Lesson Plan Template
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University of Mary Lesson Plan Template

Grade: 5th	**Subject: Math**
Materials: math workbook, pencils, colored pencils, markers, student's graphs	**Technology Needed: Teacher Laptop and Smartboard**
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 5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. 5.G.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane.	**Universal Design for Learning** **Below Proficiency: For the students who are below proficient, I will want them to work with the above proficient students. Therefore, I will want them to talk through the partner work together. This way, the students will be able to bounce ideas off each other. During the direct instruction, I will go slow enough and allow turn and talks where the students who are below proficient can ask questions to me or their turn and talk partners. In the beginning of the lesson, if a student is stuck, I will want another student to help them work through the opening activity.** **Above Proficiency: For the students who are above proficient, I will be looking to see if they are helping those students who are struggling with the opening activity. For the direct activity, I will be looking to see if the students can answer my questions fully and explain why they think that specifically. I will be looking to see who and how they answer the questions. For the partner activity and compare and contrast activity, I will be looking to see if students can work through the problems with the students who are below proficient.**
Objective **At the end of the lesson, the students will write 5 equivalent fractions by adding or subtracting fractions with unlike denominators.** **At the end of the lesson, the students will compare and contrast with their partners the two cities that they plotted on one coordinate grid.** **Bloom's Taxonomy Cognitive Level: Analysis and Application**	**Modalities/Learning Preferences:** • **Visual: For the students who are visual learners, I will be using pictures that are placed in their math workbooks.** • **Auditory: For the students who are auditory learners, I will be talking through the problems with the students. I will also be asking the students questions throughout the whole lesson. The students will have the opportunity to talk to their turn and talk partners about some questions. They will also be doing partner work when plotting points on a graph and then they will compare and contrast two cities to each other. Therefore, the students have a lot of opportunities to talk through this lesson or any parts that they are stuck on.** • **Kinesthetic: For the students who are kinesthetic learners, I will allow the students to work with**

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	• partners during this lesson, therefore, if they would like to move around the classroom or sit closer to each other they will be able to do that. Some students will be able to come to the front of the room in the beginning to write their expressions on the board. • Tactile: for the students who are tactile learners, they will be plotting points on a graph and connecting them. Therefore, they will be using pencils, colored pencils, markers, and their math workbook.
Classroom Management- (grouping(s), movement/transitions, etc.) • The students will be sitting in their desks for most of the lesson. • They can move to compare their graphs with other students once they are done plotting it and creating the stories that go along with the cities. • The students will need to gather their materials quickly and quietly. • The students will be talking to their turn and talk partners throughout the lesson in a level 2 voice • The students will be answering questions throughout the lesson • The students will create a graph independently	**Behavior Expectations- (procedures/expectations specific to the lesson, rules and expectations, etc.)** • The students are expected to participate when asked too, such as turn and talks, peer sharing, and answering the questions asked • The students are expected to sit at their desks • The students are expected to compare their graphs with other students when they are completely done • The students are expected to ask questions if they are confused • The students are expected to grab their materials quickly and quietly • The students are expected to lower their voices and turn them off when I say give me 5 • The students are expected to listen to the teacher when she is talking • The students are expected to listen to their turn and talk partners and the other students when answer questions respectfully • The students are expected to focus when given their assignment to create their own graph

Minutes	Procedures
5 Minutes	**Set-up/Prep before lesson:** • I will need to set up the Ten-Minute Math: Review on the smartboard – this will show a fraction and the directions for the students to follow • Print out the clear temperature grid graphs for the students • Set up the other resource pages that will be used in the lesson – High Temperatures in Honolulu, Honolulu Descriptions, High Temperatures in Chicago

