



UNIT PLAN

Unit Description: Sustainability
Grades k-2

<https://www.edutopia.org/how-to-reduce-school-carbon-footprint>

STAGE ONE - Established Goals	
<p>Nonacademic goals : In this unit we hope to increase students’ abilities to work collaboratively. And, we want them to demonstrate critical thinking as seen through exercises from <u>Making Thinking Visible</u>.</p>	
<p>Enduring Understandings/Take-Away’s: <i>Students will understand that...</i></p> <p>Our actions can positively or negatively affect the environment.</p> <p>We are capable of decreasing our footprint on our homes, school, and city</p> <p>The Torah commands us to take care of the Earth</p>	<p>Essential Question(s):</p> <p>What can KJDS do to reduce its carbon footprint?</p>
<p>Content Knowledge: <i>Students will know...</i></p> <ol style="list-style-type: none"> 1. Sources of pollution - how they impact water, energy, land, and air. 2. Methods for reducing pollution - including waste, food, consumables, air 3. Carbon Footprint 4. Projected dangers of climate change 5. What can KJDS do to reduce our carbon footprint 6. Know what energy is and how to conserve it within the school 7. They can share methods of conservation and sustainability with family and friends 	<p>Skills: <i>Students will be able to....</i></p> <ol style="list-style-type: none"> 1. Collect/Display Data 2. Collaborate with a small group to create a plan for decreasing the school’s carbon footprint in a specific way 3. Present the plan to the school 4. Implement and monitor the plan 5. Reflect on the effectiveness of the plan 1. Use Thinking Routines to “make their thinking visible”

Common Misconceptions:

Kids cannot make a big impact in the city or on the environment
What young people do and say can alter the choices of others

STAGE TWO – Assessment: Acceptable Evidence**Performance Tasks:**

Collect and display important data
Discuss ways to decrease the school's carbon footprint
Craft a plan and create a poster to illustrate the plan
Present the plan to the school
Implement the plan and record data or observations about its impact and effectiveness
Reflect on the plan and its implementation

End of Unit Assessment:

Guided small group reflective discussion

Student Self-Assessment and Reflection:

End of unit assessment
Thinking Routines: 3-2-1 Bridge, Hashtags, I used to think ... now I think

STAGE THREE – Learning Experiences**Week 1 - STEAM Launch**

Creating STEAM protocols
What is STEAM?
Community Builders.

Week 2 - Entry Event

Energy Hog and Scavenger Hunt
Introduce the Core Practice
Thinking Routine: 3-2-1 Bridge

Week 3 - Reflection on Entry Event

Begin to build need to know board
What do we know?
What do we need to know?
How will we find out?
What is our problem?
Introduce our essential question "How can KJDS reduce our carbon footprint"?
Reflection: Recycled craft thank-you to the Hog describing what was learned

Week 4 - Learning about Pollution

Americorp - water pollution story
Thinking Routine: #Hashtags

Week 5 - Starting Points

What is our carbon footprint?

Carbon Footprint Calculator

Rabbis Visit: Jewish mandate to take care of our world

Thinking Routine: #Hashtags

Week 6 - Small Group Research

Work with small group and teacher to learn about 1 problem at introductory level

1. Emissions from cars
2. Energy waste
3. Food waste
4. General waste (paper, pencils, napkins, etc)

Thinking Routine: I used to think but now I think.....

Week 7 - Observing Sustainable Practices

Field trip: Small groups split off to see various locations and report back

1. Ijams Nature Center - solar panels, worm barrels, rain barrels
2. Good Golly Tamale - locally sourced products, bike transportation, recycling
3. Bearden Beer Market - solar panels, rain barrels, herb garden, recycling
4. Downtown Farmers Market - locally sourced products
5. Watershed - controlling runoff

Each group will film a one minute video about the place, sharing why it is helpful to mitigating our carbon footprint.

Thinking Routine: I used to think..... Now I think.....

Week 8 - How is Knoxville Already Sustainable?

Mind Up: Introduction to Core Breathing

What is Knoxville already doing: visit from Erin Gill of mayor's office on Sustainability

Scavenger Hunt - Eco Achievements and Opportunities How are we already eco-friendly and what are opportunities for improvement?

Thinking Routine: hashtags

Week 9 - Research and Discussion

Mind Up: Learning about the brain

Work with small group and teacher to learn about 1 problem

5. Emissions from cars
6. Energy waste
7. Food waste
8. General waste (paper, pencils, napkins, etc)

Thinking Routine: 3-2-1 Bridge (1st time)

Week 10 - Combating Waste

Mind Up: Mindful Listening

Recycled artwork

Visit from Beardsley Farms to discuss food waste (bringing worms)

Thinking Routine: I used to think..... Now I think.....

Week 11 - Create Plans for Mitigating School's Carbon Footprint

Mindup: Mindful Smelling

Create plan to address assigned problem, in small groups

Make poster to illustrate plan

Practice presenting plan

Week 12 - Presentation Day!

Mind Up: Mindful Movement

Present plans on decreasing carbon footprint

Thank you notes to Erin Gill

Thinking Routine: 3-2-1 Bridge (second attempt and compare to first)

Week 13 - Preparing for Implementation

Mind Up: Mindful Movement 2

Write letters to parents about KJDS Carpool Day

Create graphs and charts for tracking success

Thinking Routine: #hashtags

Week 14 - Reflect

Look at food waste data and discuss in groups

Reflect on progress of energy saving, reduce, reuse & recycling, and carpool day

Create art to share personal reflections

Week 15 - Is This Bigger Than Knoxville

Review Mind Up: Movement 2

Learn about "We're Still In"

Thinking Routine: 3-2-1 Bridge - Compare growth between three times activity was done.

Assessment

Adapted from BRANDEIS UNIVERSITY EDUCATION PROGRAM