

BIRDEE Unit 1 Lesson Plans

1.3.5. Existing Products & Ideate

Students will continue their investigation from 1.3.4. They will watch product dissection videos of their assigned lunchbox to learn about how the product is designed and how the product insulates food. They will make a BID connection to biological systems and ideate ways to improve the product.

Engage: 5 min

View: [1.3.5. BID WOW!](#)

- What could be inspired by a cat's eyes?
- **Class Discussion** on what students think
- **Play video:** [Cat Eyes](#) (in ppt)

Explore: 20 min (Group)

Part 2: Product Dissection

Watch the [Existing Product Dissection Video](#) of your assigned existing solution and work with your group to analyze further. Use Part 2 of the [1.3.4. Existing Solution Analysis](#) to scaffold your analysis. You will identify/complete the following:

- Sketch a diagram of the products key insulating components
- Overall Solution - what does it do?
- Component Structure, Material, Function
- Solution Analysis - Strength & Weaknesses
- Design Analysis - areas that can be redesigned
- BID Connection to biological systems
- Ideas for improving this product using BID
- Understand how this solution can be applied to the client's problem

Explain: 10 min (Group Student Presentations)

You will give a brief presentation to the class on the existing solution you analyzed. Your presentation should be 1-2 min long and should focus on the structures of insulation in their lunchbox.

Teacher Note: *The purpose of these short presentations is so that all students in the class are introduced to the different ways the lunchboxes insulate.*

Evaluate: 10 min (Individual)

Ideate

The next step in the EDP is Ideate. Now that we have a good understanding of our client's problem, you will individually ideate and draw your first idea for the client's problem based on what you learned

Student Handouts:

N/A (keep using 1.3.4. worksheet)

Student Materials:

[1.3.5. Existing Product Dissection Videos](#)

Instructional PPT's & Materials:

[1.3.5. BID WOW!](#)

Teacher Resources:

N/A

Web Resources:

[Master File of LunchBox Existing Solutions 1-5 Videos and Worksheet](#)

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this Module about the design problem and requirements, existing thermal regulation systems, and existing lunchbox solutions. You will do this on the back of page 3 of your 1.3.4 worksheet. Remember, ideas can be partial or complete solutions.

Extend: 10 min (*Group*)

EDPL: Update Research Notes & Understand (Requirements) as needed based on what you learned in this activity.