

Misconception/Error	Suggested Intervention
Recognize Value of Number (17)	<ul style="list-style-type: none"> • Ask student to identify # of items • Ask student to show different representations of # • Revisit number during Number Talks with dot cards and ten frames • Ask student to use base ten blocks • Have students sort examples and non-examples of # (pictorial or manipulative models) • Match sets to numerals up to 17
Misunderstanding of Vocabulary	<ul style="list-style-type: none"> • Refer student to word wall • Illustrate vocabulary • Use same vocabulary in different context
Does not understand problem presented	<ul style="list-style-type: none"> • Restate/clarify by teacher & student • Model/act it out • Clarify vocabulary • Color code steps – use pictures
Fear of being Incorrect	<ul style="list-style-type: none"> • Students share and demonstrate strategies for process of thinking • Lots of teach modeling of “thinking through the problem” without coming up with the answer • Provide examples of where there are a variety of answer than can all be correct – open ended • Teacher acceptance of all ideas and processes; teacher models for students so it is accepted class environment
Apply use of related facts and commutativity incorrectly	<ul style="list-style-type: none"> • Use manipulatives to model (pennies, rekenreks, dominoes, beans, models that can be moved around) • Use visual models/pictures to show related facts/commutativity • Go back and visit problem with smaller # to make it accessible for more students

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Unclear or Flawed Strategy	<ul style="list-style-type: none"> • Conference with student to verbally communicate understanding • Ask questions: “How did you think about this? Tell me more about this. How did you get this ___?” “What did you use as a tool to help you build your strategy?” • Have students discover their own flaw by encouraging them to try more examples the same way
Miscounting	<ul style="list-style-type: none"> • Have student explain picture and how they modeled # • Ask: “Can you count for me by pointing to your pennies?” • Use one-to-one correspondence & count aloud to identify the correct # of pennies • Model group of counting by 2s and 5s • Model with different #s • One more, one less
Recognize only 1 solution	<ul style="list-style-type: none"> • Revisit the problem • Think/Pair/Share – student collaboration for peer modeling • Teacher modeling for similar problems • Use of manipulatives • Conference with students to determine if they understand that there are multiple solutions • Dump 2-sided counters from cup several times and record combinations • Present problems with multiple solutions regularly

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Lack of Organizing Thoughts	<ul style="list-style-type: none"> • Ask “Why?” for justification • Teacher models for students, problems with multiple solutions in the future • Break down the problem into smaller parts & model how to use/make organizational tools • Model by showing pattern • Introduce part/part whole models • Provide/model graphic organizers • Have student number their steps in the solution process
Communication/Representation Errors	<ul style="list-style-type: none"> • Ask students to explain the ‘relationship’ in the number sentences they discover. Is there a sequence or pattern they can relate to? • How do you know that you have found all combinations? • Make connection of digit to the number of objects/counters • Number Talks • Refer to math word wall • Provide alternatives for communicating solutions – dictation, tape recording, video
Use of “0” or lack of ZERO	<ul style="list-style-type: none"> • Model real world situations using ZERO • Use small numbers in a similar context • Ask students to communicate their understanding of the value of “0” • Use of literature
Lack of symbolic notation	<ul style="list-style-type: none"> • Connect student language to academic language and symbols • Model writing number sentences