

## Distance Riddles- Learning Centers

<b>Grade:</b> 3 <sup>rd</sup> grade		<b>Subject:</b> Math	
<b>Materials:</b> several 200's charts laminated or in sleeve protectors, thin expo markers enough for each student to have 2 different colors, list of distance riddles and pencils.		<b>Technology Needed:</b> N/A	
<b>Instructional Strategies:</b> <input checked="" type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input checked="" type="checkbox"/> Guided practice <input type="checkbox"/> Socratic Seminar <input checked="" type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> Learning Centers <input type="checkbox"/> PBL <input type="checkbox"/> Lecture <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Technology integration <input type="checkbox"/> Modeling <input type="checkbox"/> Other (list)		<b>Guided Practices and Concrete Application:</b> <input type="checkbox"/> Large group activity <input type="checkbox"/> Hands-on <input checked="" 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:	
<b>Standard(s)</b> 3.NBT.2 Using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction, fluently add and subtract within 1000.		<b>Differentiation</b> <b>Below Proficiency:</b> Students will draw and physically touch each number on the 200's chart to figure out the possible answers to the distance riddles.  <b>Above Proficiency:</b> Give the student an opportunity to transfer the distance riddles from the charts to the equations.  <b>Approaching/Emerging Proficiency:</b> Students will be able to identify and solve difference problems within 200, using a 200's chart.  <b>Modalities/Learning Preferences:</b> Visual and Hands-On	
<b>Objective(s)</b> By the end of the lesson students will be able to identify and solve difference problems within 200, using a 200's chart.  <b>Bloom's Taxonomy Cognitive Level:</b> Application and Analysis			
<b>Classroom Management- (grouping(s), movement/transitions, etc.)</b> Using results from previous assessments on Distance Riddles, select a small group of students who may need some extra help figuring out how to use the 200's charts to arrive at the answers to the distance riddles. Have the students sit in a secluded area at a table with the teacher where they can feel focused and safe asking questions.		<b>Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)</b> Have the students use different colors and steps to arrive at their answers. Students are expected to use this time to ask questions and stay focused as this is their time to tell you about where they are having the hardest time.	
<b>Minutes</b>	<b>Procedures</b>		
<b>2 min</b>	<b>Set-up/Prep:</b> Set out the riddle, the expo markers, 200's charts and pencils		
<b>3 min</b>	<b>Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)</b> Have the students come to the table and sit down, ask them if they remember talking about distance riddles. Explain to them that distance riddles are one of the most difficult things we may learn in 3 <sup>rd</sup> grade math, but by practicing them we will be able to use them to help us succeed in subtraction and addition in the future. Ask the students if they think it would be ok if we spend some time talking about them and practicing them together. Allow students to express their concerns and any questions they have about distance riddles.		
<b>7 min</b>	<b>Explain: (concepts, procedures, vocabulary, etc.)</b> Begin by having the students look at the first distance riddle, have them cover up the rest with their 200's chart. Start by having the students read it to themselves, then read it out loud for them. The first riddle is: "The difference between me and 100 is 40, what NUMBERS can I be?" Be sure to emphasize that there are two possible answers one for addition and one for subtraction. Ask the students what they think we should find first on the chart. When students arrive at "100" have them take one color and outline the "100" box. Pause and ask if they have any questions so far? Next tell the students we need to figure out 40 behind 100 and 40 in front of 100, subtract then add. Next have them use a different color marker and put a mark on each box behind 100. Have them count together. When they get to 60 have them outline it with the first color. Pause and ask for any questions. Next have them mark with the other color 40 boxes in front of 100 and then outline 140. Ask them, so what could our possible answers be? Pause and ask for any questions.		

