

BIRDEE Unit 1 Lesson Plans

1.6.5. Finalize Design

Students will export and plot their data to understand how their design performs against their requirements. They will use this data to make FINAL changes to their design, which will be recorded in the EDPL.

Prior to the lesson: Teachers should export student data according to the directions linked here: [1.4.4 Thermal Regulation Part 2: Analyze Data TEACHER DIRECTIONS](#). Teachers should share the individual .csv data files with each student team using the teacher's preferred communication tool.

Teacher Note: Teachers may choose to allow students an extra day to prepare a 3rd prototype if needed, in which case the or the presentation lesson may be moved to another day.

Engage: 5 min

View: [1.6.5. BID WOW!](#)

- What are some special characteristics of owls?
- What products could be inspired by an owl?
- **Class Discussion** on what students think
- **Play video:** [Owl](#) (in ppt)

Evaluate: 20 min (Group)

Now you will analyze your data to see how well your second prototype fulfills the thermal insulation requirement.

EDPL: Log the results of your second prototype test in the EDPL.

Teacher Notes:

- *The teacher will share the Google sheet with students, so that students can simply copy and paste their data to the sheet and create plots*
- *Students will plot their data on the Google sheet.*
- *Discuss how well their prototype thermally insulated following their design requirements.*

Elaborate: 20 min (Group)

Use the data from your second prototype test to make any final changes to your prototype/solution design.

EDPL: You can log your changes in the Research Notes section of the EDPL or in the description of their second prototype conceptual design or prototype 2 rather than creating a new conceptual design and prototype in the EDPL for their final design.

Student Handouts:

N/A

Student Materials:

Microsoft Excel or Google Docs

Instructional PPT's & Materials:

[1.6.5. BID WOW!](#)

Teacher Resources:

[1.4.4 Thermal Regulation Part 2: Analyze Data TEACHER DIRECTIONS](#)

Web Resources:

N/A

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Teacher Note: *Research Notes are fine for these changes because they should be minor. Students don't have to create an entirely new conceptual design and prototype in the EDPL. They can if they want to though.*

Wrap Up: 10 min (Group)

You have completed your final modifications and changes to your solution. Your group will work together during our next class to create a 2-3 minute "pitch" presentation. Make sure all of your notes are in order and your EDPL is updated as this will make it easier to create your presentation.