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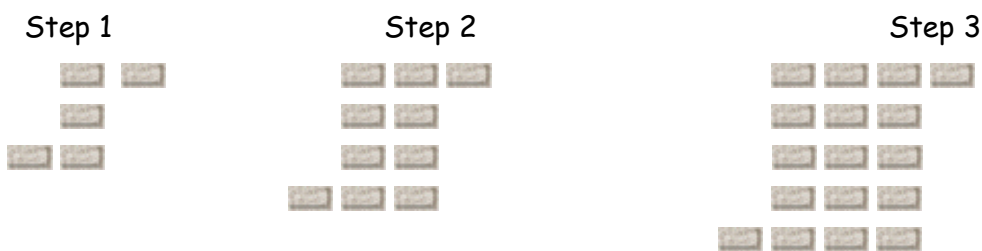
Middle Level Math  
 Algebraic reasoning  
 Solving Equations

Name \_\_\_\_\_

**Understanding Patterns**

Algebraic reasoning

Use the pattern steps below to answer the questions..



1. How many tiles will step 8 have. How were you able to predict this. Include any drawings and or equations that aiding in your finding step 8.
2. Write a rule to predict the total number of tiles for any step in the pattern. This rule can be in the form of an equation or in sentence form.

(Remember to include all work even if it proves to be non-beneficial in your answers it may help clarify your thinking.)

**Extensions**

You have completed your Understanding Patterns Task, I would now like you to tell me how many tiles would be in Step 29 and also in Step 110.. You should have, by now, discovered a short cut or a formula (equation) that helps you get the answer easily... If not now is the time to figure one out...

I also would like you to develop a pattern similar to the one you just did,(but of your own design) that is repeating that the rest of the class can figure out... If you would like you can work with a partner to create this pattern, but each person must turn in the problem with the solution....