

## Lesson Planning Tool (Short Form)

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**Lesson Objective:** Students will investigate their ecological footprint by analyzing the amount of natural resources they use through the Ecological Footprint Lab to develop initial thoughts limiting resources and carrying capacity in a population.

### Standards/Framework Addressed:

HS-LS2-1.

Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales

HS-LS2-7.

Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

### Assessment(s) (formative [always necessary], summative, self-assessments):

The ecological footprint lab itself will serve as a formative assessment that will gather students initial ideas, there will also be an exit ticket that will serve as a formative assessment to uncover how students initial ideas have changed, developed or stayed the same.

### Differentiation/Universal Design for Learning (UDL) Strategies (list one from each category):

Engagement: Stop and Jot- Throughout the lab, I will explain questions and procedures prior to prompting students to continue the lab or answer their discussion questions

Representation: Pre-teaching- Because this is an intro activity to ecology, some terms will have to be define prior to students completing the lab.

Expression: Think pair share- As students complete their ecology footprint surveys, they will be prompted to share answers and results with other students.

### Give an example of how you are incorporating some aspect of your multilingual students' languages, communities, or families into the lesson.

Wishing students a happy Cinco De Mayo (Mexico) and Kids Day (Korea)

Lesson Sequence	Teacher Actions	Student Actions
<b>Introduction</b> <ul style="list-style-type: none"><li>· Connect to previous learning</li><li>· Create inquiry</li><li>· Set expectations and goals</li><li>· Student grouping</li><li>· Scaffolding for diverse learners</li><li>· Evidence of student learning</li><li>· Monitor/feedback</li></ul>	<ul style="list-style-type: none"><li>- introduction and announcements</li><li>- intro to ecology unit</li><li>- pre-teaching necessary terms and ideas needed for successful implementation of activity</li><li>- gathering of students initial ideas regarding resource use and availability</li><li>- connecting to previous unit of evolution (competition for limited resources)</li></ul>	<ul style="list-style-type: none"><li>- answering questions about resource use and availability</li><li>- forming and developing of initial thoughts regarding ecological footprints</li></ul>

<p><b>Body</b></p> <ul style="list-style-type: none"> <li>· Access new information</li> <li>· Process new information</li> <li>· Student grouping</li> <li>· Scaffolding for diverse learners</li> <li>· Evidence of student learning</li> <li>· Monitor/feedback</li> <li>· Includes cognitive demand</li> </ul>	<ul style="list-style-type: none"> <li>- walking students through survey questions</li> <li>- providing students with background information regarding survey questions</li> <li>- Helping student interpreting their results</li> <li>- prompting students to engage in think pair share to share results</li> </ul>	<ul style="list-style-type: none"> <li>- students answer survey questions</li> <li>- students share responses with others in think pair share</li> <li>- students answering analysis and discussion questions</li> <li>- students researching solutions</li> </ul>
<p><b>Closure</b></p> <ul style="list-style-type: none"> <li>· Revisit learning target</li> <li>· Connect today's concepts/knowledge/skills to the big idea(s) of the unit</li> <li>· Students reflect on their learning and establish goals</li> <li>· Student grouping</li> <li>· Ways that students extend their learning beyond today's lesson</li> </ul>	<ul style="list-style-type: none"> <li>- prompting students to respond to exit ticket on jamboard</li> <li>- reading and discussing student responses</li> <li>- if time: jeopardy for Monday's test</li> </ul>	<ul style="list-style-type: none"> <li>- students responding to exit ticket on jamboard and reflecting on answers to survey</li> </ul>