



Learning Guide # 11: Climate Change

BIG IDEA: The biosphere, geosphere, hydrosphere, and atmosphere are interconnected, as matter cycles and energy flows through them.

Fundamental Knowledge (I know:)

- The climate is changing and is caused by changes in the gases in Earth’s atmosphere.
- Various evidence shows that human activity is linked to concerning climate change in recent times
- Climate change's overall negative effect can be slowed or reduced by policies and technology

Curricular Competencies (I can:)

	Proficiency Scale Teacher and Student self-assessment (Circle one)	Evidence (How do you know?)
<p><u>I can:</u> Seek and analyze patterns, trends, and connections in data: Find the meaning in graphs and other models that relate to climate change in the past, as well as models for future climate change patterns.</p>	<p>Emerging (EMG) Initial Understanding</p> <p>Developing (DEV) Partial/Near Complete Understanding</p> <p>Proficient (PRF) Complete Understanding</p> <p>Extending (EXT) Sophisticated Understanding</p>	
<p><u>I can;</u> Contribute to finding solutions to problems at a local and/or global level through inquiry: Brainstorm and implement new ways to combat the effects of climate change through small and large actions.</p>	<p>Emerging (EMG) Initial Understanding</p> <p>Developing (DEV) Partial/Near Complete Understanding</p> <p>Proficient (PRF) Complete Understanding</p> <p>Extending (EXT) Sophisticated Understanding</p>	

Instructions To help guide your learning, make your way through the activities in Option 1, Option 2, or Option 3. You may “mix and match” between the different Option columns.

TOPIC	OPTION 1	OPTION 2	OPTION 3
Atmosphere Changes	A. Complete the “Climate Change - Atmosphere Changes” worksheets.	Using your ecosystem you created in learning guide 10, you must now model the destructive impact climate change will have at each level/aspect of your ecosystem. You can use the same media as LG 10 or pick a different way to show your understanding. <u>You must show/describe:</u>	Choose your own adventure! Pick up a planning sheet from the Science Kiosk. Create a plan! Make sure you read through the first page of this LG, as you will need to design ways to learn/practice and show your understanding of the topic(s) and skill(s) (competencies.) You will need to have a teacher approve your plan before beginning the LG.
Human Causes	B. Complete the “Climate Change - Human Causes” worksheets.	<ul style="list-style-type: none"> • How greenhouse gases will change your atmosphere and affect your ecosystem. • How human (or other sentient life) activity on your planet has led to climate change or destruction of your ecosystem. Assume the lifeforms have similar technology to current day humans. • How the destruction of your ecosystem will lead to more climate change. • How the causes of climate change can be reduced or reversed to keep your ecosystem alive. 	
Climate Change Reduction	C. Complete the “Reducing Climate Change Mind Maps” Worksheets	Makes sure there is lots of detail and that you thought through how each topic applies to your ecosystem. Your work will be marked on the proficiency scale based on how well you understand each topic of climate change and how well you applied it to your ecosystem.	
Project	D. Complete the research project on a selected topic on an important environmental issue. See the guidelines and marking rubric on the website . Make sure you check in with your teacher to make sure you are on the right track and have an acceptable research topic.		
Self Assessment	Reflect on the Fundamental Knowledge and Curricular Competencies. Use the rubric and make goals to improve for your next learning guide.		
Interview or Quiz	See your teacher for an interview or to have a quiz slip signed for the test center. Bring your work and staple it to your quiz when complete.		

Resources can be found at www.THSScience.com or the Science Kiosk

User: **THSS**

Password: **science**