

Illinois Agricultural Commodities Income

Grade Level: 4-8

Lesson Overview

Students will learn about Illinois commodities income while using graph interpretation and basic math skills, including fractions, decimals, and using large numbers.

Student Objectives

1. Interpret charts and graphs to answer questions.
2. Use computation skills to find answers from data.
3. Use numbers in millions and billions.
4. Convert fractions, decimals and percentages.

Materials

- ✓ Illinois Agricultural Commodities Income Worksheet

Vocabulary

- **commodity** - basic raw materials and food stuffs such as metals, petroleum, coffee, and grains.
- **income** - money earned from goods or services.

Background Information

The price of a commodity (for example, corn) is determined by a seller agreeing with a buyer to deliver a certain quantity at a specific time and place. This is done electronically at trading businesses, such as the Chicago Board of Trade. Prices change constantly in response to change in supply and demand.

Procedure

1. Distribute Illinois Agricultural Commodities Income Worksheet to students.
2. Review the relationships among percentages, decimals, and fractions.
3. Introduce and /or review the terms: commodity and income.
4. Have students complete the Illinois Agricultural Commodities Income Worksheet.

Extension Activities

1. Have students create a bar graph using data from the circle graph.

2. Students could create questions of their own to be answered using the data.

Additional Resources

- <https://youtu.be/2rWnmyTZQgs> explanation of supply and demand affecting farmer income.
- https://youtu.be/nGZn_pGT_PM explanation of commodities

Standards

Illinois Mathematics Standard

7.SP.8b Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams.

Illinois English Language Arts Standard

L5 Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

The **M**ultidisciplinary **A**gricultural **I**ntegrated **C**urriculum (mAGic) was created in 2004 under the leadership of the Illinois State Board of Education (ISBE) and the Facilitating Coordination in Agricultural Education Project (FCAE). Funding was made available through the FCAE grant budget from the agricultural education line item of the ISBE budget. This revision, as printed, was developed in April 2021.



These mAGic lessons are designed to bring agriculture to life in your classroom. They address the Illinois Learning Standards in math, science, English language arts and social studies.

Plant mAGic project update writers/reviewers: Rhodora Collins – Dekalb County; Suzi Myers – Kane County; Connie Niemann – Montgomery County; Debbie Ruff – Livingston County; Jennifer Waters – Sangamon County; and Dawn Weinberg – Hancock County.

