

Template for inset background - Make eleven copies.

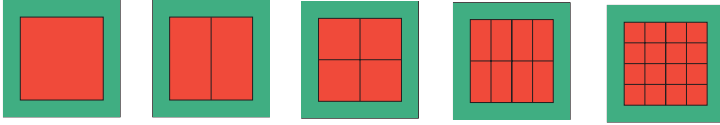
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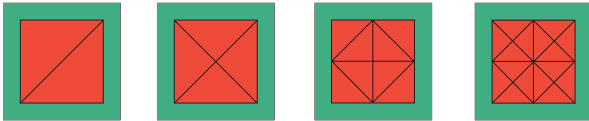
SERIES ONE

Equivalent, Identical and Similar Figures

The first series of Montessori Fractional Insets includes nine red square insets, 10 x 10 cm. with a 14 x 14 cm. green background and white foundation. The first set of insets is made of one undivided red square and four squares divided into two, four, eight and sixteen equal rectangles.



The second set of the first series is made of four squares divided into two, four, eight and sixteen equal triangles.



The following exercises are to be repeated with the other equivalent figures with four, eight and sixteen divisions:

Build a square in the frame with the square divided into two rectangles and then with the square divided into two triangles.

Superimpose the two triangles and the two rectangles on the unknobbed side and show their equivalence.

Point out that both a single triangle and a single rectangle are one half of the square yet very different in form.

Show how the triangle and the rectangle are *equivalent* figures by placing the triangle on the rectangle and notice that the small triangle left over on the rectangle equals the small triangle which remains uncovered on the larger triangle. So the triangle and the rectangle have different forms but the same area.

Point out that the two rectangles are *identical* figures divided by a vertical line, and the two triangles are identical figures formed by dividing the square on the diagonal.

Similar figures have the same form but differ in dimension, for example a rectangle that is one half of the original square and a rectangle that is one eighth of the original square are similar.

These divisions of the square help the child to gain intuitively the idea of fractions however the purpose of this series of materials is to introduce the concepts of equivalent, identical and similar.

