

Missing Part- 1st Grade Lesson Plan

Grade: 1 st	Subject: Math
Materials: laminated 10's frames, play doh, missing part worksheets (average and above proficiency), pencils	Technology Needed: ActiveBoard, interactive 10's frame, computer
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Guided practice <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> PBL <input type="checkbox"/> Learning Centers <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Lecture <input type="checkbox"/> Modeling <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list)	Guided Practices and Concrete Application: <input type="checkbox"/> Large group activity <input type="checkbox"/> Hands-on <input type="checkbox"/> Independent activity <input type="checkbox"/> Technology integration <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Imitation/Repeat/Mimic <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:
Standard(s) 1.OA.1- Use strategies to add and subtract within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.	Differentiation Below Proficiency: Students below proficiency have more time to complete math worksheet using 10's frame. Students receive more support from teachers, possibly a different method of evaluating the problems (part-part-whole plate and erasers). Students complete less problems. Above Proficiency: Students who are above proficiency can complete problems where the whole is greater than 10, using additional 10's frames or other activities such as sketching the problem and solution. Students do not utilize the play dough and decide to conceptualize on paper. Approaching/Emerging Proficiency: Students work more independently with the play dough and 10's frame, students complete missing-addend addition problems within 10. Teacher assists where necessary. Modalities/Learning Preferences: Visual: Interactive 10's frame, viewing the problem in different ways Kinesthetic: Using the play dough with the 10's frame, moving up and down to answer problems using the interactive 10's frame Auditory: Students hear the information repeatedly "Part-part-whole" "Here is what I know" "here is my whole" "What is the missing part"
Objective(s) By the end of the lesson, students will be able to evaluate and solve missing-addend addition problems within 10 by using part-part-whole strategies with play dough counters, a 10's frame, and a sheet of missing-addend addition problems. Bloom's Taxonomy Cognitive Level: Apply, evaluate	Classroom Management- (grouping(s), movement/transitions, etc.) <ul style="list-style-type: none"> - Students turn-and-talk with a person they can work well with, near them. - Teacher has many students asking and answering questions during the lesson. - Students sit close to the teacher. - All students have their own play dough and 10's frame for ease of activity. - Students have all the materials they need already at their desks - Students get some movement when transitioning to different parts of the activity. - Teacher engages students with visuals and interactive 10's frame. - Team tables are already grouped for students who work well together.
Classroom Management- (grouping(s), movement/transitions, etc.) <ul style="list-style-type: none"> - Students turn-and-talk with a person they can work well with, near them. - Teacher has many students asking and answering questions during the lesson. - Students sit close to the teacher. - All students have their own play dough and 10's frame for ease of activity. - Students have all the materials they need already at their desks - Students get some movement when transitioning to different parts of the activity. - Teacher engages students with visuals and interactive 10's frame. - Team tables are already grouped for students who work well together. 	Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) <ul style="list-style-type: none"> - Students sit quietly, level zero, on the imaginary carpet unless told otherwise. - Students are expected to use the ACTIVE board safely and responsibly. - Students actively participate while turn-and-talking with a partner and asking and answering questions in the discussion. - During discussions, students use appropriate language and volume, raise their hand instead of blurt and give others a chance to speak. - Students move about the room safely. - When I say "class class" the class says "yes yes" and then are silent after. - Students stay seated at their desks during the play dough and math activity
Minutes	Procedures

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Set-up/Prep:

- Hook up computer and set up interactive 10's frame
- Create missing-addend worksheets
- Get play dough for students
- Laminate 10's frames
-

Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)

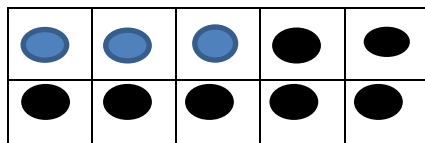
- First, hook up computer and tell the students we are going to review part-part-whole. This part + this part = the whole
- Play online addition game and have students help interact and answer parts of the question, using academic, math vocabulary as much as possible
 - o Math vocabulary
 - Addend
 - Part
 - Missing Part
 - Whole part
 - Addition
 - Subtraction
 - 10's frame
- Link: <https://www.abcya.com/games/addition>

Explain: (concepts, procedures, vocabulary, etc.)

- Today, we are going to revisit the concept “missing part”
- So, if we are given the whole, and the first part, how should we go about solving this problem?
- Teacher calls on students to show how they might solve this problem

4+ ____ = 10 (drawing should include some kind of conceptual part that describes what the 4 and the 10 means)

- Go through a few examples of these problems WITHIN 10
- Today, I am going to show you a new way of solving these missing part problems. (I DO)
- Teacher shows students the interactive 10's frame on the ACTIVE board
- Link: <https://apps.mathlearningcenter.org/number-frames/>
- Write a problem with a missing addend on the board above the 10's frame
- Show students that they should take the given number, and move that number of counters onto the 10's frame
Ex. 3+____=10



- Input one color of counters for the given part
- Then, with the other color of counters, count up until you reach the number that equals the whole
- Then, count the second color of counters to find out what the missing addend is.
- In this problem, the missing addend is 7.
- The answer is 3+7= 10

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- Teacher goes through more sample problems having students come up to the board to move the counters and help solve the problems. **(WE DO)**
- Teacher checks for understanding frequently to make sure that students are understanding the missing addend concepts, the 10's frame, and the rest of the math involved.

Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)

- Today, you will be using a 10's frame like the one on the board to solve missing part problems. You will make the counters out of play dough. The given part will be created with one color of playdough, and the rest will be created with a different color of play dough. You will be sharing the play dough with those around you. **(YOU DO)**
- If you are feeling really confident in finding the missing parts for problems less than 10, you can grab some of these harder problems that are within 20. You should draw out how you solved your work!
- Once you have found the answer using the 10's frame, you should copy the answer onto the worksheet.
- Play dough rules:
 - o No mixing colors
 - o Play dough stays on the table
 - o Play dough is used as a tool, not a toy
 - o Share with those around you.
- Remember that you will create the math problems on your own, you will only be whisper talking (occasionally) to discuss play dough sharing.
- I will be walking around to help you.
- Does anybody have any other questions?
- At the end, students will go back to their teams.
- Teacher will have different colors of play dough passed out for all students, as well as the worksheet problems and laminated 10's frames

Name: _____

Part-Part-Whole: Find the Missing Part

$2 + \underline{\quad} = 8$	$6 + \underline{\quad} = 9$
$1 + \underline{\quad} = 9$	$3 + \underline{\quad} = 8$
$5 + \underline{\quad} = 7$	$5 + \underline{\quad} = 9$
$4 + \underline{\quad} = 10$	$3 + \underline{\quad} = 7$

Option for those above proficiency

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	<ul style="list-style-type: none"> - If students are struggling with the 10's frame strategy and getting frustrated, they can draw out their solutions instead of doing the sensory, hands-on activity.
	<p>Review (wrap up and transition to next activity):</p> <ul style="list-style-type: none"> - Students will work on unfinished work until the rest of the class is ready.
<p>Formative Assessment: (linked to objectives) Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.</p> <ul style="list-style-type: none"> - Teacher sees who participates during the review game - Teacher observes who is participating accurately in the interactive 10's frame activity. - Teacher collects the worksheet of problems to see if students were able to complete them correctly. - Teacher walks around the room during work to see if students are understanding the 10's frame concept. - <p>Consideration for Back-up Plan:</p> <ul style="list-style-type: none"> - Students use the part-part-whole plates instead of the 10's frames and play dough. - Make a 10's frame on the white board if the technology doesn't work. 	<p>Summative Assessment (linked back to objectives) End of lesson:</p> <p>If applicable- overall unit, chapter, concept, etc.:</p>
<p>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</p> <p>This was perhaps one of my favorite lessons to teach, thus far. I was teaching the students about finding the missing part (addend) in a simple addition equation, and I taught them how to solve these using a 10's frame and play dough. The students loved getting to use the play dough for math. It was much more engaging and stimulating. In addition, it gave me a carrot to dangle above their head during the lesson. I also taught them how play dough can be used as math tools rather than as a toy, and they seemed to understand this concept. For the kiddos who need manipulatives for math, using play dough as math counters was a nice change from the typical red and yellow counters that they are used to. It also seemed to be soothing for many of them, for they were very calm and quiet during the activity. I know that the students learned another strategy for how to solve missing part problems by the way they were able to accurately complete the missing addend worksheet, as well as accurately manipulate the 10's frame.</p> <p>Based on the way math went the day before with their classroom teacher, I decided to make some on the fly changes based on the behaviors that slowed them down the day before. I modified the worksheet so that we completed a couple of the questions as a group, with me modeling how to do it using an interactive 10's frame on the ACTIVE board, and then they completed the worksheet on their own after gaining some confidence. That was the only change I decided to make on the fly. I did have some concerns about sensory disorders prior to the lesson, so I contacted Mrs. Fischer to see if any of her students struggled with that. She said that she didn't have any this year with those difficulties, but I brought mini erasers just in case anybody had issues with the play dough. It was a good thing I did, for one student had a cut on his hand, and he was unable to focus and concentrate because the play dough stung when it touched his cut. I switched him to erasers (after okaying it with the student), and he was able to complete his work efficiently from there on out. It's little things like that, that I don't always think about. There should always be a back-up plan, and in this situation, I was very glad that I prepared for different situations. In the future, I would invest in little food containers that divides the container in two parts. Then, I would have the play dough portioned (2 colors per food container), so the students wouldn't have to deal with sharing at all. However, I did like that they had to practice sharing. They did well with this component, but some students were shy and nervous to ask others to share their play dough to complete their 10's frame slowing them down. I was walking</p>	

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around the room constantly, though, so I was able to help students be assertive and stay on task. I am very proud of the way this lesson went, and I am so glad that the students enjoyed it as much as they did.