

K.OA Christina's Candies

Alignments to Content Standards: K.OA.A.3

Task

This task is meant to be presented as a sequence of questions posed by the teacher to the students.

Christina has 7 candies. Some of them are chocolate, and some of them are lemon.

- a. If she has one chocolate candy, how many lemon candies does she have if the rest are lemon?*
- b. If she has two chocolate candies, how many lemon candies does she have if the rest are lemon?*
- c. If she has 3, (4, 5, 6) chocolate candies, how many lemon candies does she have if the rest are lemon?*

Once a student finds one answer, ask him/her to find another. Ask the student to use objects, pictures, or equations to demonstrate his/her thinking. Not all pairs that total 7 are required to meet this standard, but students must include more than one.

IM Commentary

As with several other tasks in the set, any number between 2 and 10 can be used in place of 7 to address K.OA.3. Although not necessary to meet this standard, listing the possible pairings of chocolate and lemon candies in a systematic way might help the student show that s/he has found all of the possible pairings.

The Standards for Mathematical Practice focus on the nature of the learning experiences by attending to the thinking processes and habits of mind that students need to develop in order to attain a deep and flexible understanding of mathematics. Certain tasks lend themselves to the demonstration of specific practices by students. The practices that are observable during exploration of a task depend on how instruction unfolds in the classroom. While it is possible that tasks may be connected to several practices, only one practice connection will be discussed in depth. Possible secondary practice connections may be discussed but not in the same degree of detail.

This particular task helps illustrate Mathematical Practice Standard 2, Reason abstractly and quantitatively. Students make sense of quantities and how they are related in a problem situation. In the task at hand, students first create a meaningful representation of the problem by using objects, pictures, or equations. Then, they manipulate the objects, pictures, or equations by finding different pairings of chocolate and lemon candies totaling seven. Lastly, students periodically contextualize the problem by connecting the mathematical objects or symbols back to the context. Thus, students build meaning for the mathematical symbols by reasoning about the problem rather than memorizing an abstract set of rules or procedures. Problems that begin with a context and are represented with mathematical objects or symbols are often examples of modeling with mathematics (MP.4).

[Edit this solution](#)

Solution

Solutions for this task will vary, depending on which numbers students start with and how they represent their work. Students may represent their solutions as drawings or equations.

Possible equations: $1+6=7$; $2+5=7$; $3+4=7$; $4+3=7$; $5+2=7$; $6+1=7$

Note that the total (7) may appear on either side of the equation (e.g., $7=2+5$).

The specific wording of this question suggests that Christina had some of each flavor, thus eliminating the 7 chocolate and 0 lemon and the 0 chocolate and 7 lemon possibilities.



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