

Instructional Calendar



Week 1

Monday	Tuesday	Wednesday	Thursday	Friday
Lesson 1: Eliciting Ideas About A Phenomenon (90+ minutes) In this lesson, students will... Work in pairs to construct initial descriptive models and explanations for the unit driving question, “why might the Arctic be warming twice as fast as the rest of the world?”	Lesson 1: Eliciting Ideas About A Phenomenon continued... (90+ minutes)	Lesson 2: Earth’s Energy Budget (60 minutes) In this lesson, students will... Describe Earth’s energy budget by completing guided notes and constructing energy budget models	Lesson 3: Greenhouse Effect (90+ minutes) In this lesson, students will... Explore the relationship between shortwave/longwave energy and atmospheric gases through a PhET simulation	Lesson 3: Greenhouse Effect continued... (90+ minutes)

The materials were developed by CIRES CEEE at CU Boulder with support from AGS 1554659 and OPP 1839104



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Week 2

Monday	Tuesday	Wednesday	Thursday	Friday
Lesson 4: Arctic Fieldwork (90+ minutes) In this lesson, students will... Visit MOSAIC field sites through virtual reality Google Expeditions and analyze shortwave and longwave energy datasets from the Arctic	Lesson 4: Arctic Fieldwork continued... (90+ minutes)	Lesson 5: Model Revisions (60 minutes) In this lesson, students will... Reflect on learning and new evidence to construct revised models for the unit driving question	Lesson 6: Measuring Albedo (70 minutes) In this lesson, students will... Measure the reflectance (albedo) of different surfaces to describe the relationship between the color of a surface and it's albedo	Lesson 7: Ice-Albedo Feedback (60 minutes) In this lesson, students will... Analyze maps to calculate and compare changes in albedo

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Week 3

Monday	Tuesday	Wednesday	Thursday	Friday
Lesson 8: Model Testing (60 minutes) In this lesson, students will... Test their models by matching their ideas against real-world data about the phenomenon, arctic amplification	Lesson 9: Building Consensus - Final Model Construction (60 minutes) In this lesson, students will... Work in <u>pairs</u> to incorporate concepts and evidence acquired during the unit to construct final descriptive models for the unit driving question, "Why might the Arctic be warming twice as fast as the rest of the world?"	Lesson 10: Final Written Explanation (60+ minutes) In this lesson, students will... Work <u>independently</u> to incorporate concepts and evidence acquired during the unit into a final written explanation for the unit driving question, "Why might the Arctic be warming twice as fast as the rest of the world?"	Lesson 10: Final Written Explanation continued...	

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