

# Lesson 24: Analicemos qué tan razonables son las soluciones

## Standards Alignments

Addressing 4.NBT.B.4, 4.OA.A.2, 4.OA.A.3

### Teacher-facing Learning Goals

- Assess the reasonableness of responses.
- Solve multi-step problems involving the four operations.

### Student-facing Learning Goals

- Resolvamos problemas y evaluemos qué tan razonables son las soluciones.

## Lesson Purpose

The purpose of this lesson is for students to solve multi-step word problems by analyzing data, estimating, reasoning, and performing multiple operations. It also helps students to build fluency in using the standard algorithm to add and subtract multi-digit numbers up to 1 million. In each activity, students assess the reasonableness of their responses.

In the final lesson of the unit, students apply their knowledge of numbers in base-ten and their estimation and computation skills to solve problems about languages and populations in the United States. The census data used here prompts students to work with large numbers and to interpret them carefully.

This lesson has a Student Section Summary.

### Access for:

#### Students with Disabilities

- Representation (Activity 1)

#### English Learners

- MLR8 (Activity 1)

## Instructional Routines

Notice and Wonder (Warm-up)

## Materials to Gather

- Grid paper: Activity 1

## Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

## Cool-down (to be completed at the end of the lesson)

 5 min

Los niños y los ancianos

### Standards Alignments

Addressing 4.NBT.B.4, 4.OA.A.3

### Student-facing Task Statement

Estos son los datos sobre los números de niños y de ancianos de Filadelfia en el 2017.

edad	número de personas
menos de 5 años	107,736
de 5 a 14 años	184,323
de 15 a 17 años	53,530
65 años o más	203,007

1. ¿Qué número de personas de Filadelfia tenían menos de 18 años en el 2017?
2. ¿Cómo sabes que tu respuesta al problema 1 es razonable?

### Student Responses

1. 345,599 children under 18 ( $107,736 + 184,323 + 53,530 = 345,599$ )
2. Estimate:  $110,000 + 180,000 + 50,000 = 340,000$ . There are about 340,000 people under 18, which is close to the actual number 345,599 calculated.