

STUDENT NAME _____ SUBJECT _____

MP 3: Construct viable arguments and critique the reasoning of others Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

	4 - Advanced	3 – Competent	2 – Limited	1 - Emerging
Constructs Arguments	Student can analyze problems thoroughly and uses a combination of assumptions, definitions, and established results to construct evidence based arguments. Student pairs written or verbal argument with mathematical explanations, and points to mathematical evidence to support their solution.	Student can analyze problems and uses assumptions, definitions, and established results to construct arguments mostly based in evidence. Student pairs written or verbal argument with mathematical explanations, and points to mathematical evidence to support their solution.	Student constructs argument based on one piece of evidence, incomplete data, or personal assumptions.	Student cannot construct an evidence-based argument.
Week 1				
Week 2				
Week 3				
Critiques Others' Reasoning	Student pushes their thinking by actively participating in mathematical discussions in which they critically evaluate their own and their peers' thinking. They feel comfortable receiving and giving critiques, and use them to refine their thinking. Proficient students ask each other questions like, "How did you get that", or "Does that always work?"	Student actively participates in mathematical discussions with peers. Student is able to evaluate their own and other's thinking and feels comfortable giving and receiving critiques.	Student participates in discussions when prompted and shares thinking, however, critical evaluation of other's reasoning does not take place.	Student participates with prompted, but shares little or no critique.
Week 1				
Week 2				
Week 3				

INSTRUCTIONAL NEXT STEPS: