Six-Pack of Soda

I often buy cans of soda in a 6-pack. If I buy 2 6-packs of soda each week, how many cans will I buy in a month to recycle? How many 6-packs will that be?

Grade Levels Pre-K-2

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Context

My first graders do a lot of activities that emphasize the impact of packaging and recycling on our Earth through an environmental theme. The children investigate what paper, glass, plastic and other materials their families throw away every day. They also learn about the dangers of six-pack rings on wildlife and their environment.

What This Task Accomplishes

This task has the children actively involved with the number set of six, and grouping objects by the dozen. It also requires that students change the month into weeks, and it asks children to organize their information in order to devise a diagram that solves the problem.

What the Student Will Do

The class had a discussion about how to change the month into weeks at the calendar center. After this, each desk group had a plastic six-pack ring to examine, and a six-pack of soda was on a table to refer to if needed. Small tubs of rainbow tiles were also available for a tactile approach, but many students began with pictorial strategies.

Students should represent the cans in groups of six rings by each week and come up with a total of cans to recycle, and the number of six-packs purchased.

Time Required for Task

60 minutes

Interdisciplinary Links

Science -

Study the impact of different types of packaging on the environment, and how recycling benefits our planet.

Language Arts -

Students can write letters to soda companies describing their findings, and encouraging them to

continue to make containers from recycled materials.

Teaching Tips

This is not a complex task compared to others we have done in our classroom, but I like to alternate easier problems with more challenging ones, providing students with different levels of comfort and success.

In order to make the problem more challenging, you could ask students to figure out the number of cans for six months, or add a money component. Money skills are often just being introduced in first grade, so you could start off with even amounts like $3 for each six-pack. You might even investigate how many trips it would take to bring the cans to the recycling center.

Suggested Materials

- Calendars
- Plastic six-pack rings
- Six-packs of soda
- Rainbow tiles or other manipulatives
- Grocery bags
- Play money

Possible Solutions

Students at the Practitioner and Expert levels should be able to accurately represent a month as four weeks, group the six-packs with rings, and arrive with the solution of 48 cans. The student should also include the data for eight six-packs purchased for a month.

Benchmark Descriptors

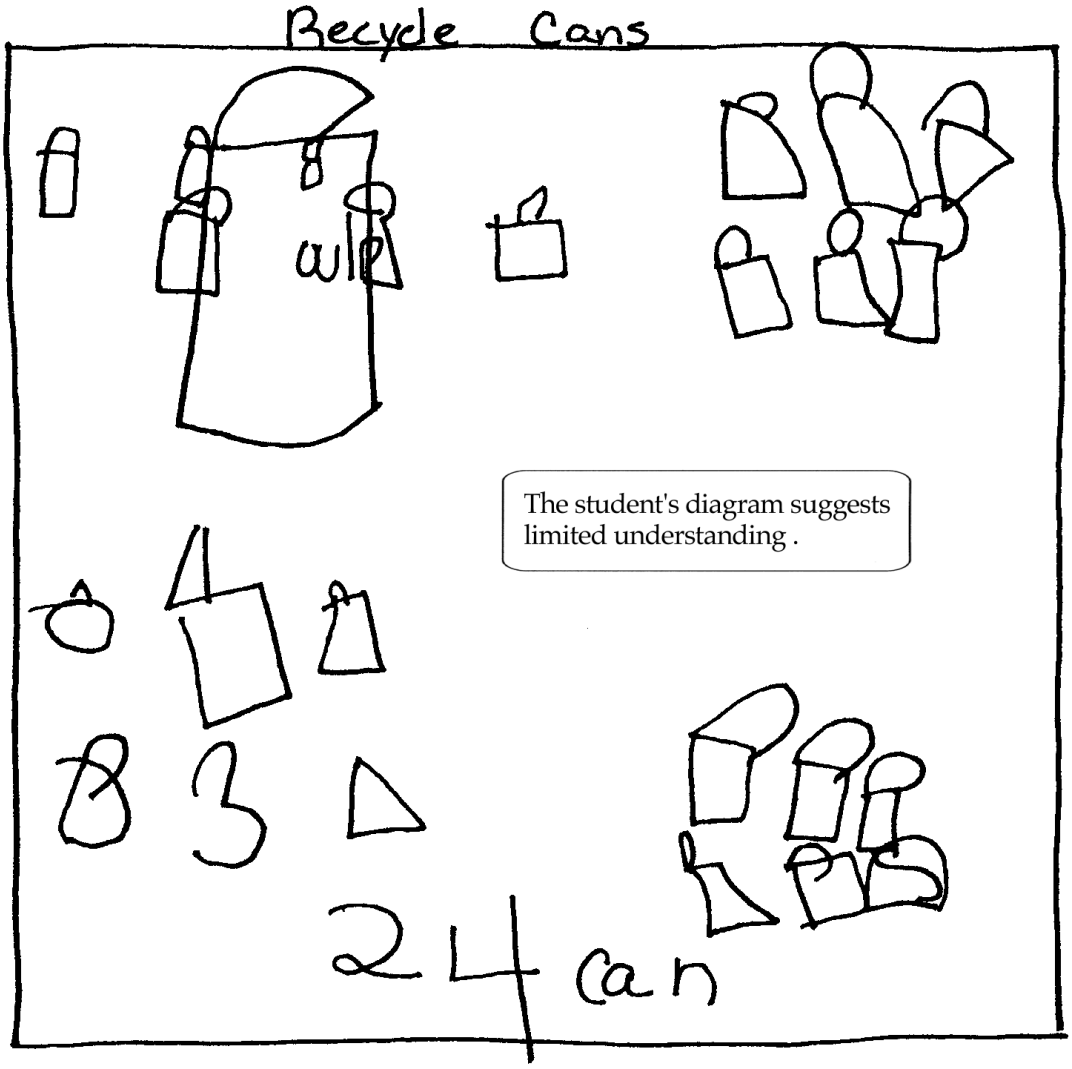
Novice
This student did not have an understanding of the problem. S/he applied limited strategies and inaccurate procedures and was not able to reach a solution. The student confused the groupings of six-pack with the number of weeks in a month.

Apprentice
This student started to use a helpful mathematical procedure, but did not carry it through. Even though this student has an understanding of the concept of six, and verbally stated this while using the models provided, s/he did not represent this in the diagram and was unable to get close to a solution.

Practitioner
This student clearly had a broad understanding of the task. S/he used a strategy for the calendar component and accurately represented the number of six-packs weekly. The solution shows effective mathematical reasoning and the explanation is clear.

Expert
This student has a deep understanding of the problem and uses an effective strategy to come to a solution of 48 cans. S/he has a clear concept of grouping by six, and the four weeks in a month. The mathematical notation was appropriate and detailed.

Novice



The student's diagram suggests limited understanding .

I buy cans of soda in a six pack If I buy 2 six packs each week how many will I buy in a month to recycle?

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"4 packs a week" shows the student's misunderstandings.

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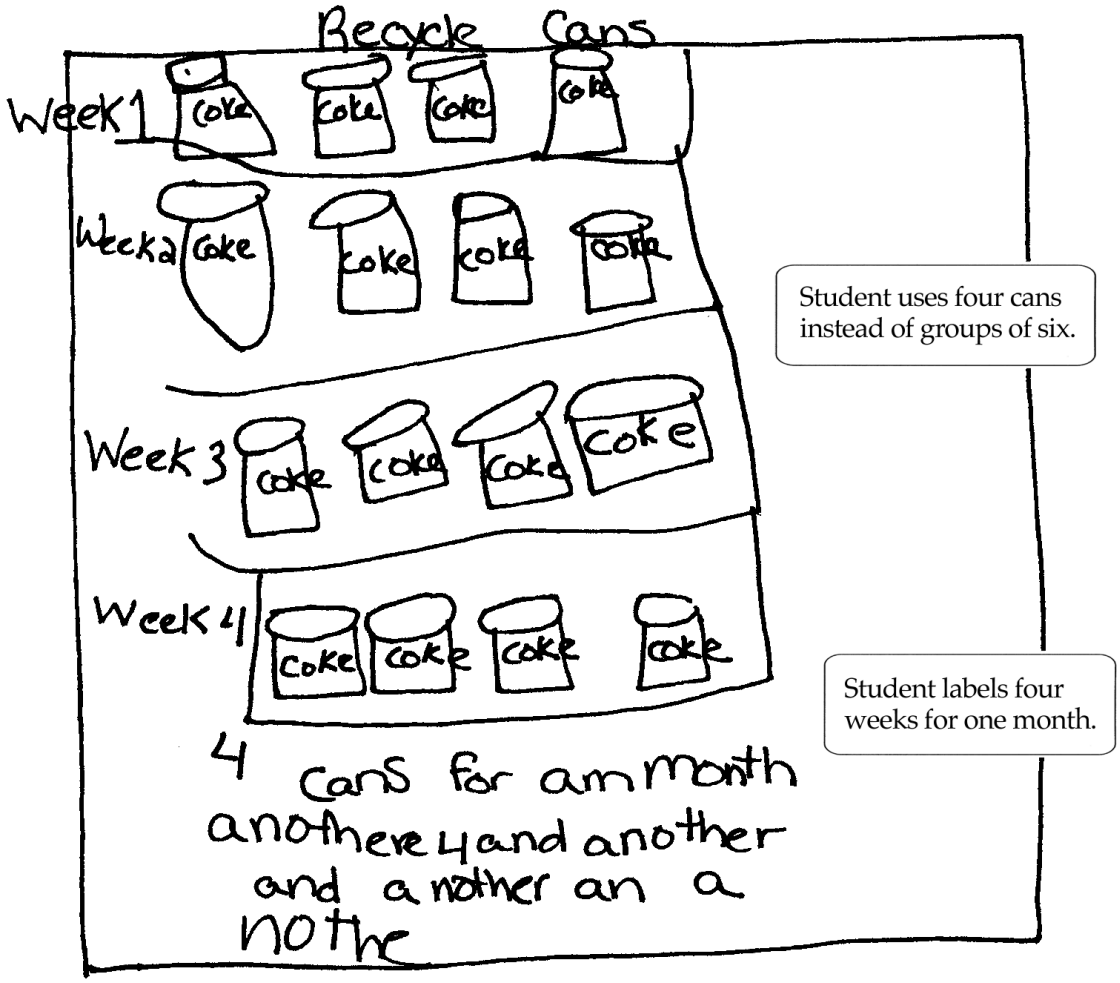
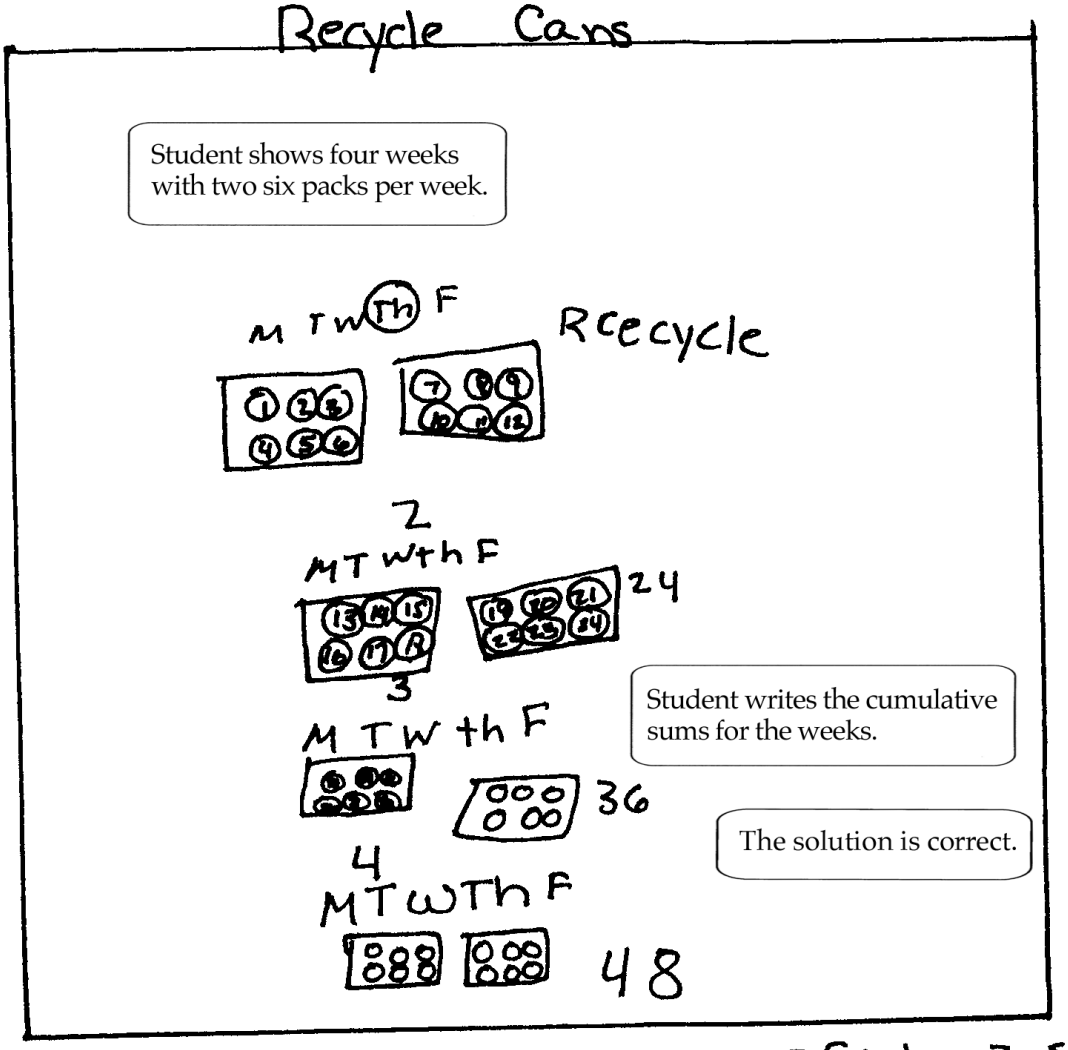
Apprentice



