

Lesson Plan

Learning Segment Focus: 8th Grade Math

Lesson 1 of 2 Topic: Scatter Plots **Date:** 5/3/2021 **Grade:** 8th grade

Student Outcomes

Specific learning objectives for this lesson.	The students will learn how to construct a scatter plot using two sets of data. They will understand how to describe patterns for the different types of association.
Justify how learning tasks are appropriate using examples of students' prior academic learning .	The students will have already learned about linear equations, so linear associations are not that much different. They will already know how to create a line in the form of $y = mx + b$. They learned in earlier grades how to plot points which is the bases of scatter plots.
Justify how learning tasks are appropriate using examples of students' personal, cultural, linguistic, or community assets .	Since scatter plots is about comparing two sets of data, we can compare real life problems in the class. The class will decide what they want to research for their data, so giving them this freedom, they can use their diverse backgrounds to choose a topic.

State Academic Content Standards

List the state academic content standards with which this lesson is aligned. Include abbreviation, number & text of the standard(s).	AR.Math.Content.8.SP.A.1 – Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive, or negative association, linear association, and nonlinear association.
---	--

Key Vocabulary

What vocabulary terms/content specific terminology must be addressed for students to master the content?	Scatter plot, positive association, negative association, linear association, nonlinear association, clustering, gap, outliers, and trend line.
---	---

Academic Language Support

What are the Academic Language Function(s) (the content and language focus of the learning task represented by the active verbs within the learning objectives/outcomes) and explain how they are utilized in the lesson plan? What planned Academic Language Supports will you use to assist students in their understanding of key academic language to express and develop their content learning and to provide varying supports for students at different levels of Academic Language development? How do these supports address all three Academic Language Demands (vocabulary, syntax, and discourse) ?	Since the students have to learn how to construct a scatter plot, using Desmos will help the student plot points on an online program. They will be able to type the points and see how to plot them, even though they have done this already. In the classroom, I am going to make a huge graph using the tiles and we will have the students use the Beebot to plot the points. They will have to “code” the technology to move to the spot they want to put a point at. Understanding how to describe a scatter plot is especially important especially if you are comparing two sets of data. Instead of looking at a graph on the board, they will be able to see it very zoomed in.
--	---

Materials

Materials needed by the teacher for this lesson. (such as books, writing materials, computers, models, colored paper, etc.)	<ul style="list-style-type: none"> - iPad - desmos - beebot - handout with tables
Materials needed by students for this lesson. (computers, journals, textbook, etc.)	<ul style="list-style-type: none"> - iPad - desmos - beebot

	- handout with tables
--	-----------------------

Lesson Timeline with Instructional Strategies & Learning Tasks

Amount of Time	Teaching & Learning Activities (This should be a BULLETED LIST)	Describe what YOU (teacher) will be doing and/or what STUDENTS will be doing during this part of the lesson. (This should be VERY DETAILED)
5 minutes	<p><u>Introduction:</u></p> <ul style="list-style-type: none"> - Explain activity 	<p>Today the class will be using Desmos to plot points on a graph and find the relationship between two sets of data. Desmos is able to show them how to plot points again, just in case they have forgotten. Once they have done the three examples I gave them on the handout, we will use the tiles on the ground to make a huge graph. We will then use the Beebot where everyone has to plot at least one point. Once we have done that, then on that same handout, they will describe the correlation between the two sets of data.</p>
2 50-minute days needed for this activity	<p><u>Instruction:</u></p> <ul style="list-style-type: none"> - Complete handout using Desmos - Research a topic to do the bigger graph on 	<p>“Today we will be filling out this handout on scatter plots. We have been discussing this topic for the past few days, so it is time to put it into practice. You will be using Desmos today to plot your points. Once you have plotted the points correctly, on the handout you will describe to me the relationship between the two sets of data.”</p> <p>I student should ask if they need to write down if there are any clusters, outliers, or gaps.</p> <p>“You need to write down if you see any clusters, outliers, or gaps in your graphs. This is part of describing.”</p> <p>For the rest of the day on Monday they will be playing with Desmos.</p> <p>“When you come in tomorrow you will need to have researched a topic with at least 20 points to plot. We will be using the Beebot to plot our points on the ground.”</p>
5 minutes on the 2 nd day	<p><u>Closure:</u></p> <ul style="list-style-type: none"> - Last minute discussion 	<p>Everyone will turn in their handout from Monday along with what they did with the Beebot. They will turn in the handouts for me to grade. We will be discussing any questions they had about the activity from yesterday and today.</p>

Technology Integration

<p>Provide your rationale for your technology choices that accurately reflects those choices within your teaching context. Identify what technology(s) you are using as part of your lesson plan. Describe how the use of technology aligns to your learning objectives, content standards, and central focus. Explain how</p>	<p>The first part of this lesson was to use Desmos to do extra practice on scatter plots. They will have to plot the points on the program, and then on the handout describe the relationship between the two sets of data. They will do three examples, so this gives them time</p>
--	--

