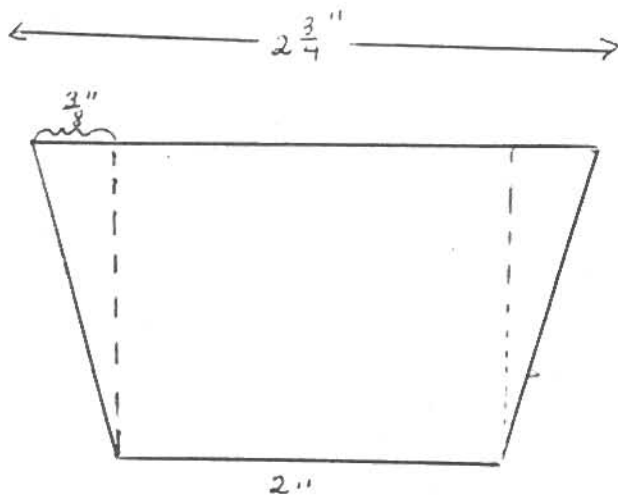
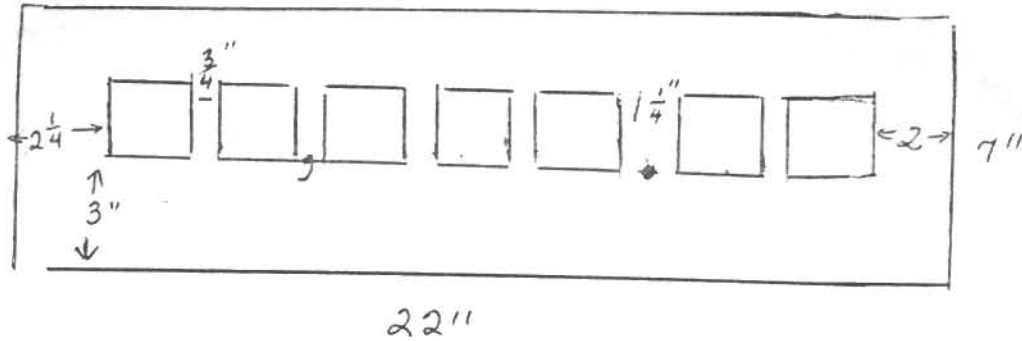


PLACE VALUE POCKET CHART



7 plastic pockets
fold on dotted
lines
Tape sides, bottom

Make two sets of numbers cards 0 through 9. Cards should be $1\frac{1}{2}$ " wide and may be 2" or $2\frac{1}{2}$ " high.

How to use: Place the cards in the pockets. Have students tell the value of a digit:

- In _____, what number is in the thousand's place?
- In _____ 3 means _____
- In _____ 5 stands for _____



HUNDREDS +

TENS +

ONES

HUNDREDS +

TENS +

ONES

HUNDREDS +

TENS +

ONES

HUNDREDS +

TENS +

ONES

SUGGESTED ACTIVITIES USING THE HUNDRED'S GRID

By Miriam A. Leiva

- Using one color make a design. Describe the picture using decimals.
Shaded part:
Not shaded part:
- Make a design of your choice using as many colors as you wish. Describe your picture using decimals.
- Make a design with 3 colors. Name the fractions. Name the decimals.
- Make a design with 4 colors. Different colors may not touch each other. Describe the picture with decimals.

color 1 = color 3 =
color 2 = color 4 =
not colored =

- Make a design using 3 colors. Describe your design with decimals.

color 1 = color 3 =
color 2 = not colored =

- Make a design with 4 colors to shade 0.28 of the grid. Describe your design using decimals.

color 1 = color 3 =
color 2 = color 4 =
unshaded =

- Color 0.32 of the grid using 3 colors. How much is shaded in each color?

- Shade 25 squares using 5 colors. Use decimals:

color 1 = color 2 = color 3 = color 4 = color 5 =

- Make a design with 2 colors. Let color 1 = 0.01 and color 2 = 0.1. Describe your picture using fractions.