I buy cans of soda in a six pack. If I buy 2 six-packs each week how many will I buy in a month to recycle? This Math is hrde I rote Week 1 and Week 2 and Week 3 an Week 4 and then drew the Cans

Practitioner



I buy cans of soda in a Six pack If I buy 2 six-packs each Week how many will I buy in a month to recycle? there are 48 cans of soda you recycle in a month. There are 8 boxs for the soda Cans. I bot coke

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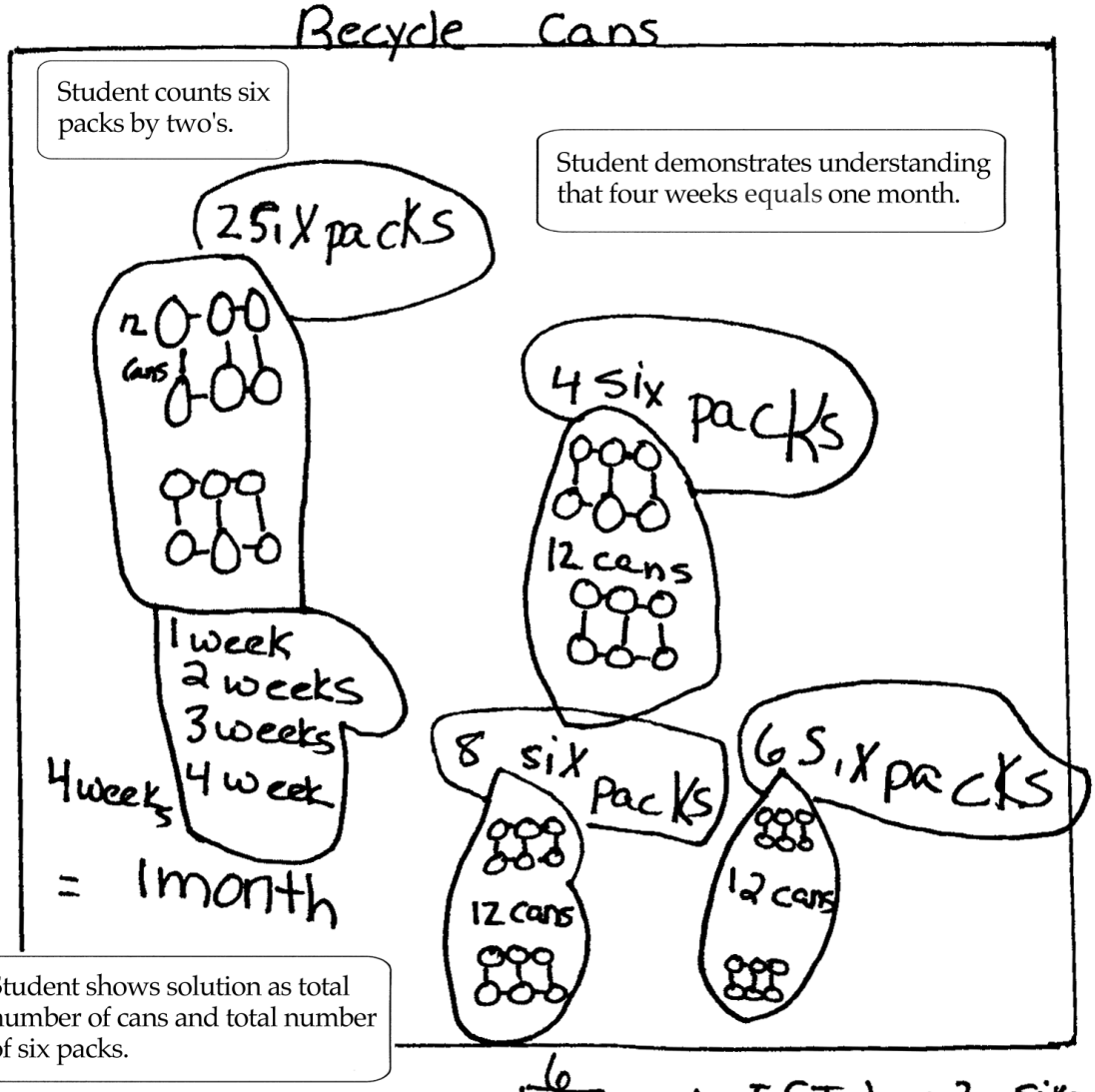
Expert



I buy 6 six-pack cans of soda in a week. If I buy 2 six-packs each week how many will I buy in a month to recycle? 48 cans in all.

I cut 12 cans in each group.

8 six packs in all.

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