<p>technology-based instructional strategies are essential to students accomplishing the learning objectives (beyond what could be accomplished without using the technology). Specify how the technology selections meet or exceed the needs/strengths of all students. Justify the “fit” of chosen technologies, showing how the content, instructional strategies, and technology “fit” together.</p>	<p>practicing the material, but also using technology instead of completing a worksheet. The second part of this activity is to have each student research a topic that they want to see if there is a relationship between. They will need to find at least data that can give us 20 points to plot. The students will decide which topic they like more, and then we will create the big graph on the ground. Using the beebot, they will have to “code” it to where they want the beebot to go. So, if I have a point (2,3), then I will have to code it by pushing the up button two times, have it turn to the left, then up three times. Every student will have to participate, but this gives them a chance to get out of their chairs and do something fun.</p>
--	--

Accommodations/Modifications

<p>How might I modify instruction for: <i>Remediation?</i> <i>Intervention?</i> <i>IEP/504?</i> <i>LEP/ESL?</i> (All students who have plans mandated by federal and state law.)</p>	<p>For the students needing remediation and intervention, we went over vocabulary multiple times throughout the lesson. For the students with an IEP/504 and students who are LEP/ESL using desmos allowed them to work at their own pace, but it gave them independent practice. If they needed help, then I could work with them before moving onto the whole group instruction.</p>
--	--

Differentiation

<p>How might you provide a variety of techniques (enhanced scaffolding, explicit instruction, contextualized materials, highlighters/color coding, etc.) to ensure all student needs are met? (All students who are not on specific plans mandated by federal and state law.)</p>	<p>Going into prior knowledge is a way to ensure that the students need are met. Reviewing allows them to understand new information when it all becomes connected. Showing them multiple examples before this activity helps, but having them do a whole group instruction as well can motivate them to participate, but also learn the material.</p>
---	--

Assessments: Formative and/or Summative

<p>Describe the tools/procedures that will be used in this lesson to monitor students’ learning of the lesson objective(s) (include type of assessment & what is assessed).</p>	<p><input type="checkbox"/> Formative / <input type="checkbox"/> Summative</p>	<p>As a formative assessment, I will be using what is called interview assessment at the beginning of this less. This will allow me to engage with the students and see where they are at in understanding the material before continuing with the project.</p>
	<p><input type="checkbox"/> Formative / <input type="checkbox"/> Summative</p>	<p>Another formative assessment is by observing them while they are working. If they seem to be struggling with a concept, then I can come by and help.</p>
	<p><input type="checkbox"/> Formative / <input type="checkbox"/> Summative</p>	<p>For a summative assessment, I will have the students turn in their handout that they complete from the past two days. Grading them will allow me to see what they struggle on or if we can move on to the next topic.</p>

Research/Theory

Explain connections to theories and/or research (as well as experts in the field or national organization positions) that support the approach you chose and justify your choices using principles of the connected theories and/or research .	Piaget: This theorist uses the developmental approach. Humans are to develop in various stages, so it was easy to use this model. We introduced the concept of scatter plots before this activity, so they have already heard and seen examples before completing this activity. We have also done other handouts before this project (classwork) to solidify that they do know the material. Once they have mastered the material, they can use this knowledge and use it to construct the big scatter plot in class using the Beebot.
--	--

Lesson Reflection/Evaluation

What went well ? What changes should be made? How will I use assessment data for next steps?	<i>TO BE FILLED IN AFTER TEACHING</i> (I am not sure if I need to write this out)
---	---

Include supporting material such as slides, pictures, copy of textbook, and handouts for any activities students will be using as part of your lesson.

*adapted from: <http://webcache.googleusercontent.com/search?q=cache:EsQcNWuG1ZoJ:web.mnstate.edu/harms/StudentTeachers/edTPA-LessonPlan.doc+&cd=2&hl=en&ct=clnk&gl=us>; <http://www.moreheadstate.edu/getmedia/cd3fd026-939f-4a47-a938-29c06d74ca01/Lesson-Plan-and-Reflections.aspx>;
<http://www.mcneese.edu/f/c/9cb690d2/Lesson%20Plan%20Rubric%20Aligned%20with%20InTASC.docx>; <https://www.uwsp.edu/education/Documents/edTPA/Resource12.pdf>; <https://www.uwsp.edu/education/Documents/edTPA/Resource11.pdf>;
<https://www.uwsp.edu/education/Documents/edTPA/Resource11a.pdf>; <https://www.uwsp.edu/education/Documents/edTPA/LessonPlanTemplateSOE.docx>;
<https://www.uwsp.edu/education/Documents/edTPA/SpecEdLessonPlanGuide.docx>;
<https://www.uwsp.edu/education/Documents/edTPA/SpecEdLessonPlanTemplate.docx>