

Lesson: Seed Math

Objective: Students will understand estimation and will use estimation to make predictions about the number of seeds contained within one fruit. Give students a chance to taste some of the fruits being used for estimation if time allows and the fruits are appropriate for tasting.

Background: It is surprising when the actual number of seeds within a fruit is revealed. Then when you multiply that number by the number of fruits on one plant, students are amazed that all those seeds developed from the growth and development of one seed.

Materials: plates or tins to contain the seeds and fruit pieces, knife to cut open the fruit, clipboard with paper and pencil for calculations, or the whiteboard, picture or diagram of the plant/fruit/seeds being investigated to demonstrate the single seed developing many seeds.

Action: Ask students if they understand the term estimation? How can they estimate the number of beans in a jar? *What if we take the weight of one bean....then what can you do? Or count 10 beans and estimate the space they occupy and how many of those spaces are in the jar.* How can we estimate the number of seeds on one plant? Make predictions of the number of seeds on one plant.

Review the parts of the plant. What part of the plant contains the seeds? Any part of a plant that contains seeds is called a Fruit.

Cut open the fruit and extract the seeds. Count 10 seeds and set them aside until you've put all the seeds from one fruit, or section of one fruit, into piles of ten. Then count the seeds and multiply by the remaining sections (if you counted the seeds from $\frac{1}{4}$ of a cucumber, multiply by 4 to estimate the total seeds). Multiply total piles by 10 for an estimate of the total seeds within the fruit. Then count the number of fruits on one plant. Multiply your number of fruits by the number of seeds in one fruit.

Offer students the opportunity to taste the fruit if there is more available. Place seeds/scraps into the compost.

Wrap up:

What were your predictions for the number of seeds for one plant? Does the estimated number surprise you? Can we now use estimation for determining other numbers?