# CONCEPTUAL MODEL OF DIVIDING DECIMALS

Each student is given a worksheet of 10 x 10 grids. The students are told that each little square represents 0.01; therefore, the big square represents 1.

- **Dividing a whole number by a decimal** $0.5\overline{)2.0}$

This model is similar to the fraction model of division in that the wording is key – how many five-tenths are there in 2.   There are four groups of five-tenths in 2.
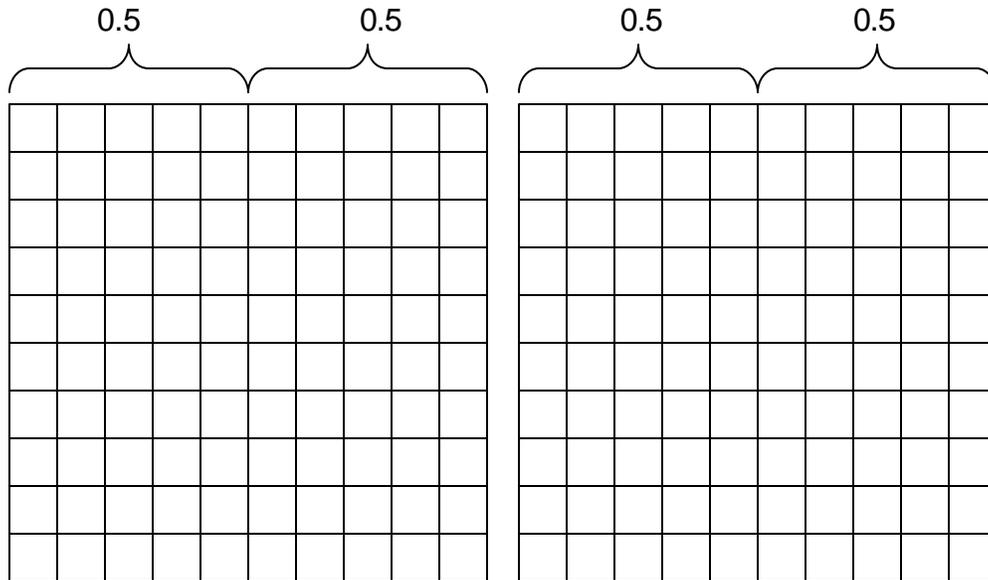
| 0.5 | 0.5 | 0.5 | 0.5 |

Give students other examples to shade in on their paper. After completing several examples, ask them to look for patterns regarding the decimal point and try to determine a rule. Other examples could be:
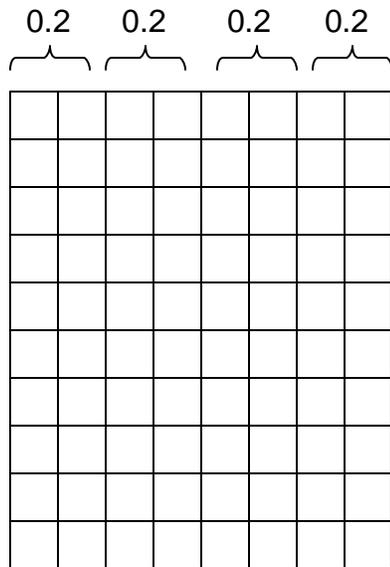
$0.05\overline{)2}$ $0.4\overline{)2}$ $0.04\overline{)2}$

$0.6\overline{)3}$ $0.06\overline{)3}$ $0.5\overline{)3}$ $0.05\overline{)3}$

- **Dividing decimals by decimals** $0.2 \overline{\smash)0.8}$

In this model, students determine how many two-tenth are in eight-tenths. (4)

0.2   0.2   0.2   0.2

Give students other examples to shade in on their paper. After completing several examples, ask them to look for patterns regarding the decimal point and try to determine a rule. Other examples could be:

$0.02 \overline{\smash)0.8}$ $0.3 \overline{\smash)0.6}$ $0.03 \overline{\smash)0.6}$ $0.2 \overline{\smash)0.6}$

$0.02 \overline{\smash)0.6}$ $0.4 \overline{\smash)0.48}$ $0.04 \overline{\smash)0.48}$ $0.08 \overline{\smash)0.48}$