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| **Grade: 2** | | | **Subject: Math** | |
| **Materials: Whiteboard, math workbooks, personal whiteboards** | | | **Technology Needed: Smart board** | |
| **Instructional Strategies:**   * Direct instruction * Guided practice * Socratic Seminar * Learning Centers * Lecture * Other (list) | | * Peer teaching/collaboration/   cooperative learning   * Visuals/Graphic organizers * PBL * Discussion/Debate * Modeling | **Guided Practices and Concrete Application:** | |
| * Large group activity * Independent activity * Pairing/collaboration * Simulations/Scenarios * Other (list)  |  | | --- | | Explain: | | * Hands-on * Technology integration * Imitation/Repeat/Mimic |
| **Standard**  **2.MD.10 - Draw picture graphs and bar graphs with single-unit scales to represent data sets with up to four categories.**  **Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.** | | | **Universal Design for Learning**  **Below Proficiency:**  **For those students who are below proficiency, I will try to spend some 1:1 time with them to help them understand the questions and data gathering process. I can also try to pair students up if need be so the students who are at or above proficiency can model the correct way to go through each problem.**  **Above Proficiency:**  **For those students who are above proficiency, I will direct them to help other students who may not be understanding the concepts from different problems. I will also give them time to work on Xtramath if they finish earlier than everyone else.**  **Modalities/Learning Preferences:**   * **Visual: Visual learners will be able to look at the problems/workbook pages they have to complete. They will also get to see the data written out on the board for them.** * **Auditory: Auditory learners will be able to listen to verbal directions. They will also get to hear their classmates shout out their preferences, which is an important part of the data collection process.** * **Kinesthetic & Tactile: These learners will be able to learn through writing down the data that is collected by their classmates.** | |
| **Objective**  **By the end of the lesson, students will demonstrate their understanding of data by engaging in a data collection activity and completing a bar graph with their data.**  **Bloom’s Taxonomy Cognitive Level: Applying** | | |
| **Classroom Management- (grouping(s), movement/transitions, etc.)**  **\*Students will listen to the teacher when they are talking (voice level 0). If someone needs to speak, they may raise their hand and wait to be called on.**  **\*Students will be respectful of others by staying on task, not interrupting, and by keeping their bodies to themselves.**  **\*To transition, the teacher will either do a clap and response or verbal call and response to grab the students’ attention.**  **\*During turn and talks, students will be respectful of their neighbors by not talking while someone else is talking, and by keeping their bodies calm. Students may use a voice level 1-2 during this time.**  **\*If students have to move during transitions, they will do so quickly, respectfully, and without talking (voice level 0).**  **\*Students will worry about themselves if another student starts to act up. Students are expected to remain on task. If students need more than 3 reminders to stay on task, they will be asked to put their materials away and look on with a partner, or may be asked to give me a minute or take a break/leave the room.** | | | **Behavior Expectations- (procedures/expectations specific to the lesson, rules and expectations, etc.)**  **\*Students will not talk while the teacher or another students is talking**  **\*Students will use kind words towards each other**  **\*Students will show respect towards their classmates, be responsible for their actions, and show that they can be safe in the classroom**  **\*Students will transition with a voice level 0**  **\*Students will be respectful of their materials, otherwise they will be taken away** | |
| **Minutes** | **Procedures** | | | |
| **5 min.** | **Set-up/Prep before lesson:**  \*Have smart board turned on and ready to go  \*Have whiteboards cleaned off and ready to use  \* Have bar graph worksheets printed out and ready to go | | | |
| **10 min.** | **Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)**   * **Class class** * Yes yes * **Thank you for responding so quickly! It’s time for us to move into math! Today we are going to learn about data and graphing. Who can tell me what data is?** * Students should respond and say that data is important information that we can measure * **Good answers! Today, we are going to practice collecting data and we will start creating bar graphs to show our data. But first, I want you to open up to page 650 in your math workbooks. Answer the questions on that page, and when you’re done, raise your hand and I will come around and check your answers.** * Allow students about 5-7 minutes to fill out the page. This will help with formative assessment after the lesson so that I can gauge where the students are at and what their prior knowledge of data is like. | | | |
| **10 - 12 min.** | **Explain: (teacher-led)**   * **Class class** * Yes yes * **Now that you’ve gone through page 650, I want to talk a little bit about how we can gather data. What different ways do you think we can collect data? Or what can we collect data on?** * Students should say that they can ask questions to gather information/data. They should also say that data can be collected on lots of different things, like favorite foods, sports, pets, weather, etc. * **So in order to collect data, we need to have a subject or a category that we want to gather data on. Open up to page 654 in your workbook and look at the orange graph. Who can tell me what the title of the graph is?** * Students should say that the graph is called “Favorite Pet” * **So since we know the title of the graph, what can we guess we are going to gather data on?** (Favorite Pets) **Look at the directions and tell me how we are going to record that data?** * Tally marks * **Right! So now I want you guys to practice gathering data. I am going to call out 10 names. If I call your name, I want you to yell out which pet on our graph is your favorite. Everyone should pay attention and write down the tallies in the correct box. If you can’t hear, look up at the board and I will be writing along with you. When we finish gathering our data, I want you to only answer questions 1-4. I’ll give you a few minutes to go through those questions, and then we will go through the answers together.** * Give the students a few minutes to look at their data and answer the questions. I will walk around and monitor students to make sure they are following directions. Kayleigh, Cayleb, Traven, and Braysen will need extra help with answering their questions. | | | |
