

READY-MADE RESOURCES

The growth and development of pigs

Welcome, teachers, to your guide for successful student completion of the GrowNextGen and Ohio Pork Council Growth and Development of Pigs Ready Made Resource Lesson. These STEM lessons will take approximately one class period each (40 minutes) and will extend students' science literacy as they explore the life cycle and habitats of pigs. These activities are meant to be flexible for you to use as needed.

Before students begin these activities they will need access to the book *Welcome to Our Farm* by the Ohio Pork Council, a computer with internet access, a writing utensil, various cereals, raisins, and a plastic sandwich bag.

Activity 1: Where do pigs live?

Read *Welcome to Our Farm* and answer the following questions in either a class discussion or group format.

1. Where do pigs live?
2. What do they need to be healthy and grow in their environment?
3. How does their environment help keep them healthy as they grow?

Create the perfect habitat for pigs to grow up in. Remember to list the items pigs need to keep them healthy in the top right box and explain why they are necessary in the bottom right box!

Draw a picture of where pigs live.

Be sure to include the items from the top right box in your drawing!

Answers will vary.

What do pigs need to be healthy and grow?

Answers will vary.

How does this environment keep them healthy?

Answers will vary.

Activity 2: How fast does a pig grow?

Make a prediction! How long does it take a pig to reach market weight? Watch the video “What do pigs eat?” (https://youtu.be/tGfIS_8Orgo) and answer the following questions:

1. What types of foods do pigs eat?

Sow's milk, Soybean meal, corn, vitamins and mineral supplement.

2. Why does this feed change as the pigs grow larger?

Weaned pigs no longer receive milk. Protein and vitamin/mineral supplement percentages change as pigs become more mature.

3. How large will a baby pig grow as it gets ready to go to market?

250 pounds.

When the video is complete, check your answers with a partner. Was your prediction correct?

Answers will vary.

Plot the following coordinates on the graph below and draw a line connecting the points.

Birth

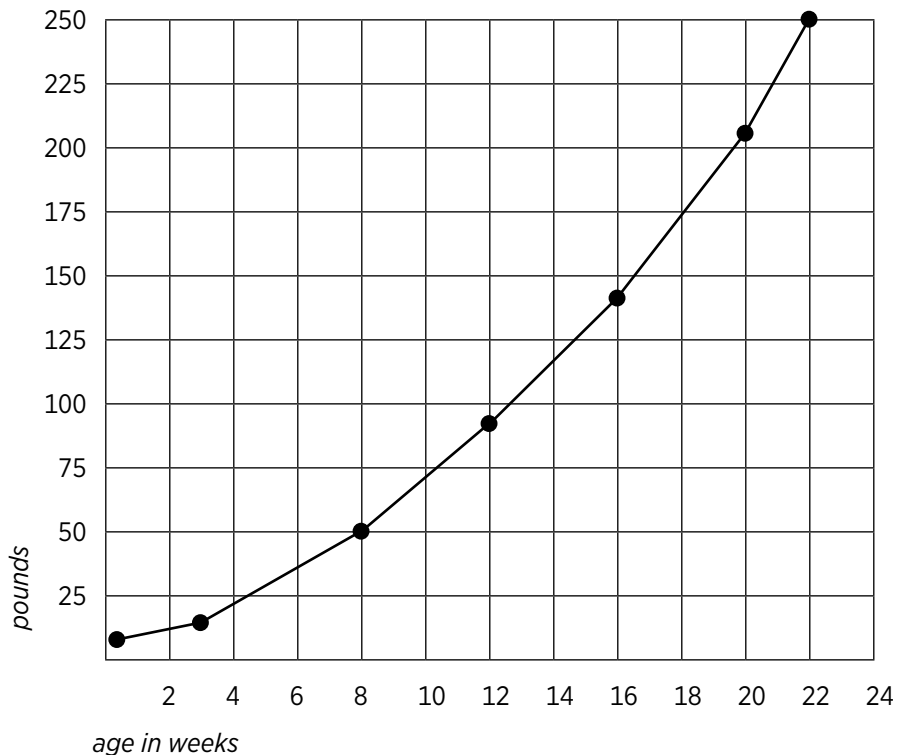
- 0 weeks, 3 pounds

Weanling to maturity

- 3 weeks, 15 pounds
- 8 weeks, 50 pounds
- 12 weeks, 90 pounds
- 16 weeks, 145 pounds
- 20 weeks, 210 pounds

Market

- 22 weeks, 250 pounds



What does the graph tell us?

1. In 6 weeks, how much should a pig weigh?

250 pounds

2. How old should a pig be when it weighs 125 pounds?

~14½ weeks

3. How fast does a pig grow? Write down your answer, then ask your neighbor a question about how a pig grows.

Answers will vary (~250 pounds in 22 to 24 weeks).

4. What is the life cycle of a pig? Can you explain a pig's growth from its birth to the time it is harvested?

Answers will vary.

Activity 3: Let's make pig feed!

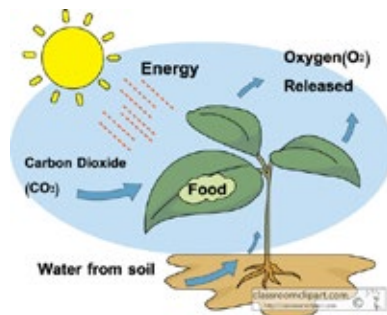
What should go into a feed recipe to make sure that pigs are receiving the correct nutrients? Pigs require protein, carbohydrates (energy), and vitamins & minerals to be healthy. Soybean meal is a great source of protein! We are going to blend together soybean meal for protein, corn flour for energy, and a vitamin & mineral pack to complete our healthy feed mix.

For every one part of soybean meal in the mix, farmers will add 5 parts corn flour. Fill in the chart to the right to determine the amounts needed.

Parts of soybean meal	Parts of corn flour
1	5
2	10
4	20
7	35
9	45

You can create your own "feed mix" with corn flour (Corn Chex), soybean meal (Cheerios), and raisins. The raisins represent the vitamins and minerals farmers add to the pig feed to keep the pigs healthy and strong. Remember that each piece of cereal is one part of your feed mix! Mix it up and enjoy!

1. Where do soybeans and corn get their energy to feed the pigs?
Can you draw a model demonstrating how the sun, air, and water help to create this energy in plants?



Here's one possible recipe for pig feed: 3 parts soybean meal + 15 parts corn flour.

2. If each part was a total of 5 pounds, how many pounds of soybean meal do you need for this recipe?

15 lbs.

3. How many pounds total will the recipe be?

90 lbs.

Learn more about what happens on a pig farm! [Sign up for a virtual field trip now!](http://ohiopork.org/fieldtrip) (ohiopork.org/fieldtrip)

NextGen Standards

Science and engineering practices

- Asking questions and defining problems
- Planning and carrying out investigations
- Developing and Using Models
- Engaging in Argument from Evidence
- Analyzing and Interpreting Data
- Using Mathematics and Computational Thinking

Crosscutting concepts

- Patterns
- Cause and effect
- Scale, proportion, and quantity
- Energy and matter

Disciplinary core ideas/content

- LS3A Inheritance of traits
- LS1B Growth and development of organisms
- LS3B Variation of traits
- LS1C Organization for matter and energy flow in organisms
- LS4D Biodiversity and humans
- PS3D Energy in chemical processes and everyday life