

**AUTHOR:**

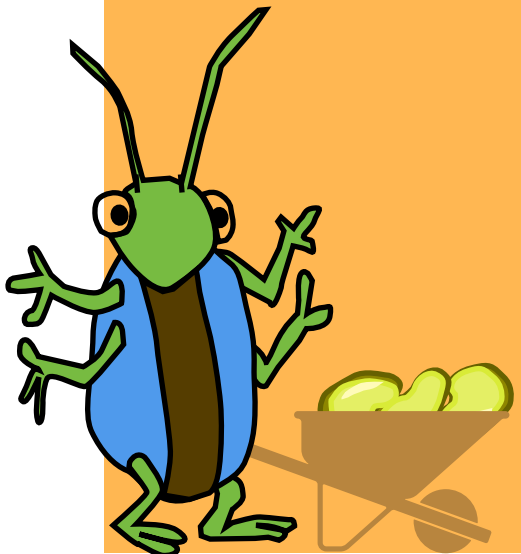
Matthew McElligott

Ralph and Flora pick thirteen beans and try to find a way to share them evenly.

Ages: 4 to 12 years

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Bean Thirteen

It is dinner time at Ralph and Flora's house. Who will end up with the dreaded bean thirteen?

Math Connections:

Counting

Division

Prime Numbers

Factors

Activities to Do Together:

- Find out why the factors of 8 are only 1, 2, 4, and 8.
- Talk about prime numbers. Notice that some numbers only have one set of factors, the number itself times 1. Discuss the first five prime numbers: 2, 3, 5, 7, and 11.
- Follow along with the book and have 13 beans available to divide into piles. Each time Flora and Ralph invite a guest to dinner divide the 13 beans among them all.
- While having a snack divide the pieces between your child and yourself. Discuss if the snack was evenly shared.

Vocabulary for Building Math Concepts:

fair, four, leftover, many, one, piles, six, thirteen, twelve, two

Extension Questions:

1. How do you think this story would have been different if Flora had not picked the thirteenth bean? Could Ralph and Flora divide the twelve beans evenly between themselves? How many beans would each of them get?
2. How could twelve beans be divided evenly between Ralph, Flora, and April? How could twelve beans be divided evenly between Ralph, Flora, April, and Joe?
3. Could twelve beans be divided evenly between Ralph, Flora, April, Joe, and Meg. Explain why or why not.
4. Try to divide 11 beans evenly between two, three, four, and five people. What happens? Is 11 like 12 or 13? Try to divide 18 beans evenly between two, three, four, and six people. What happens? Is 18 more like 12 or 13?
5. Why do you think it wasn't possible to divide 11 and 13 by 2, 3, 4, 5, and 6?

Early Math Project Resources:

[Unlucky Bean Thirteen](#) (English)

[El Frijol 13 Sin Suerte](#) (Spanish)

[Twelve Whole Beans](#) (English)

[Doce Frijoles Enteros](#) (Spanish)

Online Resources:

[Bean Math Activities From Matt McElligott's Website](#)

Related Books:

The Doorbell Rang by Pat Hutchins; *Divide and Ride* by Stuart J. Murphy

