Teacher Resource 10.10: Assessment Toolkit #10

This is a tricky milestone to assess, because there are so many strategies that students can use for each problem. Use the following resources to assess student progress through observations, interview and journal entries.

Addition Within 20 Strategy Checklist: This checklist specifically addresses the objective of adding within 20. This will allow you to narrow in on the specific set of facts for each student. Use the following print or digital versions of this checklist to record student progress through observations. You can find the digital version here and force a copy of your own.

Addition Within 20 Fact Checklist: This checklist specifically addresses the more challenging facts of adding within 20. Only one form of the fact is presented. The commutative facts should also be considered. Use the following print or digital versions of this checklist to record student progress through observations. You can find the digital version here and force a copy of your own.

Observe students during games, activities or small group lessons. Use the following key to quickly record student progress: *(Note that it differs from previous keys.)*

✳ Students rely heavily on physical manipulatives or drawings

1 Students are counting from 1 each time

2 Students use a strategy, but it is inefficient

3 Students use a strategy that is efficient

4 Students know the fact through automatic recall

Adapted from Jennifer Bay-Williams & Gina Kling Fact Fluency.

Remember that this set of facts is a developmental skill that students will process at their own pace. It may take multiple tries to be able to master these strategies and some strategies will always be their go-to. The goal is to help students move to more efficient strategies.

Keep doing mini lessons that focus on these strategies throughout the year. Encourage students to share their mental math whenever possible, and apply these same strategies to greater numbers!

Student Name	Counts On 1, 2, or 3	Make a Ten	Keeps a Ten to Add	Doubles + / - 1

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Student Name	8 + 3	8 + 4	8 + 5	8 + 6	8 + 7	8 + 9	7 + 4	7 + 5	7 + 6	7 + 9	6 + 5	6 + 9

Note that the commutative property for each set of facts should also be considered.

Teacher Resource 10.10: Progress Monitoring Interview

Materials:

- Double Ten Frame (TR 8.3)
- whiteboard
- connecting cubes
- dry erase marker

The following script and recording sheet is designed to assess student progress. It is an interview type assessment that can be completed one-on-one, in small groups or given as a journal assignment. Accuracy, flexibility and effectiveness of strategies will be assessed by giving students specific problems that lend themselves to a derived fact strategy. Use this in combination with the other observation checklists.

For each question, provide students with a whiteboard or piece of paper where they can record their thinking, as necessary.

Learning Goal	Teacher Prompts	Student Responses
Counting On	Write 11 + 3 = ? on a whiteboard. "What is the answer to this problem?"	Student count on from 11 to get 14. Student may know the answer instantly.
Make a Ten	Write 8 + 5 = ? on a whiteboard. "How can you find 8 + 5 by making a ten?" Provide a double ten frame and counters for students as needed.	Student takes 5 and breaks apart into 2 and 3. Student adds 10 + 3. (Student may add 5 + 5 + 3.) Student may model the problem on the double ten frame. It should be noted that the visual was used.
Keeps a Ten	Write ? = 5 + 7 on a whiteboard. "How would you find 7 and 5 more?"	Student shows 5 + 5 + 2. Note that student may also show this as making a ten.
Doubles Plus or Minus 1	Write 6 + 7 = ? on a whiteboard. "How would you solve this using a doubles fact?"	Student show 6 + 6 + 1 or 7 + 7 - 1. Student may use the double ten frame. It should be noted that a visual was used.

Teacher Resource: 10.10: Progress Monitoring Independent Student Notes

Student Name:_____ Date:_____

Learning Goal	Teacher Prompts	Student Responses
Counting On	Write 11 + 3 = ? on a whiteboard. “What is the answer to this problem?”	
Make a Ten	Write 8 + 5 = ? on a whiteboard. “How can you find 8 + 5 by making a ten?” Provide a double ten frame and counters for students as needed.	
Keeps a Ten	Write ? = 5 + 7 on a whiteboard. “How would you find 7 and 5 more?”	
Doubles Plus or Minus 1	Write 6 + 7 = ? on a whiteboard. “How would you solve this using a doubles fact?”	

Teacher Resource: 10.10: Interview or Journal Options for Assessment

Fact fluency for more complicated facts is about problem solving, not just recall. As students gain flexibility with these facts, they will carry over the same skills to more complicated numbers. Journal entries are wonderful ways to encourage students to consider more than one way to solve a problem and to explain their thinking. Consider the following journal options as an exit ticket, homework or even as a lesson opener to get students considering the different ways to solve this particular set of facts. Note that more than one strategy can be used to solve each set of facts. The emphasis should be placed on the efficiency of the strategy.

- What's a strategy you can use to find 9 + 6? How else could you find the answer?
- How do doubles facts help you solve 7 + 8?
- Show how you could add 6 + 8 on a number line.
- What strategy would you use to find 11 + 4?
- Which is your favorite strategy to add within 20? Why?
- How many different ways could you solve 7 + 5?

Fact Fluency Written Practice

Use these fact fluency practices as a way for students to consider what facts they know and how they would use specific strategies. Consider the following options as ways to practice their fluency:

- Use a color pencil or marker. Circle all the facts you can solve quickly or just know. Then go back and answer them.
- Use a red color pencil or marker. Circle the facts that could be solved by making a ten. After that, explain to a friend which facts you chose. Did you choose the same ones? Why or why not?
- Use a green color pencil or marker. Circle the facts that could be solved by using a doubles fact. After that, explain to a friend which facts you chose. Did you choose the same ones? Why or why not?
- Use a yellow color pencil or marker. Circle the facts that still seem challenging. What strategies might you use to solve them?

Teacher Resource 10.10: Fact Fluency Written Practice

Name:_____ Date:_____

Addition within 20 #1

Answer the facts you know quickly.

8 + 9 = _____	13 + 5 = _____	7 + 8 = _____
5 + 6 = _____	9 + 7 = _____	9 + 5 = _____
5 + 7 = _____	3 + 8 = _____	14 + 2 = _____
4 + 8 = _____	17 + 2 = _____	6 + 5 = _____
12 + 3 = _____	8 + 5 = _____	13 + 4 = _____
7 + 4 = _____	6 + 8 = _____	4 + 9 = _____
6 + 9 = _____	12 + 4 = _____	8 + 6= _____

Name:_____ Date:_____

Addition within 20 #2

Answer the facts you know quickly.

8 + 7 = _____	8 + 4 = _____	5 + 8 = _____
12 + 4 = _____	9 + 5 = _____	6 + 8 = _____
8 + 9 = _____	7 + 9 = _____	12 + 3 = _____
5 + 7 = _____	13 + 6 = _____	6 + 5 = _____
9 + 4 = _____	7 + 5 = _____	9 + 7 = _____
14 + 5 = _____	9 + 6 = _____	3 + 9 = _____
6 + 7 = _____	17 + 2 = _____	8 + 3= _____