# MA.K.AR.1.1

**Overarching Standard: MA.K.AR.1** *Represent and solve addition problems with sums between 0 and 10 and subtraction problems using related facts.*

**Benchmark of Focus**

MA.K.AR.1.1: For any number from 1 to 9, find the number that makes 10 when added to the number.

**Benchmark Clarifications**

*Clarification 1:* Instruction includes creating a ten using manipulatives, number lines, models, anddrawings.

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**Related Benchmark/Horizontal Alignment**

- MA.K.NSO.1.1
- MA.K.NSO.2.1/2.3
- MA.K.NSO.3.1/3.2
- MA.K.AR.2.1

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**Vertical Alignment**

| Previous Benchmarks | Next Benchmarks |
|---|---|
| • VPK | • MA.1.AR.1.1 |

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**Terms from the K-12 Glossary**

- Number Line

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**Purpose and Instructional Strategies**

The purpose of this benchmark is to explore addition and lay a foundation for fluency in later grades. This benchmark provides the foundation for the strategy of making a 10 that can be used as the scale of addition increases in later grades *(MTR.5.1)*.

- Instruction allows students to flexibly discover addends that make 10 using strategies and manipulatives. Strategies and manipulatives include addition and subtraction facts, counting with fingers, ten frames, number lines, models and drawings *(MTR.2.1)*.
- Instruction includes the use of the commutative property (not by name) as a strategy for adding.
    - For example, allow students to discover that 7 + 3 = 10 and 3 + 7 = 10 to build their understanding and extending it to find new sums. If a student knows 4 + 6 they now also know 6 + 4 *(MTR.5.1)*.
- Instruction allows for students to develop verbal explanations as they learn to justify and explain their thinking *(MTR.4.1)*.
- Instruction includes making a connection to related subtraction facts.
    - For example, saying that the number you add to 3 to find 10 is 7 is the same as

10 − 3 = 7.

- Though there is no expectation that students name the commutative property, they should begin to discover the connections and patterns and recognize that if $a + b = 10$, then

$b + a = 10$.

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**Common Misconceptions or Errors**

- Students may not connect pairs of addends through the commutative property.

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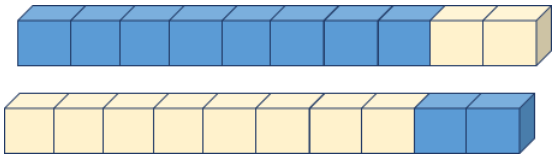
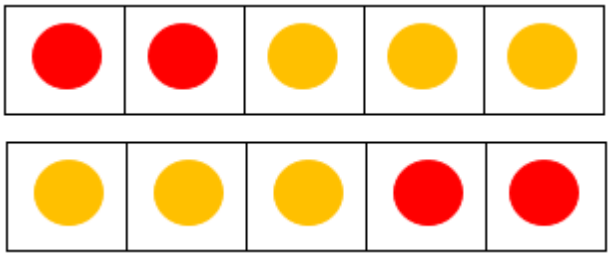
**Strategies to Support Tiered Instruction**

- Instruction includes opportunities to build sets of ten using snap cubes to represent the commutative property.
    - For example, students build 8 + 2 and 2 + 8, 7 + 3 and 3 + 7, and 4 + 6 and 6 + 4. Students should write an equation to represent the snap cubes. Teacher asks: How is the set of 8 + 2 and 2 + 8 the same? How are they different? Does it matter which addend comes first? Do you get the same sum if you add them in a different order?



- Instruction includes opportunities to use five frames and two-color counters to represent addition fact families that represent the commutative property.
    - For example, students use five frames to represent the expressions 3 + 2 and 2 + 3. Teacher should guide the students to solve the expressions and notice their sum in relation to the order of the addends.



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**Questions to ask students:**

Ask: If I have 2 counters, how many more do I need to make ten?

- Sample answer that indicates understanding*: 8, because if I count 3 more, I'm at 5. Then I just need 5 more to make 10.*

Ask: What's another way to make ten?

- Sample answer that indicates understanding*: I just used 2 and 8. I could also make ten with 3 red counters and 7 yellow counters.*

Ask: How does your ten-frame model help you make ten?

- Sample answer that indicates understanding: *I can see how many more counters I need to fill the ten-frame to make ten.*

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**Instructional Tasks**

*Instructional Task 1*

Provide students with ten two-sided counters, a cup and a ten frame. Students will dump thecounters out (some will be one color face up, some will be the other color face up) and organize them onto the ten frame. With provided space students will record an addition equation that represents their counters, such as 3 + 7 = 10. Repeat the task allowing students to discover the various addends that give the sum of 10. Give students time to record their discoveries and discuss strategies and addend pairs with peers and teachers.

*Enrichment Task 1*

Patty has 3 pennies. How many more pennies will Patty need to have the same amount ofmoney as one dime?

*Enrichment Task 2*

Mark has a dime and wants to buy a piece of candy from the school store that is worth 6 pennies. How many pennies will he receive in change?

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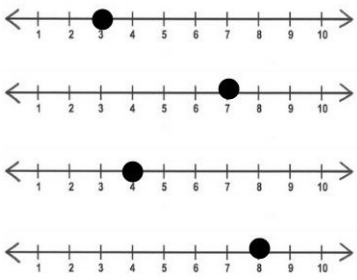
**Instructional Items**

*Instructional Item 1*

Marquess knows that 3 + 7 = 10, so he believes that 7 + 3 must also equal 10. Why is he correct? How can we use that relationship to write a new equation if we know that 6 + 4 = 10?

*Instructional Item 2*

Use the number lines to determine how close each number is to 10.

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**Additional Resources:**

CPALMS

Khan Academy Video: Getting to 10 by filling boxes

YouTube Video: Demonstrating Combinations of 10 Using Tens Frame

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**Resources/Tasks to Support Your Child at Home**:

Using 2 different colored objects (pennies/dimes, red/blue fruit loops, 2 different colored counters), have your child make 10 all the possible ways they can.  Then have them record the different ways using an equation (i.e., 6+4=10).

Then switch it up and say, “If I have 5 pennies, but I need 10… How many more pennies would I need to make 10?”  Have your child explore and record the related equation 5+5=10.

CoolMath4Kids: Ten Frames (represent making 10 using the ten frame)

Khan Academy Practice: Make 10 (grids and number bonds)

Online Game: Curious George Museum of Tens