

## Strategies for Supporting the Range of Learners

### Adapt the Learning Situation

Flexible pairings or groupings offer opportunities for students to work with a teacher or other students in various ways.

- Work with students in a small group to preview/review/extend a task
- Make deliberate pairs/groups (e.g. to exchange ideas about how to record or to compare strategies); partner students who are working on the same/different level
- Ask students to “rehearse” with a partner how they are going to present their strategy/work to the class

### Clarify the Problem (or Task)

Sometimes students struggle not because they do not understand the mathematics but because they do not understand the task.

- Clarify the task (rephrase, reiterate)
- Ask student to retell/rephrase the task; explain what they are trying to figure out
- Talk about what is known/unknown
- Model or illustrate the problem with a visual image

### Scaffold a Solution

These suggestions focus on giving a student access to the problem and helping them get started and stay on track rather than showing them how to solve the problem

- Help student get started/make connections/connect to what they already know
- Break down the task; focus on one part of the problem at a time
- Model one part/aspect of the problem
- Take dictation; listen to, then name the student’s idea using mathematical language; model/show how to record student’s idea using numbers/symbols/equations
- Ask questions to guide student towards a more efficient strategy

### Suggest a Tool

Using tools to model, support and extend math thinking is an expected part of engaging in mathematics.

- Suggest a Ten Frame, number line, 100 chart; cubes, color tiles, counters, arrays
- Ask: *Could [cubes or a ten frame] help you show your thinking? or How can you represent your strategy [on a number line]?*
- Refer to a reference/resource chart (e.g. word wall, strategy chart, etc.)
- Put the problem into a context (e.g. money, use a story problem)

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### Adapt a Material

Make a small adjustment to a material to make the activity a “just right level” of difficulty.

- Add visual cues (e.g. highlight multiples of 10 on 100 chart; add a few landmark numbers on an unmarked number line)
- Use different number cubes/cards/materials (e.g. a number cube instead of a dot cube; ten frame cards instead of numeral cards); limit/extend the range of numbers; add a “wild card”
- Make recording sheet visually simpler
- Adapt a gameboard (e.g. play on a 1-50 chart instead of a 100 chart; play on a 101-200 chart)
- Provide a template for arranging the cards in a game

### Vary the Problem (or Task)

Provide additional practice with the targeted math concept/skills.

- Play cooperatively/competitively
- Vary the rules (e.g. fill two rows/columns/the whole game board; play until all players achieve the goal)
- Provide an additional gameboard or set of problems with the same range of numbers/types of problems
- Make up your own story problem (sometimes to trade with another student)

### Adapt the Problem (or Task)

Change the level of difficulty of the problem.

- Make a new easier/harder gameboard
- Challenge students to make their own gameboard
- Limit/expand the size/range of numbers
- Use more/fewer of the cards students are already using
- Provide easier/harder problems
- Ask students to use a different strategy

### Extend Thinking

These suggestions aim to deepen students’ thinking about the targeted mathematics. Ask students to:

- Challenge themselves: *Have you found all of the possibilities? How do you know?*
- Describe a relationship: *Can you use Problem 1 to solve/help with Problem 2? How are the problems related?*
- Develop a conjecture: *What happens when you add two odd numbers?*
- Support and justify their thinking: *Are you sure? How would you convince someone else?*
- Generalize: *Do you think that is true for all numbers?*