

CAUSE-EFFECT TEMPLATE FOR MATHEMATICAL PRACTICE #3: IMPLICATIONS FOR INSTRUCTION

<p style="text-align: center;"><u>Cause</u></p> <p>(Implications for teaching: if THIS is what I want to see my students doing, then THIS is what I need to address in my instruction.)</p>	<p style="text-align: center;"><u>Effect</u></p> <p>(Implications for learning opportunities: this is what I want to see my students doing.)</p>
	<p><u>Mathematical Practice #3: Construct viable arguments and critique the reasoning of others.</u></p> <ul style="list-style-type: none">• Understand and use stated assumptions, definitions, and previously established results in constructing arguments.• Make conjectures and build a logical progression of statements to explore the truth of their conjectures.• Analyze situations by breaking them into cases, and can recognize and use counterexamples.• Justify their conclusions, communicate them to others, and respond to the arguments of others.• Reason inductively about data, making plausible arguments that take into account the context from which the data arose.• 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.• Construct arguments using concrete referents such as objects, drawings, diagrams, and actions (younger students).• Determine domains to which an argument applies.• Listen or read the arguments of others.• Decide whether an argument of another makes sense.• Ask useful questions to clarify or improve the arguments.