

## RANKING MODELS IN PLC DISCUSSIONS:

**NOTE: THESE SCENARIOS HAVE BEEN CREATED FOR EDUCATORS OF ALL DISCIPLINES AND GRADE LEVELS K-12 AND ARE INTENDED TO HELP THEM ANSWER THE INQUIRY QUESTION, “WHAT MAKES A QUALITY UNIT?”**

### UNIT RANKING

*Please rank the following units of instruction according to which ones promote the most authentic and meaningful learning experience for students. Rank them from 1 to 4, with 1 being the most authentic and meaningful learning experience and 4 being the least. Highlight the moves you see that you think are power moves of teaching. Also, highlight any shortcomings you see in the teaching.*

\_\_\_ A. Mrs. Curtis is an expert on dinosaurs. Her husband is a paleontologist. She has been on numerous digs with him and frequently works with his college interns during the summer. Her knowledge on the subject is cutting edge. She’s been teaching the dinosaur unit for years and has accumulated a treasure chest of artifacts, nonfiction handouts with graphic organizers, and quality videos. There is also a series of fictional stories about dinosaurs in the student literature anthology that she uses to launch the unit and prepare them for the nonfiction readings. A math teacher in the building even helps Mrs. Curtis by having students create timelines with the different periods (Triassic, Jurassic, and Cretaceous) and provide story problems with dinosaur themes. She is very proud of all the Common Core standards she hits with this unit. Students conclude the unit by making their own fossils with molds. Then, she buries them in a pit of sand, and they practice being paleontologists. It’s truly hands-on learning!

\_\_\_ B. Mr. Powers just finished a class about inquiry and created a unit with the essential question: “How do friends help us?” He only uses text exemplars from Appendix B of the Common Core Standards (*The Adventures of Tom Sawyer*, *The Diary of Anne Frank: A Play*, “A Poem for My Librarian, Mrs. Long”). Mr. Powers wanted to tie the unit into another content area, but he couldn’t find anyone else in his building willing to work with him because they were worried about covering their material in preparation for the end-of-course assessments. He did a good job front-loading the material with plenty of background information for Tom Sawyer and Anne Frank, and the discussions contrasting the texts were the best ever. Students actually provided evidence from the text to defend their answers! He wanted students to create a video about friendship, but he only had time to do an essay responding to the essential question. They did a great job citing sources, but he could tell they didn’t really care about the final assignment itself and that surprised him since they had actively participated in the discussions.

\_\_\_ C. Mrs. Moye is a brand-new third-grade teacher and really wants students to connect their classroom learning to the real world. Her learning goal for her unit is “Students will understand patterns.” She loves this learning goal because she can touch on it in every content area. They touched on patterns in the music teacher’s lesson on rhythm and beat and the PE teacher’s lesson on the rules for tennis. Mrs. Moye is required to “stick to the script” of her district’s reading curriculum because she’s a first-year teacher, which is fine with her as she is a little overwhelmed. The good thing is the texts from the student anthologies are easy for the children to understand. This is really great because it allows her to zip through them and jump into other fun activities. She’s struggling to find connections to patterns with the social studies textbook, but the science kit offers some great real-life applications of patterns. Their culminating project is for each student to focus on a pattern in their own life and create a digital guide to their pattern. They can choose between a PowerPoint, a blog entry, a video production, or a webpage.

\_\_\_\_\_ D. Mr. Meinzen does a unit on money with the essential question(s): “How does money control us, and how can we better control it?” He is an avid reader and shares brief articles at the beginning of class that feature money in some way and uses those as the context to introduce mathematical topics, such as graphing, statistics, and averages. Whenever possible, he tries to link the articles with topics they are covering in other classes and grade levels in the building. Sometimes, students struggle to master the topics because he can’t spend that much time practicing. Plus, many of them enter his class woefully unprepared for the new Smarter Balanced Assessment, and there’s no way he can get them totally caught up this late in the game. For the culminating project, students work in groups to create videos on topics of their choosing, such as where to invest money, how to avoid financial scams, or how to start a restaurant. He has record turnouts at parent–teacher conferences, where he premieres the videos, and there’s always a wait list to get into his class.

