

# **Lesson 4: Sharing and Building**

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## **Grade Level**

Kindergarten

## **Lesson Overview**

The fourth lesson will be a 30-to-60-minute “share” where teams will share and describe/explain their prototypes. The teacher will scribe. Class will vote on prototype. This lesson also includes a short description of building the actual habitat.

*Each team will have 2-3 minutes to describe their prototype to the class. The teacher will likely need to guide children with how to take turns while sharing/participating. (The teacher may use tools like a timer.) After all groups share and feedback is received and recorded, the class will vote on which model they'd like to build for their class habitat.*

## **Learning Objectives and/or Standards**

- To use observations to describe patterns of what and animals (including humans) need to survive. (NGSS K-LS1-1)
- To use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live. (NGSS K-ESS3-1)
- To ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. (NGSS K-2-ETS1-1)
- To develop a simple sketch, drawing or physical model to illustrate how the shape of an object shapes to function as needed to solve a given problem. (NGSS K-2-ETS1-2)
- To analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. (NGSS K-2-ETS1-3)

## **Preparation**

- Split class into their working teams
- Brainstorm what voting method will be used in your classroom

## Materials and Resources

- Copy of the completed Needs (and Considerations) Chart displayed
- Access to the actual living things studied in this unit for observation (in their individual spaces/containers)
- Chart paper
- Materials for voting method (if needed)

### Activity 1: Team Shares/Peer Feedback (5 minutes per team)

Each team will take turns talking about their prototype. The teacher will likely need to guide children with how to take turns while sharing/participating. (Teacher may use tools like a timer.) After each team shares, students think/pair about 1 thing they would really like to use from that prototype for the final habitat. (Before feedback occurs, the teacher should tell students that the purpose of listening and recording feedback is to help them make an educated vote on the final prototype.) Teacher will call on 2-3 students and use a strategy like “thumbs up if you agree.” Teacher will scribe on chart paper or white board.

### Activity 2: Vote (5 minutes)

Using a voting style that makes sense for your class (e.g., raising hands, completing a ballot, letting each child speak, etc.) vote on the model the class will build together.

### Activity 3/Assessment: Needs (and Considerations) Chart (15 minutes)

Teacher should lead a guided discussion (using strategies like think pair share or use of mini white boards for active engagement) determining if the selected prototype addresses everything on the Needs (and Considerations) chart. If there are problems, offer students an opportunity to suggest incorporating an idea from another prototype. The teacher may need to direct this. The purpose of this is to hold children accountable for empathizing, and encouraging collaboration when obstacles arise.

### Note: Building Your Actual Habitat

At this point in the unit – your students have done the important work of design thinking and deep diving into the NGSS science and engineering practices, disciplinary core ideas, and crosscutting concepts. Now you and your class need to actually build a habitat that looks like your chosen prototype. To accomplish this, we recommend you make this a final lesson with the students in your classroom.

Because the nature of this final lesson is dependent on the prototype and resources and materials available to classrooms (see sample list below), we have chosen not to write the specifics of this lesson. We do believe that having students build the final habitat (even if this means each child has a small task) is an important part of completing the design thinking process.

### Sample List of Materials for Habitat

- Basins
- Basin Covers
- Boxes
- Plastic cups and containers of different sizes with matching lids
- Dechlorinator
- Fish net
- Fish tunnels
- Plastic wrap
- Vials
- Soil
- Chick Feed
- Oatmeal
- Fish food
- Elodea
- Leaves
- Twigs