

A Technological Approach to Order of Operations		
Learning Goal: Students should become masters at solving order of operation problems using pen & paper and graphing calculators		
Standards	Strategies	Technologies
4.1.8.B1- Use & explain procedures for performing calculations with a calculator 4.5F4- Use calculators as problem solving tools NETS-S 6.A- Understand and use technology systems NETS-S 6.D- Transfer current knowledge to learning of new technologies	Student will watch a tutorial video on using the graphing calculator to compute order of operation problems -(T/S) Students will use instructions from the tutorial to use graphing calculators to complete a few order of operations problems on their own -(S)	You Tube Graphing calculators
4.1.8B.5- Understand & apply the standard algebraic order of operations 4.5F1- Use technology to gather, analyze, and communicate mathematical information NETS-S 3.B- Using information from a variety of sources and media	Students will be given a short presentation on some basic rules of order of operations -(T) As a class, we will complete an interactive activity while students can take notes. -(T/S)	Powerpoint or Smartboard Smartboard
4.3.8D.4- Create, evaluate, and simplify algebraic expressions involving variables 4.5F3- Use graphing calculator and computer software to investigate properties of functions 4.5F4- Using calculators as problem solving tools NETS-S 2.D- Contribute to project teams to produce original works or solve problems	Students break into groups to use virtual manipulatives -(S) Groups will use manipulatives to come up with order of operation equations to be solved using pen and paper and to check using graphing calculators -(S), (A)	National Library of Virtual Manipulatives (9-12 algebra) - Algebra Tiles, Computers Graphing Calculators
4.5E.1- Create and use representations to organize, record, and communicate mathematical ideas using symbolic representations 4.5F2- Use computer software and graphing calculators to organize and display quantitative information 4.5F4- Using calculators as problem solving tools NETS-S 2.A- Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media NETS-S 2.B- Communicate information and ideas effectively to multiple audiences using a variety of media and formats	Groups will create their own tutorial showing how to solve the equations they came up with using pen and paper and the graphing calculator -(S) The tutorials created will be posted to our class you tube website for use as a study tool -(S), (A)	Laptop, i-movie or another recording software, graphing calculator You Tube