## MATH UNIT RANKING

(CREATED BY JACKIE MILLER AND RAMEY URIARTE)

**NOTE: THESE SCENARIOS ARE INTENDED TO HELP MATH EDUCATORS ANSWER THE INQUIRY QUESTION, “WHAT MAKES A QUALITY UNIT?”**

*Please rank the following units of instruction according to which ones promote the most authentic and meaningful learning experience for students. Rank them from 1–4, with 1 being the most authentic and meaningful learning experience and 4 being the least. Highlight the moves you see that you think are power moves of teaching. Also, highlight any shortcomings you see in the teaching.*

\_\_\_ A. Mrs. Curtis intentionally plans her unit on ratios and proportional thinking. Due to her careful planning, there is a smooth transition between concepts and the levels of thinking. Activities progress from easy to more difficult as students gain understanding. Mrs. Curtis starts with contexts that most students can access and gradually releases the responsibility of learning to them. She allows her students to use manipulatives to gain a deep conceptual understanding and later has them write and solve equations to show their understanding. Mrs. Curtis has a low class and usually has her students work as a whole group. She never allows them to work in small groups because they become too chatty and off-task. She begins her unit with an engaging video that highlights a real-world application of proportions. She presents students with several strategies to problem-solve but doesn't demand precision in their answers as long as they engage in the productive struggle and never give up. During class Mrs. Curtis has students solve contextual problems that fit the unit but are not necessarily related. Then, she assigns homework to have students practice procedural fluency. The following day, she checks off the homework to ensure students have completed the assignment and gives full credit if every problem is completed. To end her unit, she has students complete an assessment similar to those she has seen on the Smarter Balanced website in which students have to complete selected response and constructed response questions. She chooses to skip the performance tasks because she knows they will take too long.

\_\_\_ B. Mr. Powers is a Mathematical Practice Standards guru. He has been studying them since their initial introduction. He not only implements them consistently in his classroom, but he also intentionally plans the practice standards in his lessons. He uses a spreadsheet to ensure that each Mathematical Practice Standard is addressed a minimum of three times in his unit. Because of his in-depth instruction, it takes him longer than planned to teach his unit on ratios and proportional thinking, so he decides to cut his geometry unit because he knows his students learned geometry in the previous grade. Mr. Powers uses a variety of activities to scaffold student learning and pulls small groups to assist struggling learners or challenge students whenever possible. He has students use picture models, ratio tables, graphs, and equations to represent proportional relationships and shows his students the connections between each. Mr. Powers has no manipulatives in his room except for those he uses for demonstrations because he believes at the fifth-grade level, the use of student manipulatives is too elementary. Mr. Powers is passionate about math and wants his students to think like real mathematicians. As a result, he puts time and energy into finding authentic tasks in which his students can practice the mathematics in real-world contexts. Mr. Powers balances mathematical fluency with conceptual understanding by assigning bell ringers where students practice procedures they have been taught. At the end of the unit, Mr. Powers writes and gives a performance task in which students use scaling to draw a blueprint of a room for a builder. He requires students to explain how they went about solving the problem and to justify their solutions.

\_\_\_\_ C. Mrs. Moye has an intense love and understanding of math. She wants all of her students to share her passion for the subject. She has been told she explains things very clearly, and her students have been introduced to and have practiced the appropriate algorithms to solve problems. She also believes in the importance of mathematical fluency and has her students memorize important math facts and formulas. Prior to beginning her unit on ratios and proportional thinking, she has her students complete a pretest and then asks them what they already know about solving proportions using an equation. She uses a KWL chart to record their thinking. Mrs. Moye believes whole-group instruction is most beneficial to her students because they come to her with such limited schema. This ensures common understanding among all of her students. She values practice and precision and always includes challenge problems in the students' assignments. All students are required to do the decontextualized procedural problems and two of the four story problems on each assignment. She provides extra credit to students who solve the challenge problems. At the conclusion of the unit, Mrs. Moye has her students play a review game using an app on their iPads to prepare for their multiple-choice posttest. She then compares the results of the pretest and posttest to measure students' growth.

\_\_\_\_ D. Mr. Meizen does a unit on ratios and proportional thinking and uses the essential question, "How do we determine the better deal?" to prime and motivate his students.. He begins the unit by having his students participate in a game show called "What's the Better Deal?" in which students must determine which items they would buy and why. Mr. Meizen has a good understanding of mathematical thinking and instruction and has the students use manipulatives, draw ratio tables, and write equations to represent a proportional relationship. On a daily basis, he poses problems like, "Which orange juice is the juiciest?" and "Who is going the fastest?" Each day, the students complete a new story problem and have a math congress in which they share their strategies and discuss the effectiveness of these strategies. Mr. Meizen encourages the productive struggle of his students and allows them to use any strategy or tool (including a calculator) that works best for them, but he does value precision and requires students to work until they get the right answer. This is because Mr. Meizen knows Mathematical Practice Standard 6 is "Attend to Precision." Mr. Meizen does not believe in homework or presenting any problems out of context. He also does not care about mathematical fluency as long as students can problem-solve and use mathematical tools, such as a calculator. Mr. Meizen ends his unit by having students complete a culminating project in which they compare prices of various stores and form an argument about which store is the best place to do their shopping.