	**HS-ESS2-4.** Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate. **HS-ESS3-6.** Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity. **Loftslagsbreytingar:** útskýrt loftslagsbreytingar, ástæður, afleiðingar og mótvægisaðgerðir **Einstaklingurinn og umhverfið:** rætt á gagnrýninn hátt tengsl einstaklinga, nærumhverfis og umhverfismála á heimsvísu
United Nations Sustainable Development Goals Addressed	

Teacher Preparation
● Print out the "Climate Change Data Visualizations" document in color. Cut out the diagrams as needed. The diagrams may be laminated for future use.   ● Tape the visualizations on the walls (or on desks) around the classroom. Spread them out evenly so that students can walk around the room to observe the data without any one area getting too crowded.   ● Acquire enough sticky notes to give each student at least 3.   ● Student desks should be arranged in groups of 3-4.

Lesson Agenda	What Students Will Do:	What Teachers Will Do:
Warm Up (7-8 min)	Students will immediately begin working on the Warm Up activity as soon as they enter class. Students should complete the Warm Up within the first 3 minutes of class. At least one student (but ideally a few) will share their answers to the	The teacher should begin class by playing the video "Frozen in Ice: Climate Clues Hidden in Ice" (4 minutes). While students watch the video and answer the Warm Up questions, the teacher will take attendance. Teachers will circulate the room to check

	warm up.	on student answers and call on students to share their answers.
Student Work Time (35 - 40 min)	Students will have 10 minutes to observe the data visualizations and choose THREE to write about. Students will record their responses on a sticky note and place it next to the corresponding data visualization. Once the 10 minutes are up, students will have 2 minutes to walk around the room and read what other students wrote. They should note any trends in the observations of their classmates. Students will then return to their seats and discuss any patterns or trends that came up. They should record these findings on the lesson handout. Finally, students will use evidence from the data visualization to support a claim about the relationship between human-caused GHG emissions and climate change.	The teacher should project the instructions on the board for students to follow (see slides). The teacher should keep time during the activity, ideally using a visual timer for students. The teacher should also announce when half the time has elapsed and when time is nearly up. The teacher should encourage students to use all three sticky notes. The teacher can ask students to write their names on the sticky notes for accountability.
End-of-Class Wrap Up (10 min)	One student from each group (of 3-4) will share which data visualization they found most meaningful.	Teacher will call on each student group to share which data visualization was most meaningful to their group and why. The teacher may collect the handout at the end of class to evaluate student responses to the last question about using evidence to support the claim about climate change.