10 minutes	**Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)**
	• I will tell the students that we are going to start this math lesson with our Ten-Minute Math Review
	• The teacher presentation will display a fraction for the students. I will tell the students to take out their notebooks, so they can have some scrap paper to work the problem on. The students are expected to create 5 expressions that equal the fraction given by using addition and/or subtraction in each expression. I will remind the students that this is very similar to what they did yesterday.
	• The students will not be able to use a denominator more than once.
	• They cannot use fractions equivalent to 1 also. Therefore, they are going to use fractions with unlike denominators.
	• I will ask 3 students to come write one of their expressions on the board. Once the student is back in his/her seat, I will ask the class:
	  ○ How do you know this expression equals x?
	  ○ How did you decide which fractions to use?
	• I will continue to do ask after each of the three students.
	• Once I am done, I will ask the students to take their Student Activity Book.
	• I will tell the students that today in math, we are looking at temperature in stories, tables, and graphs. Therefore, we are going to plot points on a coordinate grid and interpret the shape of a graph in the terms of the situation the graph represents.

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	• **To briefly share the lesson, we already did our ten-minute math review, so we are going to start at introducing temperature stories, then create our own graphs and stories, and then share some.**
15 minutes	**Explain: (teacher-led)** • **I will tell the students to open their student activity book to page 281.** • **Once the students get to page 281, I will want them to look at the graph that is on the board. I will tell the students that we are going to review what we learned about graphs yesterday. I will go over these points with the students: where the x and y axis's are located, that a point value goes x first and then y second (x,y), what the title is, what x axis title is, and what the y axis title is.** • **I will ask the students to tell me what this graph shows. I am waiting for the answer 'high temperatures in Honolulu over a year.'** • **Once the students have said the answer, I will tell them that I would like them to turn and talk to their partners about what they know about Honolulu, Hawaii and if they know where it is located. After 30 seconds – 1 minute, I will call the students back together by saying give me 5.** • **I will tell the students that this graph is very similar to the one we looked at yesterday for Sydney, Australia and Moscow, Russia. I will ask the students if anyone can tell me anything that they notice about the temperatures for Honolulu? Some answers I expect are it stays pretty consistent, always warm, there is hardly any change. I will ask the questions to think about the graph we looked at yesterday, does this graph look like Russia's or Australia's temperature? Once I hear some answers, I will tell the students that I would like them to turn and talk to their neighbors about the differences between the temperatures here and in Honolulu. Once I give the students a minute or two to discuss this, I will call them back together by saying, give me 5.** • **I will explain to the students that if you were going to visit Honolulu or somewhere else, you might look up what the expected temperatures would be. This next page will show you two descriptions of Honolulu's temperatures. While I read these, I would like you to listen to see if these descriptions provide good information for someone traveling to Honolulu, based on our temperature data** • **I will read the two descriptions out loud and then I will ask the students for a thumbs up if they think these descriptions provide good information. I will ask the students if one of these descriptions provide more information about Honolulu than the other one.** • **I will then display the High Temperature Grid that the students will be working with. I will ask for some students to volunteer to plot some points for us. I will ask three students to plot points. These will be written on the board. Some points that will be written on the board are September 30th, 81 degrees, March 18th, 75 degrees, July 1st, 94 degrees** • **I will ask the students once they have sat back down, how do we know that that point goes there?** • **I will ask the students if they have any questions about plotting points on the grid. Then I will ask the students If they understand put a thumbs up, but if they are still confused put a thumb in the middle.**
30 minutes	**Elaborate: (concreate practice/application with relevant learning task -connections from content to real-life experiences)** • **I will explain that today they are going to making their own graphs and then they will write descriptions, based on the data, that might be useful to someone visiting those cities.** • **I will tell them that while they are each creating their own graphs, they will be working with a partner. Therefore, they will meet with their partners to decide on what two cities they would like to plot and then will compare their graph to their partners to see if it is similar or different in any way.** • **I will tell them to pick two cities from the list on page 282 that interests them. I will tell them that I would like them to pick our two different colors, one for each city and then make a key off to the side of which color is which city.** • **I will then tell the students that I would like the students to work with their 5 o'clock buddies (or whatever number I pull out). I will have them get together and will only have one minute to decide the 2 cities they would like to plot.** • **Once they have the two cities picked out, I will hand out the temperature grid to them and they can start plotting the graphs of both cities.** • **I will allow time for the students to work together to plot the points for the two cities.** • **Each student will create their own graph, but then they can compare and contrast their cities to their partners graph.** • **During this time, I will be walking around to look to see if students can plot the points correctly on the coordinate grid and to see if they can describe what the overall shape of the graph represents.** • **If a student is having a hard time plotting the points, I will have extra copies of the temperature grid. Therefore, they can plot each city on a different grid and then compare and contrast them.** • **Once all of the students are done graphing and have had a chance to compare and contrast them to others, I will ask all of the students to find their seats.**

