Number Sense

Unit 2: Addition and Subtraction

Lesson 12: Estimating Sums and Differences

Objective

*Estimate sums and differences by rounding each addend to the nearest ten, hundred, thousand, or ten thousand NS4-20

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

Warm-up: "Close enough"

Present small bowls full of loose items like shells, stones, buttons, Lego pieces. Invite students to determine "ish" amounts. Encourage them to think about what is reasonable, likely, close-enough, trusting their intuition and the knowledge of numbers they bring to this task.

Estimation - or as Jo Boaler says, "Ish-ing" - teaches us to listen to what feels true enough in a moment—to be relational, not rigid; grounded, not perfect. It honors the living truth that sometimes precision isn't the most loving thing… but attention is.

Teaching Activity A: Quick estimates with 2 digit numbers

Present pairs of numbers and ask students to quickly, from their gut/intuition, to estimate sums and differences. Encourage students to use rounding as a strategy.

> *What other estimating strategies did you use today?*

Teaching Activity B: "Ish" Sums and Difference

(Inspired by Jo Boaler and Math-Ish)

There is no right estimate, only thoughtful, flexible ones.

Materials: Sets of 2- and 3-digit number pairs and an ish number line (mark benchmark hundreds).
Step 1: *Introduce the concept of "Ish"*
In estimation, it's not about being exact, it's about being reasonable. Read *Ish* by Peter Reynolds. Discuss how artists use "ish": a circle-ish moon, a flower-ish flower, a handful-ish of berries…
Step 2: *"Ish" together*
Model with a number pair - ex: 369 + 323. Invite students to estimate using different strategies: rounding, using benchmarks, breaking down numbers into manageable parts…Plot numbers on the ish number line.
Step 3: *Discuss*
Which estimates felt closest? Which were too flexible? Which strategy was fastest? Most intuitive? Most accurate? What does this show us about "ish" thinking?
Step 4: *Practice and play*
Invite students to practice with their own number pairs with different estimation/"ish" strategies. Compare with friends.

Real-Life Anchoring: Math in the World and Life

Scenario
Your public library ordered 2,345 books last year and 1,678 books this year. Quickly estimate how many books your library ordered in the last two years. How many less books did your library order this year compared to last?

Scenario
You're asked to organize a community picnic for 10 000 people. You have 3950 apples, 1893 pears and 4022 peaches from the fall harvest. At a glance, could you offer each person one piece of fruit or should you request more from the local orchard?

> *When is a rough estimate more helpful than a precise count?*

Exploration Stations: Playing with Math

Estimation Collage
Cut and paste numbers, images, and symbols into a mixed-media artwork that expresses

"*How I know what's close enough*"

Fuzzy Math Comics
Create short comic strips where characters round and estimate in silly situations (e.g., counting stars, mushrooms, dragon eggs).

Close-Enough Theater
Roleplay scenarios where you only have time to estimate—and must explain your rounding decisions to a "council of elders."

Loose Parts "Ish-ing"
Present small bowls full of loose items like shells, stones, buttons, Lego pieces. Invite students to estimate the number of items. Compare estimates with others without counting. When can an "Ish" count be just as valuable as a "precise" count?

Questions for Understanding: Perspective-taking and application

- ☐ When is it *better* to overestimate than underestimate?
- ☐ If two people estimate the same sum in different ways, can both still be useful?
- ☐ When might estimation be more helpful than knowing the exact answer?

Wrap-Up Reflection: Learning into life

- ☐ How were your estimates surprising?
- ☐ How does thinking of estimating as "ish-ing" change the task for you?
- ☐ How does this thought land for you: "When trees sway in the wind, they don't stand exactly still—but they hold their shape. That's what good estimates do."
- ☐ Draw or write to complete this sentence: *When I estimate, my body and brain feel* ...

Extend Learning: Creative Invitation

Draw your Estimation Spirit Animal
What creature guides you when you're deciding what's close enough?

JUMP Math 4.1 Lessons
NS4-20

Estimate sums and differences by rounding each addend to the nearest ten, hundred, thousand, or ten thousand

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