**Mathematical Quick Writes**

**by Cluster**

**What is a Quick Write?**

 A quick write is a question or prompt that students respond to in their math journals, math notebooks, or on a sheet of blank paper. These prompts allow students to dig deeper into what they are learning mathematically by analyzing and applying the knowledge they’ve learned through written responses.

**Why are these valuable to teachers?**

Quick writes are valuable to teachers, because they show the students thought process and understanding of the concept (more so than a multiple choice question). Giving students an open ended question with the expectation that they will support their stance with facts, evidence, and intellect provides teachers with invaluable information about their students and what they know about the concept being taught. Analysis of quick writes can give insight to teachers as to what information their students grasped and what they did not.

**How do you implement quick writes?**

 Quick writes can be implemented whenever the teacher feels that it would be the most beneficial to their students. Having quick writes at the end of the lesson can help solidify any misconceptions that students may have about a particular concept. Additionally, having a quick write at the beginning of a lesson and being able to analyze it quickly can also help teachers understand how to group students based upon the information students provide. Implementation is left up to the teacher and is intended to help guide their math lessons more efficiently and productively.

**What does it look like?**

 Quick writes will take some front loading on the teacher’s part. Teachers need to be very explicit in the expectations of a quick write. Quick writes are informal written responses designed to be answered individually by students to assess their understanding of a concept. Students can begin a quick write with one of the following starters:

I agree with \_\_\_ because ......

I disagree with \_\_\_ because ......

I also noticed ......

I’d like to build on what .... said ......

I didn’t understand ......

I think what ...... meant is ......

I predict that .....

My strategy was ......

I think a more efficient strategy would be ....

Another possible strategy would be ...

**\*Special Note\*** Quick writes are exactly what they sound like, short and quick written responses to a math problem that allow students to articulate their understanding. Quick writes DO NOT include students simply writing an equation or solving a problem with only numbers. A clear articulation of arguments and explanations should be made in a quick write.

**How do I help students that don’t understand the concept of a quick write?**

 Students may not automatically want to explain themselves in written form, no matter how open ended the question may be. Students have been trained from the beginning of their math classes to answer math questions with numbers and computation. However, quick writes require written explanations and allow students to delve deeper into their understanding. Help students with prompts like the following:

Do you agree with the question? Why or why not?

Why do you think that?

How do you know that?

Can you explain that in another way?

Can you prove that?

How can you prove it?

What is another way of understanding what’s going on in this situation?

Can you draw a table to model your thinking?

Allow students to start at whatever entry point they can. One way to begin is to have students dictate what they are doing as they are solving and thinking about the problem to themselves, a partner, or a teacher. After they have dictated their actions, have them then transfer what they are saying to paper and write down what steps they are taking to understand the problem they are solving.

Quick Write ideas and concepts created from, but not limited to, the following sources:

* *Good Questions for Math Teaching* – Peter Sullivan and Pal Lilburn
* *Good Questions, Great Ways to Differentiate Mathematics Instruction (2nd edition)* – Marian Small
* *Alternative Assessment –* Ann Arbour Public Schools, Dale Seymour Publications
* *Fourth Grade Math Journals* – K-5 Resources

**Cluster 1 Quick Writes**

1. What type of graph could be used to display this data? Why would this be a good choice to display the data? Explain your thinking in words.



Favorite Dogs

|  |  |
| --- | --- |
| Golden Retriever | 27 |
| Lab | 15 |
| Australian Shepherd | 6 |
| Poodle | 9 |

2. You and your friends are going hiking on Grandfather Mountain. What types of data might be helpful to you as you plan your hike?

3. Rachel took a survey of all her friends and found the following information to be true: 18 people liked pepperoni pizza, 6 people liked pineapple pizza, 12 people like bacon pizza, 8 people liked mushroom pizza, 10 people liked sausage pizza, and 24 people liked cheese pizza. How could Rachel present her findings in a collection?

4. Give an example of numerical data and categorical data. Why would you classify them as such and how do you know that they are one or the other?

5. Select one mathematical practice. Explain it in your own words and create a drawing to represent the practice.

6. What math practices did you use when you solved your task? How do you know you used these math practices? What did you do when using them?