## Distance Riddles- Learning Centers

	<p>Have them answer the riddle accordingly.            Tell the students that they can continue on with the next four riddles.            Encourage them to take this time to ask any questions after they have tried them first.</p>	
<p><b>10 min</b></p>	<p><b>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</b>            Watch as the students go on to try the rest by themselves.            Encourage the children to keep using the different color markers.            Visit with each student to see if they are ready to move on to use the number line and the equations at the next meeting.</p>	
<p><b>2 min</b></p>	<p><b>Review (wrap up and transition to next activity):</b>            Once the students have finished check their answers and allow them to try again if they need to until they get them correct.            Collect their work and use it as a summative assessment to check for understanding to move on.</p>	
<p><b>Formative Assessment: (linked to objectives)</b>  <b>Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.</b>            30 second interventions as the students work on their own will be performed to assure students are on the right track.</p> <p><b>Consideration for Back-up Plan:</b>            Have students work in pairs as they work through their riddles together and help each other work through them.</p>		<p><b>Summative Assessment (linked back to objectives)</b>  <b>End of lesson:</b>            Students will submit their riddles they finished on their own as a way to assess that they are ready for the next step in distance riddles and equations.</p> <p><b>If applicable- overall unit, chapter, concept, etc.:</b>            Assessment will be done at the end of the unit graded on a 3 point system with 6 equations of various skills.</p>
<p><b>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</b></p> <p>Distance riddles are hard to grasp for a lot of students, me included. When teaching this lesson it is important to walk the students through each different method of solving thoroughly.</p> <p>Because this lesson was going to be a little more challenging I thought it would be fun to introduce distance riddles with real riddles. I did two riddles and the second one I gave the students was one about a clock, which was a great way to lead into the clock review that was done at the beginning. The students thought the riddles were so funny and they were hooked right away to learn about the distance riddles.</p> <p>One thing I must remember for next time is that in distance riddles we can use subtraction AND addition to solve them. That was the hardest part to show the students was showing them how the equations changes to show the two different answers. Also I felt the number line was hard to understand and the students would benefit from a quick review on number lines as well.</p> <p>Another thought I had as I was teaching this lesson is I feel it would be more beneficial if the lesson was taught in small groups. I would want the students to be grouped according to their level they are at in math. Once they were grouped I would have some activities such as a number line review and a clock review for other students to work on while I meet with the small groups and teach them the distance riddles. That way the students could have the opportunity to ask questions and the concept could be broken down into more detail. The students could also have a chance to try the different theories to solve the distance riddle in closer detail and really find what works for them.</p> <p>The last thing I would change about this lesson is teaching it in two or even three parts. The last section would be saved for an assessment on the distance riddles rather than doing the formative assessments right after the lesson and right after the practice problems.            With the assessment I would like for the students to be able to try the problems and come back to me to ask how they did. If they did not get them right I would give them the opportunity to fix them and try again. I would encourage them to try them a few different ways before settling on another answer.</p>		

Distance Riddles- Learning Centers

Distance Riddles:

Name \_\_\_\_\_

1. The difference between me and 100 is 40, what NUMBERS can I be?

\_\_\_\_\_ or \_\_\_\_\_.

2. The Difference between me and 100 is 28, what NUMBERS can I be?

\_\_\_\_\_ or \_\_\_\_\_

3. The difference between me and 100 is 30, what NUMBERS can I be?

\_\_\_\_\_ or \_\_\_\_\_

4. The difference between me and 100 is 64, what NUMBERS can I be?

\_\_\_\_\_ or \_\_\_\_\_

5. The difference between me and 100 is 100, what NUMBERS can I be?

\_\_\_\_\_ or \_\_\_\_\_

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# 0-200 Chart

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99
100	101	102	103	104	105	106	107	108	109
110	111	112	113	114	115	116	117	118	119
120	121	122	123	124	125	126	127	128	129
130	131	132	133	134	135	136	137	138	139
140	141	142	143	144	145	146	147	148	149
150	151	152	153	154	155	156	157	158	159
160	161	162	163	164	165	166	167	168	169
170	171	172	173	174	175	176	177	178	179
180	181	182	183	184	185	186	187	188	189
190	191	192	193	194	195	196	197	198	199
200	201	202	203	204	205	206	207	208	209

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