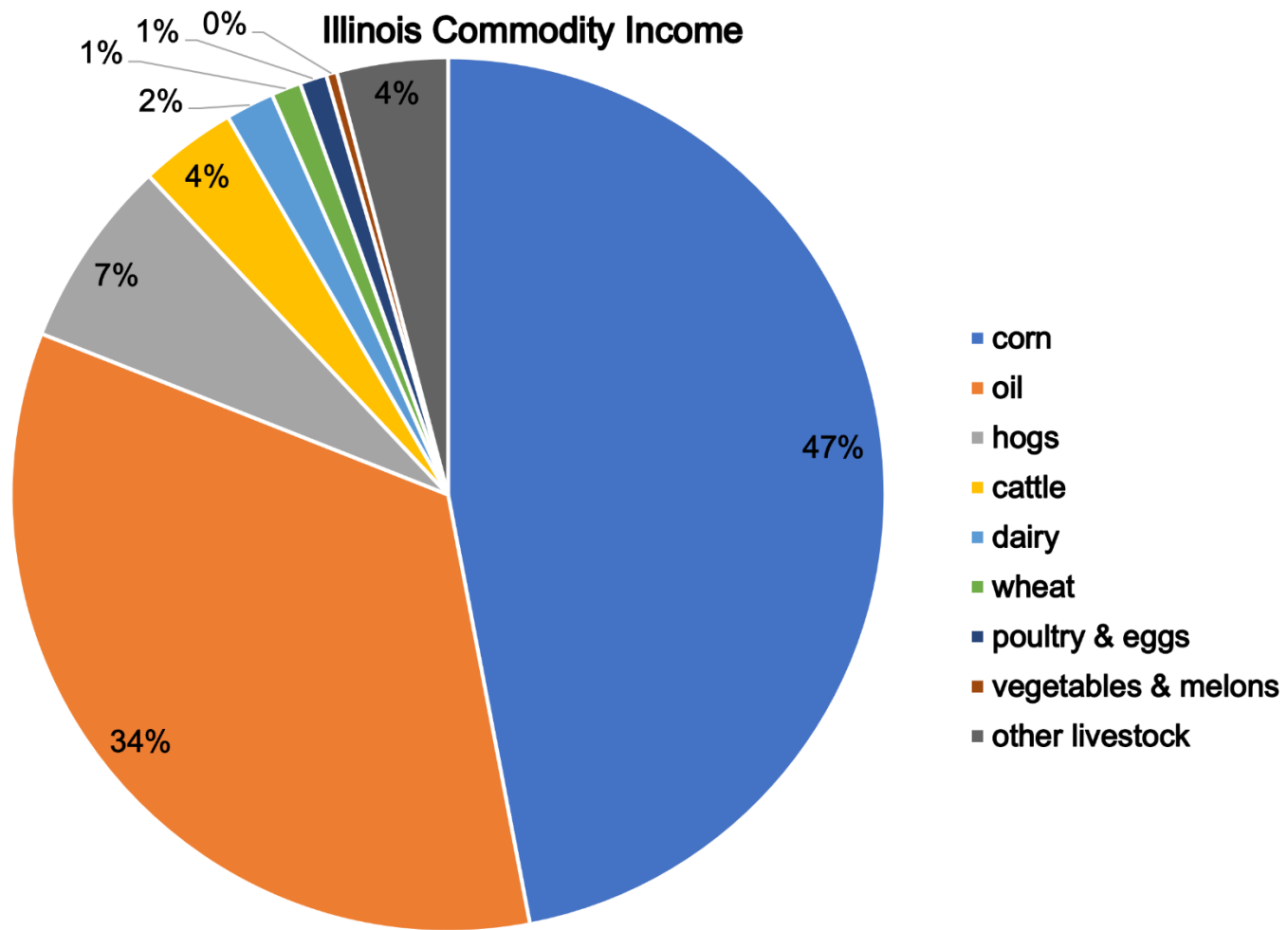
Name _____

Illinois Agricultural Commodities Income Worksheet

Using the pie graph, answer the questions.

1. Why do you think a circle graph was used to show this data?
2. What percent of Illinois income is from growing plants?
3. What percent of Illinois income shown on the graph is from livestock?
4. What crops do you think would be part of the "oil" section?
5. Which crop is grown the least in Illinois?
6. What is the difference in the percentage of corn and wheat?
7. If the crop income total was \$14,397,527.00, what would be the amount of money raised from corn? (*Show your work on back of the page.*)
8. Using the answer you got for number 8, what would be the amount of income raised for the rest of the crops combined? (*Show your work on the back of the page.*)
9. The total amount of income from all commodities in Illinois is \$16,727,234.00. What is the income total for livestock?
10. What animals do you think would be part of the "other livestock" data?
11. Convert the percentages of each commodity to decimals and fractions:

Crop	Percent	Decimal	Fraction
Corn	47%		
Oil/Soybeans	34%		
Hogs	7%		
Wheat	1.1%		
Cattle	3.6%		
Poultry & eggs	1%		
Vegetables & melons	0.4%		
Dairy	1.8%		
Other Livestock	4.1%		



Source: Illinois Farm & Food Facts '20

Illinois Agricultural Commodities Income Worksheet ANSWER KEY

Using the pie graph, answer the questions.

1. Why do you think a circle graph was used to show this data? **Answers will vary**
2. What percent of Illinois income is from growing plants? **$47+34+1.1+0.4 = 82.5\%$**
3. What percent of Illinois income shown on the graph is from livestock?
 $7+3.6+1.8+1=13.8\%$.
4. What crops do you think would be part of the "oil" section? **Soybeans, canola**
5. Which crop is grown the least in Illinois? **Vegetables and melons**
6. What is the difference in the percentage of corn and wheat? **$47-1.1 = 45.9\%$**
7. If the crop income total was \$14,397,527.00, what would be the amount of money raised from corn? (Show your work on back of the page.) **$14,397,527 \times .47 = \$6,766,838.00$ (rounded to nearest dollar)**
8. Using the answer you got for number 8, what would be the amount of income raised for the rest of the crops combined? (Show your work on the back of the page.)
 $\$14,397,527.00 - \$6,766,838.00 = \$7,630,684.00$
9. The total amount of income from all commodities in Illinois is \$16,727,234.00. What is the income total for livestock? **$\$16,727,234.00 - 14,397,527.00 = \$2,329,707.00$**
10. What animals do you think would be part of the "other livestock" data? **Answers vary**
11. Convert the percentages of each commodity to decimals and fractions:

Crop	Percent	Decimal	Fraction
Corn	47%	0.47	47/100
Oil/Soybeans	34%	0.34	34/100 17/50
Hogs	7%	0.07	7/100
Wheat	1.1%	0.011	11/1000
Cattle	3.6%	0.036	36/1000 9/250
Poultry & eggs	1%	0.01	1/1000
Vegetables & melons	0.4%	0.04	4/1000 1/250
Dairy	1.8%	0.018	18/1000 9/500
Other Livestock	4.1%	0.041	41/1000