| **20 min.** | **Elaborate: (concreate practice/application with relevant learning task -connections from content to real-life experiences)**   * **Now that we’ve gone through one of these together, I want you to try gathering data and answering the questions on your own. I want you to look on page 655 and tell me what the title of our graph is.** * They should respond “Favorite Indoor Game” * **Nice! Now I’m going to call on 10 more students and I will want you to tell me what your favorite indoor activity is. Let’s gather that data really fast. I’ll write it with you on the board.** * Write down categories and data, and make sure that students are able to write all of the data as well. * **Now that we’ve gathered our data, I want all of you to go through and answer questions 6-9. Don’t worry about problem 10, I want you to put a big X through that one. Once you finish those questions, raise your hands so that Mrs. Blair and I can walk around and check your work. After that, you can move on to problems 11 and 12. When you finish those questions, you may turn in your workbooks and return to your desks to work on Xtramath before we go outside for recess. Does anyone have any questions?** * Allow students to ask questions, and then walk around and monitor student behavior and progress during work time. | | | |
| **5 min.** | **Closure (wrap up and transition to next activity):**   * **Class class** * Yes yes * **It is time to go outside for recess, so if you have finished up, you can quickly and quietly put your materials away and start getting ready to go outside. If you have not finished the workbook pages, you can come sit with me at the back table and we can work through everything together. If you prefer to stay at your desk and work alone, that is fine too. Students who are going outside, please be respectful of the other students who are still working by talking at a voice level 1 and not distracting everyone else. Capeesh?** * Caposh | | | |
| **Formative Assessment: (linked to objective, during learning)**   * **Progress monitoring throughout lesson (document of student learning, data collection)** * **Walk around the classroom to make sure that students are staying on task** * **Thumbs up thumbs down** * **Students will turn in their workbooks at the end of the lesson so I can formatively assess them and check to see if they grasp the concept of data collection before we move onto graphing the next day.** | | | **Summative Assessment (linked back to standard, END of learning)**   * **Students will be given a summative assessment before the end of the trimester (mid February) in which they will be given an assessment that has a problem which provides them with a set of data that they will have to graph.** | |
| **Teacher Reflection (What went well? What did the students learn? How do you know? What changes would you make?):**  **This math lesson went surprisingly well! Typically, the students really struggle with math or don’t show much interest in it, but most of them seemed really excited about moving on to data after spending so much time on subtraction. Most of the students had some sort of base understanding of what data was, while others needed to have it explained to them. After we went through pg. 650, I was able to see that most of the students had a decent understanding of data, but it wasn’t until pg. 654 that I was really able to see which students struggled with the concept of data collection and applying that data in order to solve a problem. I went through an example with the students that they seemed to understand, but when I let them go through a set of problems on their own that was very similar to the example we did together, there were quite a few students that didn’t seem to fully understand how to answer the questions. The biggest challenge throughout this lesson was trying to get around to each student who had questions. Most of the students who had questions asked for help multiple times, which made it difficult to get to each student. This is something I am going to have to keep in mind as I refine this lesson and teach it again. Another thing that I want to continue to try to implement in the classroom, and even in my future classroom, is a constructivist approach. I want the students to know that it’s alright to make mistakes, and that we can talk about why it was wrong or how to get to the right answer, but they need to try to be self-sufficient and fix what was wrong. This is something that we will have to work on as a class, since so many of my students shut down when they get something wrong. If I was to teach this lesson again, I would probably try to do another example with them to try and solidify the concept of data collection. When we went through everything together as a class, they seemed more confident in what they were doing because they knew I was doing it right along with them. Once they were completing a set of problems on their own, they began to show that they weren’t confident in their answers or their skill set. I would also try to create examples that relate more to them, like taking a poll from the class on their favorite animals, subject, ice cream, etc. Then they would be able to interact with each other, and the data would be relevant to them. I also know that as I spend more time in the classroom and get to know the strengths and weaknesses of my students, I will be able to better teach to all of my students and differentiate the instruction, especially for my students who are on IEP’s and receive 1:1 support.** | | | | |