

Cooler Communities Unit - Materials List

Common Materials Used Throughout Unit

- Teacher Cooler Communities Lesson Slides (each lesson has its own slide deck)
- Computer system for projecting slides and videos (teacher)
- Student laptops or tablets (1 per student or pair as specified in lessons)
- Interactive Student Notebook (digital; shared with students)
- Learning Tracker / Phenomena Wall (built with the whole class throughout the unit)
- Chart paper and markers
- Sticky notes

Lesson 1: How does temperature affect our lives?

- Interactive Student Notebook: Temperature in Our Daily Life (digital) OR chart paper and markers for each group of 4
- Presentation/Audience Norms
- Way to project or share student models/notes and images
- UGC Icon cards for extreme weather and health
- Large chart paper or bulletin board to create a class map of campus
- Chart paper/Anchor Chart

Lesson 2: Why do land surface temperatures differ across our city?

- Observations & Questions T-Chart (to be referenced and built upon throughout the unit)
- Printout of San Diego County LST Map (1 per group of 4)
- Sticky notes (per group)
- Earth Scene and Expo markers (per group)
- Way to project or share student models/notes and images
- Large chart paper or bulletin board to create a class map of campus
- Chart paper/Anchor Chart
- Camera/phone/computer to capture initial models

Lesson 3: How have humans changed the land in San Diego?

- Interactive Student Notebook with links to Google Earth site and Google Timelapse video
- Exit Slips (1 per student)

Lesson 4: Which locations in our community are hotter than others? Why?

- Printout of Localized LST map (1 per partnership; optional to print, also digital in notebook)
- Recording sheet printout (1 per student: Explore, pages 1-2; Reflect, page 3)
- IR thermometer (1 per partnership, or group up to 4, depending on availability)

Lesson 5: Which materials get the hottest and which stay the coolest?

- Student group slide or poster from Lesson 1 (prior knowledge of how surface material affects temperature)
- Surface Materials Investigation Recording Sheet (1 per student)

- IR thermometers (1 per group of 2-4 students)
- Artificial turf samples (if no artificial turf on campus)

Lesson 6: Where is vegetation in our community and how does it affect us?

- Printed NDVI and LST maps (1 per group of 2-4 students)
- Campus vegetation map - create and print your school's map (1 per student)
- IR thermometer (1 per group of 2-4 students)
- Sticky notes for charting (1 per student)
- Recording Sheet/Expert Notes - create and print for your school (1 per student)
- Student laptops with access to camera and plant-identifying website
- Optional: forms to apply for a tree with the district

Lesson 7: How do water and plants interact to affect LST?

- Sticky notes or blank notebook page for writing several sentences (1 per student)
- Classroom areas labeled Ocean, Clouds, Rain, and River (on whiteboard, easel, or displayed paper)
- Transpiration Investigation Recording Sheet (1 per student, 2-sided)

Lesson 8: How does human use of natural resources affect Earth's systems?

- Natural Resource Jigsaw Texts
- Student Digital Notebook or Printed Notebook Page

Lesson 9: How does human activity affect land surface temperature?

- Access to "Show Your Stripes" website
- Human Impact Images (printed for gallery walk and group discussion, or shared digitally in the Interactive Notebook)
- UGC materials (digital or printed)
- Exit Slips (1 per student)

Lesson 10: How can individuals and communities use scientific understanding to protect the Earth's resources and environments?

- Our House is on Fire World Café Images (printed for tables or digital on student laptops)
- Book: "Our House is on Fire"
- Poster Planning Sheet (1 per student)
- Poster board (1 per partnership or group)
- Research Extension: Digital Climate Change Action Articles & Response (option: printed)

Lesson 11: Why do land surface temperatures differ across our city?

- Lesson 11 Assessment of Anchor Phenomenon (printed for tables or digital on student laptops)
- UGC icon cards (Causes, Earth Systems, Measurable Changes)
- Original co-created model and final explanatory models

Lesson 12: How can we create a cooler community in the future?

- Video: Amanda Gorman performs “Earthrise”
- Community Problems/Solutions Bank slides (printed for tables or digital on student laptops)
- Cooler Community Model materials (3-D, digital, drawing supplies)
- Session 2 Exhibition - for visitors: Exhibition Questions
- Session 2 Exhibition - for student presenters: Sentence Stems for Answers