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Math Lesson Plan

Learning Segment Focus: Applying Probability to Real Life

Lesson 1 of 1 Topic: Math/Probability Date: 4/28/21 Grade: 8th

Student Outcomes

Specific learning **objectives** for this lesson.	Students will be able to use already known concepts and apply them to a real-life situation
Justify how learning tasks are appropriate using examples of **students' prior academic learning**.	Students should know all these concepts and briefly know how to apply them, but this will apply them in a more applicable way.
Justify how learning tasks are appropriate using examples of **students' personal, cultural, linguistic, or community assets**.	Students are always asking what is the point of learning this, especially in regards to math, this will show them how they might use it in the future if they enter a particular field or in general.

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 plots - Bivariate measurement data - Clustering - Outliers - Positive/Negative association - Linear/Nonlinear association

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)?**	Students are already familiar with the content and will use keywords to know exactly how to solve a problem, just as they did after they originally learned the content. They will be reminded on it throughout the lesion and while working on examples.

Materials

Materials needed by the teacher for this lesson. (such as books, writing materials, computers, models, colored paper, etc.)	- Access to Computer/internet - Smart Board/Pens - Projector - Worksheets to pull up and pass out - Project Details Sheet
Materials needed by **students** for this lesson. (computers, journals, textbook, etc.)	- Pencil - Paper - Worksheets to work on - School Issued Device - Project Details Sheet

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)**
15 Minutes	**Introduction**: • Introduction • Review • Explanation	I will welcome students to class, talk about we just finished our last probability test (that I'm still grading) but I just want to review a lot of the topics that I think are very important and that can be applicable to real-life situations. I will start by pulling up a worksheet that has a couple problems from the entire Statistics/Probability unit, and I will have students help me complete them. After we complete the quick review I will say something like this: "Well its good you remember how to do these things, because today we are going to use those concepts and see how you would use them in your lives." "We will be watching a video that explains different ways to apply them and work on some problems ourselves. Then we will look at your Statistics/Probability Unit Project."
50 Minutes	**Instruction:** • Video • Practice Problems as a group • Individual Work • Project Explanation	I will have the video on standby to watch, we will watch the video, depending on how well the class understands the content, I might pause and ask questions throughout at various points. After the video is over I will recap it by asking a few questions. After that I will have a worksheet, really a small packet, but it only has a few problems on it, with a lot of room for the students to show their work. We will do this together and I will call on students to show me how to do it, and help if needed too. After that I will pass out another packet for the students to work on their own. We will then grade it in class by passing it out to another student. After that they will pass them back to see how they did. I will then introduce and explain their project where they need to find their own real-world application of

		using probability and make up some scenarios. They will present these after the project is due.
10 Minutes	**Closure:** • Recap • Students start on project	I will recap what students learned today, which was mostly review, I will then allow students to begin doing research on their school-issued devices for their projects.

Technology Integration

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 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.	We use technology every day, but videos give students chance to hear from someone else, they might be tired of always hearing from me, and this will also give their more of an incline to be involved, and pay attention. We will be using a Smart Board to work out some of the questions, I will call on students to come up and answer some of the problems, so it also gets them involved. I believe that the project which will involve them using their computers and the internet, will spark curiosity in the subject.

Accommodations/Modifications

How might I **modify** instruction for: *Remediation?* *Intervention?* *IEP/504?* *LEP/ESL?* (All students who have plans mandated by federal and state law.)	I would differentiate instruction for each. I would personally check in on each as they are working inependtly and help when I need too. I would give them less expectations on projects, for instance I might not have each of the students present their project in front of the whole class but maybe to a smaller group or just me if necessary.

Differentiation

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.)	I would over emphasis what is important, that might mean me highlighting important parts of questions so they might know what a question is asking. I might ask more of my gifted students, just like I might ask less of my struggling students on their projects. I will over explain things if I need too. The video will be an example as well on how to work word problems.

Assessments: Formative and/or Summative

Describe the **tools/procedures** that will be	☐ **Formative** /☐ ~~Summative~~	As a formative assessment I will ask students

used in this lesson to monitor students' learning of the lesson objective(s) (include type of assessment & what is assessed).		to recall already learned concepts to help me answer questions. I will also be checking for understanding throughout by calling on them
	☐ **Formative** /~~☐ Summative~~	As another formative assessment, I will have students complete some word problems on their own with the pack that I give them. This will show me their interest level and how well they grasp what they just learned.
	~~☐ Formative~~ /☐ **Summative**	As a summative assessment students will be asked to complete a project that will have them create their own realistic problem and have solve it. They can use the internet with help in creating their problem or situation.

Research/Theory

Explain **connections to theories and/or researc**h (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.**	Bloom: This theorist is known for having students remember concepts and create something new in regards to what content they are learning. Students will be asked to recall concepts and apply them to word problems. They will also be asked to think outside the box and create their own that might be used in a job for their project.

Lesson Reflection/Evaluation

What went **well**? What **changes** should be made? How will I **use assessment data** for next steps?	*TO BE FILLED IN AFTER TEACHING*

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