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	• **Once they are done plotting the points and comparing them, they can work together to write a story describing the temperature in both cities. I will want this story to be descriptive about the two cities and the temperature in both of those cities described accurately.**
2 minutes	**Closure (wrap up and transition to next activity):** • **Once they are all done, I will call all of the students to the front of the room to sit on the carpet, I will invite some students to share what they found about their two cities that they chose. I will want them to compare the cities to each other. Once we had heard from 3 students, I will tell the students that in this lesson we were looking at how to show temperature changing over time on a grid. In the next sessions, we will look at how height changes over time.** • **I will also tell the students that in their student activity book page 284, it will be homework for them, and they can work on it throughout the day when they have free time.** • **Then I will tell the students to put their student activity book away and get ready for the next part in our day.**

Formative Assessment: (linked to objective, during learning)	**Summative Assessment (linked back to standard, END of learning)**
• **I will be assigning homework to the students to reinforce what they just learned about temperatures and graphing, it is page 284.** • **I will be allowing the students to turn and talk to their partners.** • **I will be asking the students multiple questions throughout the lesson to push their thinking** • **I will ask the students to put a thumbs up if they understand and a hand down if they do not.** • **I will be looking at the graphs that they created to compare the two cities. I will be looking to see if the students accurately and correctly plotted the points on the graph.** • **I will be reading at the descriptions of the cities that they choose to see if it is accurate according to the temperature.**	

Teacher Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

This lesson was the second lesson in Unit 5. It focused on temperature data and temperature stories. This lesson builds off the first lesson from the day before about how to read temperature graphs and to write stories relating to the graph. The first lesson taught the students how to read a graph. Therefore, the students were able to find and locate the X-axis, Y-axis, Title, and Key in a particular graph.

I felt that there were many positives in this lesson, but there are always areas in which to improve. One positive thing from this lesson was how the students reviewed their knowledge in the beginning. The students did a ten-minute math review question that made them think back to another unit when they learned how to add and subtract fractions. The students were able to discuss their problems I asked for volunteers to write their examples on the board.

During this review, one thing I could change is to ask if someone would like to volunteer by raising their hand to have the dry-erase marker handed to them rather than me calling on the students.

Another positive from this lesson was how the students needed to turn and talk about specific questions that I asked them. I thought the turn-and-talks were very helpful for all types of students in the class. First, it was helpful for the students who were gone the day before and missed the assignment, because it allowed them to hear the content in a different way than the teacher taught it the day before. Second, it was helpful for the partners of the students who missed the previous day, because it deepened their understanding of the content as they explained the lesson to their partners. Lastly, it was useful for the students who were unsure of what the answer was and could hear what their partners were thinking.

One thing I would change in my lesson is to use the whiteboard more. I gave all of the directions for the lesson verbally to the students before they went to find their partners. Because of this, I had a lot of students come up to me during work time asking the same questions about the directions. For future lessons, in order to eliminate the number of repeated questions I receive, I would write the directions on the whiteboard. This would give the students something to reference if they are wondering what to do next.

Another positive was letting the students work with their learning buddies to create a graph and a story. I drew a stick between 1 and 12 to decide which learning buddy they would work with. Most of the groups worked very well together and stayed on task for the whole independent time given to them. Only a couple of groups did not work well together. For example, one group was very unfocused and did not start their work for close to ten minutes. The same group also was playing with their supplies rather than using them correctly. One thing I would change is to check in on these unfocused groups more often than I did during today's lesson. I think it would definitely benefit them in staying on task if I would check in more often as they are working. Overall, I felt like this was a very engaging lesson. It provided many ways to assess the students at the end.