LET’S BUILD A HAY BARN

Learn to properly protect your hay from nature’s challenges.
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About the Activity

When we think of an animal farm, a cow grazing in the grass or roaming in the fields may come to mind. This is because grazing is the least expensive way for farmers to provide nutrients to beef cattle, which are prone to eating grass and hay. When winter comes around, and the ground freezes over, what are they supposed to eat? In this activity, you will build your own hay barn to help protect your cattle’s food source from weather and pests year-round.

Supplies

These simple supplies are all you’ll need for this activity.

• Cardboard
• Straws
• Cotton balls
• Cotton swabs
• Toothpicks
• Craft sticks
• Tape
• Index cards
• Scissors

Grades: 3-8

Topic: Animal Science, STEM, Crafting

Time: 30 minutes
Activity Steps

Let’s Build a Hay Barn–

Hay is the main source of food for beef cattle in the winter. Farmers will typically produce hay during the summer, and then store it as a winter food source when grazing is not possible. Hay can be made into large round bales that weigh anywhere between 600-1,500 pounds, or into smaller square bales that weigh 40-140 pounds.

Regardless of size, protection is key. Important considerations for hay barns include creating complete protection from the weather to avoid heat and moisture, minimizing access to pests, storage capacity, and a firm foundation. With this in mind, let’s design a hay barn for your beef cattle!

1. Take a few minutes to think about a barn you may have seen during a visit to a farm, a school field trip, or on a drive with your family – or your own, if you have one! If needed, do an internet search for pictures of hay barns. After you have an idea what you want your barn to look like, sketch out your building plan.

   **DID YOU KNOW?** Weather can damage up to 10-30 percent of hay that is not properly stored in a barn. This is why proper storage is important – storing hay in a barn can prevent farmers from wasting resources and losing money.

2. Once you have your plan, build your hay barn using the supplies listed above. **Tip:** While you are welcome to be creative, keep in mind that you want your barn to have a strong foundation. Using sticks to build the framework of your barn is one way to create a strong base and walls.

   **DID YOU KNOW?** Hay is the main type of winter feed for beef cattle.

3. After you finish building your barn, place cotton balls inside the barn to get an idea of how much hay your barn will store.

   **DID YOU KNOW?** Another method of preserving hay for winter feeding is through haylage or baleage. In this system, hay is mowed and then wrapped in plastic for storage before it has been dried.
Test Your Knowledge

See how much you’ve learned about making a hay barn!

**QUESTION 1**
True or False? It is a good idea to store hay outside in the winter.
- a. True
- b. False

**QUESTION 2**
Hay barns help to protect cattle food sources from:
- a. Moisture
- b. Pests
- c. A&B
- d. None of the above

**QUESTION 3**
True or False? A strong foundation is important for the structure of your barn.
- a. It will shed or molt the old skin
- b. It will transform into a butterfly or moth
- c. The old skin will adjust to the new body
- d. It will turn into a cocoon or chrysalis

**QUESTION 4**
Haylage or Baleage is the process of__________.
- a. Freezing hay
- b. Mowing hay and leaving it outside
- c. Mowing hay and wrapping it in plastic
- d. Mowing hay and wrapping it in string

**QUESTION 5**
True or False? Hay bales range in size, but overall, they are really heavy!
- a. True
- b. False

Reflection Questions

Bonus questions to inspire wonder:
- What was challenging as you created your barn into a model from your sketch?
- Based on what you have learned, what would you change about your model?
- What purposes does a barn serve?
- How are homes and buildings similar to a barn and how are they different?
- It takes a long time to plan and build a hay barn in real life. What are some other things in your own life that require a planning process before you can implement them?
Investigate & Explore

Take your new knowledge to the next level.

While building our hay barn, we learned how the structure and foundation of our design plays a role in protecting our resources. This is true for many different types of buildings. Even though different buildings may not look alike, they can still have similar purposes. For example, whether we are talking about our homes, schools, barns, or a community center, they each provide a safe space for certain types of activities.

With this in mind, take a walk around your neighborhood. Be sure to bring a grownup with you. As you go out into the world, take the time to look at the buildings around you. What are some features you noticed when looking at other buildings that might improve the usefulness of your barn model? What features may help to improve your barn’s structure and foundation?

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No endorsement of these supporters’ products or services is granted or implied by 4-H. This work is supported by the USDA National Institute of Food and Agriculture, AFRI - Education and Workforce Development project 2021-67037-33376.