

Task Type	Pedagogical Purpose	Externalizes the inner processes of _____ing	Typical format	easily enhanced by	variations to try	SMPs supported
card sort	get students to (a) notice properties of mathematical objects and (b) use mathematical language to analyze them	<ul style="list-style-type: none"> naming, describing, identifying similarities/differences, categorizing 	Given the row & column headings, classify these objects according to their mathematical properties	<ul style="list-style-type: none"> requiring justification for each classification 	2-step sort; odd one out (WODB); adding in additional conditions	
card matching	get students to interpret & find the connections between different mathematical representations	<ul style="list-style-type: none"> interpreting, decoding, noticing key features, recognizing quirks & special cases, linking different versions of the same thing 	Match each equation with its graph	<ul style="list-style-type: none"> requiring justification for the connections/interpretations you've made; what did you notice that required these to go together? 	3-way matches (i.e., Q+A+justification)	
A / S / N	get students to generalize mathematical principles or properties	<ul style="list-style-type: none"> thinking in cases; recognizing anomalies; assessing validity of a claim 	Evaluate the following statements that are True/False or Always/ Sometimes/ Never	requiring a justification or counterexample	Turn it into an 'A' statement / a 'S' statement/ a 'N' statement	
Create a new problem to trade & solve	cultivates students' abilities to think in terms of doing & undoing (functional thinking)	<ul style="list-style-type: none"> thinking about processes going both forwards & backwards; metacognitive thinking about the processes of problem-solving; generalizing properties & pitfalls; creating your own examples 	Make up a new problem like one you've done	<ul style="list-style-type: none"> requiring a written solution guide and/or a commentary on why this is a valuable problem 	Create one new problem which is really hard and another which is really easy; write a solution guide & commentary on what makes the hard problem hard and the easy problem easy? Or alternatively, create a new problem which is really peculiar & write a solution guide and commentary.	
Analyzing reasoning and/or solution pathways	gets students to think about pathways/sequencing/dependencies in reasoning	<ul style="list-style-type: none"> thinking about multiple methods of reasoning; thinking about dependencies between and among steps; developing multi-optional thinking (beyond just right/wrong); considering multiple solution pathways; thinking about sequencing 	Order and/or analyze the steps and reasoning in a proof	Leave a blank for key steps or reasoning; require two distinct solution pathways	The Mistake Game	