- Make a design using 4 colors. Let

color 1 = 0.05
color 2 = 0.5
color 3 = 0.01
color 4 = 0.01

- Use 4 (four) colors to make a design. Do not let shaded blocks touch each other. Describe your picture using decimals.

- Using one color make a number. Describe the picture using decimals.

- Using 2 colors make a number. Name the fractions and the decimals.

- Using one color shade in a letter of the alphabet. Describe your picture using decimals. colored part = not colored part =

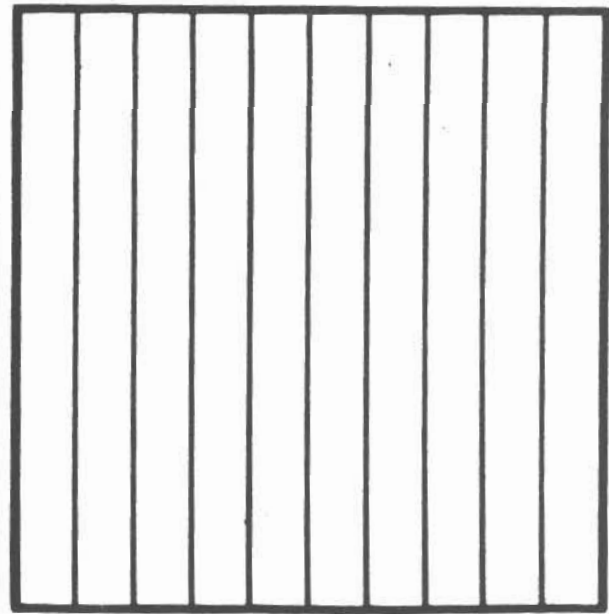
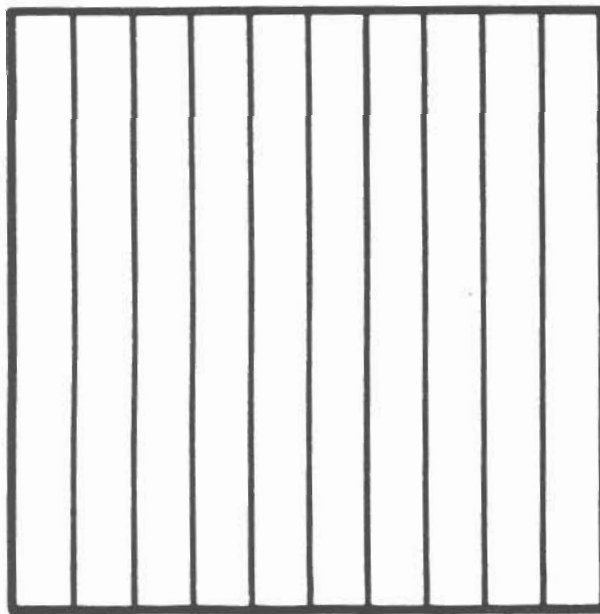
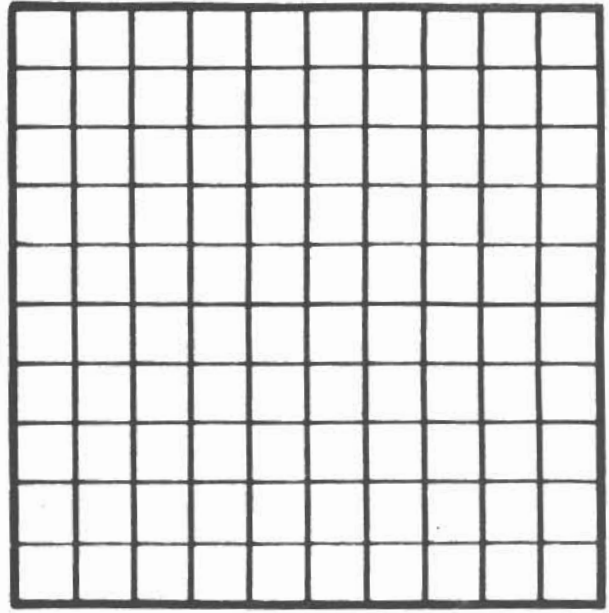
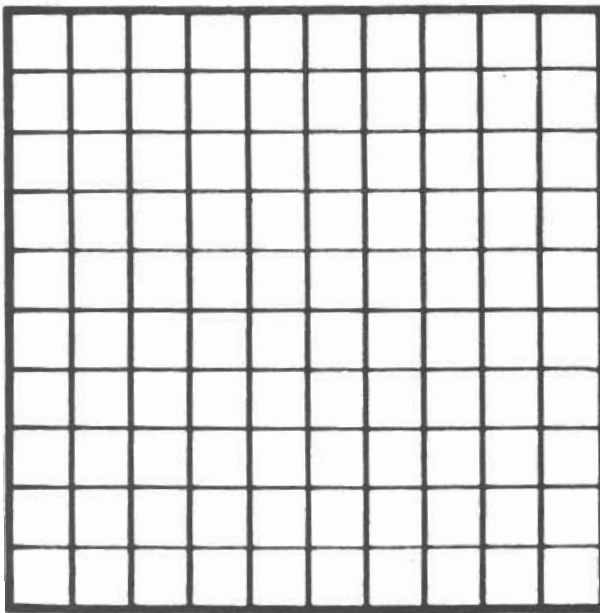
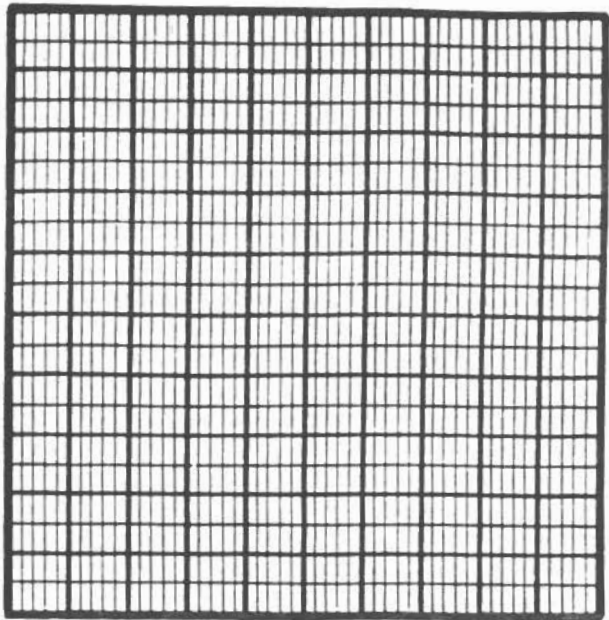
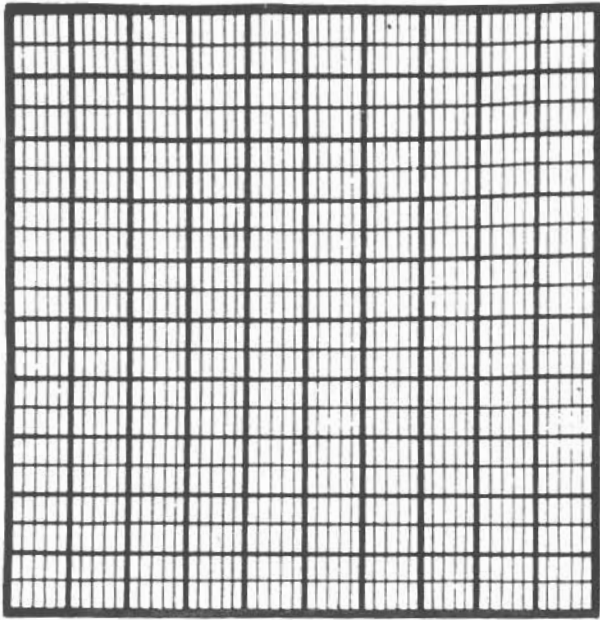
- Using one, two, or three colors, shade in your initials.

Total part shaded =

Total part not shaded =

Give the fraction and the decimal.

16. Use one color to make a geometric figure. Describe the figure with decimals.
Shaded part = _____ not shaded part = _____
17. Use one color to make a geometric figure. Describe the figure with decimals.
Shaded part = _____ not shaded part = _____
18. Make any geometrical design using 1 color. What part of the whole is shaded?
19. Make a geometrical design using 3 colors. Describe your design using decimals.
What part is shaded? What part is not shaded?
Color 1 = _____ Color 2 = _____ Color 3 = _____
20. Make a design with 3 colors to make up one geometrical figure. Describe the figure using decimals: color 1 = _____ color 2 = _____ color 3 = _____
unshaded = _____ Name the figure.
21. Make a rectangle and a square using 2 different colors. Describe the picture using decimals.
22. Make a checkerboard design. Use as many colors as you wish and as many squares as you wish. Describe the picture using decimals.
23. Make a design with stripes. Use as many colors as you wish. Describe the picture using decimals.
24. Make a kite. Use as many colors as you wish. Describe the picture using decimals.
25. Make any building. Use 3 colors. Tell the number of squares used in each color.
26. Make a building. Remember doors and windows. Tell the number of squares used in each color. Describe the picture using decimals.
27. Make a building 5 stories high. Each block represents one story. Put doors, windows. Describe the building using decimals.
Building = _____ Windows = _____ Doors = _____ Not shaded = _____
28. Using two colors write a word. How many squares are shaded? Describe in decimals: color 1 = _____ color 2 = _____ color 3 = _____
29. Make a symmetrical design. Describe your design using decimals. What part is shaded? What part is not shaded?
30. Make a design with 2 colors to shade $\frac{1}{2}$ of the grid. Describe the design using decimals.
31. Make a design with 4 colors to shade $\frac{1}{2}$ of the grid. Describe your picture using decimals.
32. Make a design with 1 color to shade $\frac{1}{2}$ of the grid. Describe your picture using decimals.
33. Use 2 colors to make a design which covers $\frac{1}{5}$ of the grid. Describe the design using decimals.
34. Make a design of 5 colors to show $\frac{1}{20}$ of the grid. Describe the design using decimals.

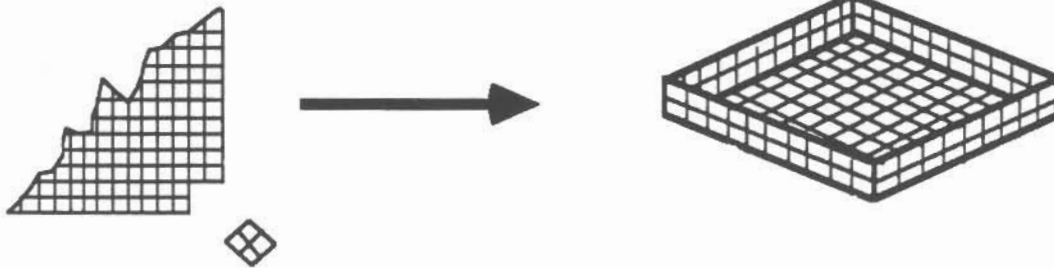


Boxes

Materials: (for each group)

10 sheets of grid paper
scissors
tape
calculator
cubes

Problem: Given a 20 x 20 piece of grid paper you are going to fold it into boxes. To do so you will cut a square from each corner then fold into a box. Construct a box that will hold the most. Make a prediction - **which box is going to hold the most?** (a shallow box? a tall & narrow box? a cube-shaped box?)



Procedure:

1. Discuss your predictions as a group.
2. Cut out boxes.
3. Determine the volume of each box. Record the number. (label the boxes by the size of the square removed from the corner, i.e. box 1 has the 1 x 1 square removed, box 2 has the 2 x 2 square removed, etc.) Find the box that holds the most.
4. What if we didn't have to cut along the lines? Will this change the result?
5. On a sheet of paper prepare a group response to the following:
 - What is the range of box sizes? What box holds the most? the least?
 - Write a convincing statement explaining which box holds the most.
 - Why do you think this shape holds the maximum volume?
 - How did the result compare with your prediction?
 - Tell where you think this problem might have an application in the world.
 - (optional) Does this problem suggest any related problems for investigation? Explain.

Suggestions for further exploration:

- What would happen if we used 30 x 30, 50 x 50, or some other size of paper?
- Why does this specific shape produce the maximum volume?