Measurement

Unit 3: Length and Mass

Lesson 17: Mass & Comparing Units of Mass

Objective
*Estimate and use a scale to measure the mass of objects in grams and kilograms.
*Compare measurements in different units and choose the most appropriate unit to measure mass.
ME4-7 and ME4-8

Complete *all* **OR** *a selection* **of the following activities**

Warm-up: Mass Guess Match

Materials: Common classroom/home items (apple, pencil case, water bottle, stapler, book, bag of rice, backpack, etc.)

Instructions:

1. Show a set of real objects or images.
2. Ask:
    a. Would you measure this in grams or kilograms?
    b. What do you think it weighs?
3. Record predictions in a simple T-chart:

Object	Grams or Kilograms?	Mass Estimate
Apple	grams	150 g
Backpack	kilograms	2 kg

Teaching Activity A: Weigh it Out

Materials: Scale (kitchen or balance scale), objects from warm-up, recording sheet

Instructions:

1. Students **estimate** the mass of each item in grams or kilograms.
2. **Measure** the actual mass using a scale.
3. Record and compare estimate to actual mass.
4. Decide: Was grams or kilograms more appropriate?

Discussion Prompts:

- Was your estimate close?
- Why was grams/kilograms the better unit?

If no scale is available, use known weights (e.g., a 500g flour bag) as a comparison**.**

Teaching Activity B: Mass Math Mixer

Examples:

1. A watermelon weighs 3 kg. A book weighs 750 g. How much heavier is the watermelon?
2. Jay's school bag weighs 2.4 kg. His lunchbox weighs 600 g. What's the total mass?

Instructions:

- Provide real or made-up multi-step mass problems.
- Students solve using estimation, addition/subtraction, and unit choice.
- Encourage mental math when estimating.

Extension: Convert between g and kg when needed (e.g., 1200 g = 1.2 kg).

Real-Life Anchoring: Math in the World and Life

Prompt: Where do you use grams and kilograms in real life?

Examples:

- Cooking recipes (grams)
- Grocery shopping (kilograms)

- Backpack packing (kilograms)

Task:

- Interview a family member or observe a daily activity where mass matters.
- Write down or draw one example where estimating or measuring mass is important.

Exploration Stations: Playing with Math

Guess & Grab: Students pick mystery items in a bag and estimate their mass, then measure.

Mass Sort: Sort a basket of items into "less than 1 kg" and "more than 1 kg."

Grocery Store Role-Play: Pretend to weigh produce and write price tags based on mass.

Mass Hunt: Walk around the room/house and find 5 items less than 500 g and 5 more than 1 kg.

Questions for Understanding: Perspective-taking and application

- ☐ Two students each weigh something. One gets 1001g. The other gets 1kg. Who has more? Or do they have the same? Why?
- ☐ When does precise mass measurement matter?
- ☐ You have an object that is hard to carry, but doesn't weigh much. What might it be? What does that tell you about how we feel mass in real life?

Wrap-Up Reflection: Learning into life

Prompt: How did estimating and converting mass help you understand gram and kilogram measurements?

- ☐ **Reflection Options**:
    - ☐ I used to think __, but now I know __.
    - ☐ I'm surprised that __ only weighs __!

- ☐ I'm pretty good at estimating mass because…"

Extend Learning: Creative Invitation

Mass Menu:

Design a creative menu for a pretend restaurant with meal items and their mass in grams/kilograms (e.g., "Mega Burger: 450 g")

JUMP Math 4.1 Lessons
ME4-7 and ME4-8

Estimate and use a scale to measure the mass of objects in grams and kilograms. Compare measurements in different units and choose the most appropriate unit to measure mass.

Lesson co-created by Open AI (2025), [Aiden Cinnamon Tea, Chat GPT 4.5], Jump Math Teacher Resources, Meghan McMillen and Laura Mann @ NIDES, August 2025.