

Math Icebreakers

Activity 1: What's Your Math Number?

Conduct the following activity with the group as ice breaker. This activity will relieve some of the first day tension that many students feel on the first day of a new math class and will provide you the insight into the personalities of your students and you will learn about the dynamics of the class. You will ask the students the question, "What's your math number?" and then explain what a #1, #2, and #3 using the following:

If you are a Number One

- Math Comes Easily to you and you usually understand a concept the very first time it is presented to you
- You don't like showing your work
- You get frustrated by people who don't "get it" as quickly as you do
- You are good at estimating
- You sometimes arrive at the correct answer without any effort at all but are unable to explain how you know it is the correct answer

If you are a Number Two

- You may or may not like math, but you usually make good grades.
- You are a detail-oriented person who takes good notes and you don't like to skip steps
- You may not always understand something the first time it is explained, but after a few examples, it becomes easy to you.
- Other students often ask you for help with their assignments or class work

If you are a Number Three

- You have never liked math
- You often "lose" your homework or fail to complete it.
- You often hear your parents say, "I was never good at math, so you won't be either".
- In the past, you have dreaded going to math class.
- You did fine with math until they started using letters of the alphabet!

Instructions:

1. Ask students to think about what number they are and why but to not say anything out loud.
2. After 2-3 minutes of thinking, you will ask them to get together with their partner, introduce themselves, and take turns sharing their math number and their reasons for picking this number.
3. After the partners have a chance to visit, group them into bigger groups and ask each partner to introduce their other partner and tells the group their math number and why.
4. At the end of the activity, have all the 'ones' raise their hands and then the 'twos' and the 'threes'.

Activity 2: Jeopardy- An Introductory Group Activity for 12U Functions

Purpose: The purpose of this activity is to engage students in reviewing some of the basic prerequisite skills related to functions using a group activity. This activity encourages communication, critical thinking, problem solving and is a fun way for students to interact with each other while performing an enjoyable task. This is also an opportunity for students to refresh their knowledge of functions as well as an opportunity for you to gauge the level of understanding of the students in the course.

How to Play: It is best to open the activity on the projector (or screen) and introduce how the game works. Otherwise too many will say 'I don't get it'. Weaker groups may need careful step by step instructions. Students will play a game called Jeopardy*. Instant Jeopardy is designed for live play with up to 12 individuals or teams. Teams choose a question, then try to give the best answer. Scoring is built in for each team.

**Jeopardy is an American television game show created by Merv Griffin. The show features a quiz competition in which contestants are presented with general knowledge clues in the form of answers and must phrase their responses in the form of questions.*

This activity gives the students a problem-solving context as well – students like solving problems and there is always a sense of satisfaction in solving the question. There can be an aspect of competition as well: who solved the most, who was quickest or who made the least mistakes. Use whiteboard for clarification if students are confused.

Link to the Activity:

<http://rosedaletube.com/zfiles/math/functionsReview.html>

Follow Up Discussions:

Below are some useful resources you can use to support your discussions of some key topics.

Continuous and Discrete Functions

<https://mathbitsnotebook.com/Algebra1/FunctionGraphs/FNGContinuousDiscrete.html>

Functions vs Relations

<https://www.purplemath.com/modules/fcns.htm>

Domain and Range of a Function

<https://www.intmath.com/functions-and-graphs/2a-domain-and-range.php>

Factoring in Algebra

<https://www.mathsisfun.com/algebra/factoring.html>