



Explorations in Agriculture

PIG FEED SACK

PURPOSE

Students will learn the basic components of a healthy diet (ration) for pigs. They will also see how Science, Technology, Engineering and Math relates to feeding and raising pigs and other livestock.

TARGETED

3rd–5th grade

MATERIALS

- Sandwich sized Ziploc bags
- Yarn
- Scale and weigh boat OR measuring cups
- Containers for each feed ingredient
- Sample of real pig feed
- Toasted oat cereal- represents carbohydrates
- Blue Candy (M&Ms) – represents water
- Raisins – represents minerals
- Soy nuts – represents protein
- Small candy (Nerds) – represents vitamins
- White chocolate chips – represents fat
- Feed Sack sticker



ACTIVITY

1. Give each student a “Feed Sack” plastic bag and label it with the feed sack sticker.
2. Have students count out 6 blue M&Ms (or other blue candy) to represent the 6 gallons of water a pig needs each day. Add this to the feed sack.
3. Students weigh 10 grams of toasted oat cereal OR measure 1 cup to represent carbohydrates in a pig’s diet. Add this to the feed sack.
4. Students weigh 4 grams of soy nuts to represent protein in a pig’s diet OR measure $\frac{1}{4}$ cup to represent protein in a pig’s diet. Add this to the feed sack.
5. Students count out 10 small candies (Nerds) to represent vitamins and 10 raisins to represent minerals. Add these items to the feed sack.
6. Students count out 3 white chocolate chips to represent fat in a pig’s diet. Add these to the feed sack.
7. Seal the bag and mix the ingredients. Display samples or photographs of actual pig feed. Discuss with students the importance of all of the ingredients and nutrients. Be sure to mention that animals don’t really eat candy but they do eat specific ingredients in very precise amounts so they can grow fast and produce a delicious and nutritious food product for us to eat.

CLASSROOM CONNECTIONS

Science

Research and discuss with students the STEM careers needed to feed pigs and other livestock including nutritionists and engineers.

Math

Calculate the percent of fraction of the complete mix that each ingredient represents. Discuss why some ingredients and nutrients are needed in large amounts (fractions/percentages) and some are needed in smaller amounts.

Continued

ACADEMIC STANDARDS

Minnesota Science Standards and Benchmarkss

3.1.3.2.2 Recognize that the practice of science and/or engineering involves many different kinds of work and engages men and women of all ages and backgrounds

5.1.3.4.1 Use appropriate tools and techniques in gathering, analyzing and interpreting data.

National Agricultural Literacy Outcomes

T2. 3-5d Provide examples of specific ways farmers/ranchers meet the needs of animals

ADDITIONAL RESOURCES

Book: *Pigs & Pork in the Story of Agriculture* by Susan Anderson and JoAnne Bugey

MN Pork Board Educational Materials -

www.mnpork.com/farmer-resources/educational-material-order-form-3/

Adapted from Iowa Ag Literacy Foundation



In accordance with the Americans with Disabilities Act, this information is available in alternative forms of communication upon request by calling 651-201-6000. TTY users can call the Minnesota Relay Service at 711. The MDA is an equal opportunity employer and provider.



I'm a **swine nutritionist**.

I balance pigs' rations so they get all the nutrients they need.

These pigs need these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips

I'm a **swine nutritionist**.

I balance pigs' rations so they get all the nutrients they need.

These pigs need these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips

I'm a **swine nutritionist**.

I balance pigs' rations so they get all the nutrients they need.

These pigs need these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips

I'm a **swine nutritionist**.

I balance pigs' rations so they get all the nutrients they need.

These pigs need these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips

I'm a **hog farmer.**

I take care of the pigs every day.

I make sure my pigs eat these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips

I'm a **hog farmer.**

I take care of the pigs every day.

I make sure my pigs eat these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips

I'm a **hog farmer.**

I take care of the pigs every day.

I make sure my pigs eat these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips

I'm a **hog farmer.**

I take care of the pigs every day.

I make sure my pigs eat these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips

I'm a **swine veterinarian**.

I take care of the pigs' health

These pigs need these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips

I'm a **swine veterinarian**.

I take care of the pigs' health

These pigs need these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips

I'm a **swine veterinarian**.

I take care of the pigs' health

These pigs need these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips

I'm a **swine veterinarian**.

I take care of the pigs' health

These pigs need these feed components to stay healthy:



Feed Component	Representative
Water	Blue M&Ms
Carbohydrates	Toasted Oats
Protein	Soy Nuts
Vitamins	Nerds Candy
Minerals	Raisins
Fat	White Chocolate Chips