



Livestock-Maker: Build-a-Barn

Purpose:

- To explore Science, Technology, Engineering and Math (STEM) skills through animal science
- Let youth use their STEM creativity to solve real world animal science problems

Scenario:

Animal housing is one of the most important responsibilities for animal owners. Generally, any animal requires shelter that is kept clean, allows for normal movement and provides space for proper feed and water. For example, facility costs are the second highest production cost for most swine farms.

Problem:

You have a group of animals that you require housing. This involves designing a barn for your animals. As a group, you will use your supplies to design a prototype for the barn. Use a scale (example: 1 inch = 1 foot) to determine the size of your prototype versus the final barn. Make sure to think about the following questions:

- What size is the animal?
- How much space does your animal need?
- What needs does the animal have?
 - Shelter
 - Food
 - Warmth
 - Room to exercise
 - Other considerations

Supplies:

- **Straw Builders:** <https://www.amazon.com/Straws-Builders-FREE-plastic-container/dp/B006HZX1P8>
OR
- **Office Supplies:** Index Cards, Tape, Straws, Craft Sticks, Pipe Cleaners, white paper, pencils, etc.

Expected Time: 45 – 60 minutes

What to Do:

1. Split into groups of 3-4 and choose an animal and a measurement scale (ex: 1 inch = 1 foot). Spend a few minutes discussing animal barns, then sketch out the plan for the barn.
2. Take 20-25 minutes to build the barn that your group designed with the materials provided. Make sure that your barn has a secure feed room, at least two stalls or pens, and room for animals to move.
3. Share about your group's animal barn design.

Reflect:

1. Does your design allow for easy cleaning?
2. What challenges did your group have while building your barn?
3. Is the scale you are using the same as when you started? Why or why not?
4. Does barn meet all the animals' needs?

Apply:

1. What did you know about an animal barn before this activity?
2. What did you learn through this activity?
3. How can prototyping a design, help us with creating facilities for our animals?
4. Why is it important that we think about animal needs when creating facilities for them?
5. How does this affect how you think about your animal's needs?