

Chicka chicka boom boom, will there be enough room... in my coop?

Driving question: How can we create a chicken coop to house 12 productive laying hens?

Project overview: Students will assess how to build a chicken coop that meets the survival needs of 12 laying hens (chickens that lay eggs). Students will choose to incorporate elements that their chickens need and may want in order to thrive and be comfortable (and consequently produce more eggs).

Standards

- **Science: 3-5-ETS1-1.** Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- **Science: 3-LS3-2.** Use evidence to support the explanation that traits can be influenced by the environment.
- **ELA: CCSS.ELA-LITERACY.W.3.2** Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

Procedure

STEP 1: SELECT

Choose the breed of laying hens (chickens) you will build a coop to house. Here are some common chicken breeds that produce white or brown eggs.

- White Leghorn
- Plymouth Barred Rock
- Rhode Island Red
- Orpington
- Maran
- Cochin

STEP 2: RESEARCH

Research the breed of chicken that will be housed in your coop. What are its basic needs?

- How often will it lay eggs?
- What color are its eggs?
- What climate does it produce best in?
- What type of diet does it need?
- How much space does each hen need?

STEP 3: DESIGN

Create your chicken coop. This should be a scaled drawing done on graph paper.

Student example: If 1 laying hen requires 5 to 10 square feet of space, then 12 laying hens will require 60–120 square feet. ($6 \times 10 = 60$ square feet, $12 \times 10 = 120$ square feet.)

- How much space do 12 laying hens need?
- Where will they lay their eggs? Do you need a space for this?
- How will you feed your laying hens?
- How will you water your laying hens?
- What else should be in the coop to create a healthy and happy environment for your laying hens?

STEP 4: PEER REVIEW

Present your design to a student peer group and explain the size of your coop and how it meets the needs of your 12 laying hens. Complete a Venn diagram to discuss the similarities and differences between your chicken coops and chicken breeds. Then indicate how your team can improve their design based upon your peer presentations.

STEP 5: ANALYZE

Reflection:

1. What did you learn about chickens?
2. What do chickens need to live comfortably and produce eggs?
3. Did you solve the problem? Will Mr. Rooster's chickens stay safe throughout the year and produce a lot of eggs?