Lesson Assignment

Name:_____

For this assignment you will write a lesson or sample for a text book teaching mathematics to next year's transition's students. Think from your own perspective. What would make the concepts clear? How would you like to see the material presented? And how would you like to see examples and proofs presented?

Title: Functions

1. Description of Functions
   (a) formal definition of a function
   (b) examples of functions - defined on simple sets like $\{a, b, c\}$ to functions defined on $\mathbb{R}$
   (c) example of NOT a function
2. formal definition of injective and surjective
   (a) examples of functions that are surjective and not surjective
   (b) examples of functions that are injective and not injective
   (c) Graphical representation of injective and surjective
   (d) State as a particular function is injective and prove it (one of your examples form above woulfd be fine).
   (e) State as a particular function is bijective and prove it (one of your examples form above woulfd be fine).
   (f) State as a proposition and prove the following
      i. If f and g are injective then $f \circ g$ is injective.
      ii. If f and g are surjective then $f \circ g$ is surjective.

As always type up your answers in complete English. This should be at least 3 pages.

This assignment is due Friday (May 20th).