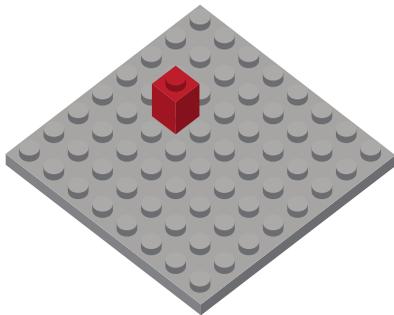




# Brick Math Lesson of the Month from Basic Measurement Using LEGO® Bricks Teacher Edition

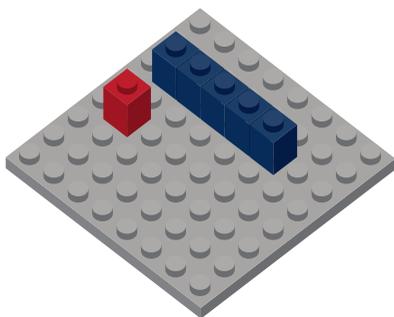
## Coin Values

Explain to students that they will learn to model monetary values using bricks.

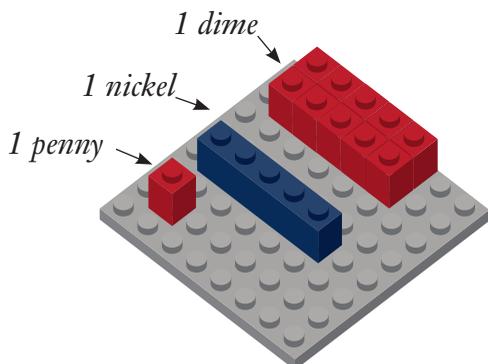


1. Model 1 penny with one 1x1 brick. Show students how to write 1 cent (\$0.01 or 1¢).

Have students build the same model, then draw and label their models.



2. Ask students how many 1x1 bricks are needed to model a nickel. Have them build a model of a nickel using five 1x1 bricks of the same color. Ask students to write 5 cents (\$0.05 or 5¢), then draw and label their models.



3. Ask students how to model a dime (*possible answers*: ten 1x1 bricks of the same color or one 1x10 brick).

*Note:* Make sure students understand that they can also model a dime with two sets of five 1x1 bricks (the same as ten 1x1 bricks, but in sets). This will help them begin to use sets as part of a dollar when counting money. Students learn to count by fives and tens to 100, so



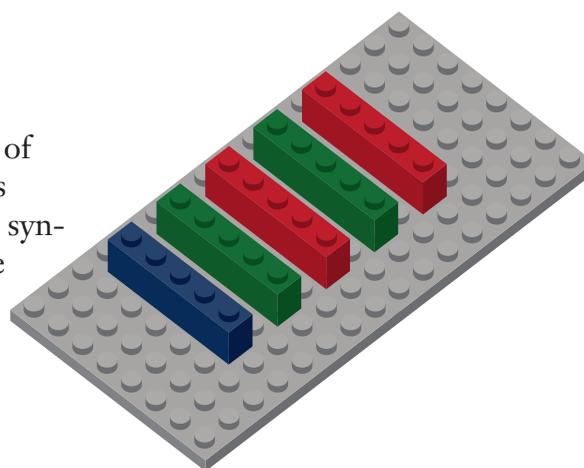
the idea of building sets of 5 is an extension of previously learned math content as well as preparatory for multiplication.

Have students build two sets of five 1x1 bricks, then draw and label their models.

4. Ask students to name the coin values modeled (*answer*: one penny, one nickel, and one dime). Have students identify the total amount of money modeled on the baseplate (*answer*: 16 cents). Ask students to describe how they determined the total amount (*possible answer*: count by fives and add 1). Have students draw and explain their models.

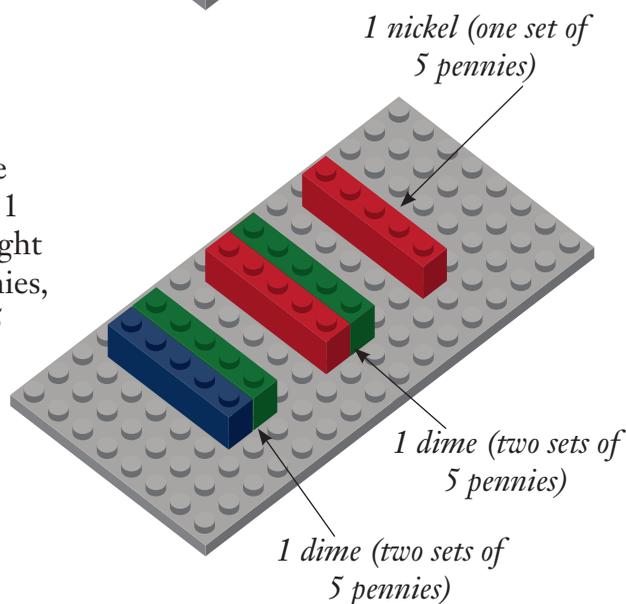
5. Have students build five sets of nickels.

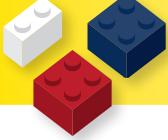
Have students count by fives and identify the value of the coins modeled (*answer*: 25 cents). Have students record the monetary amount of 5 nickels in correct syntax (*answer*: \$.25 and 25¢). *Note*: If students struggle with counting by fives, they can count each stud using one-to-one correspondence. Remind students that one stud is equivalent to 1 cent.



Looking at this model, lead students to discover the number of dimes in 25 cents (*answer*: 2 dimes, with 1 nickel left over). *Note*: To discover this, students might group sets of 5 pennies to make two sets of 10 pennies, as illustrated; they will then realize that one set of 5 pennies (one nickel) remains.

Have students draw their models and label the amounts.

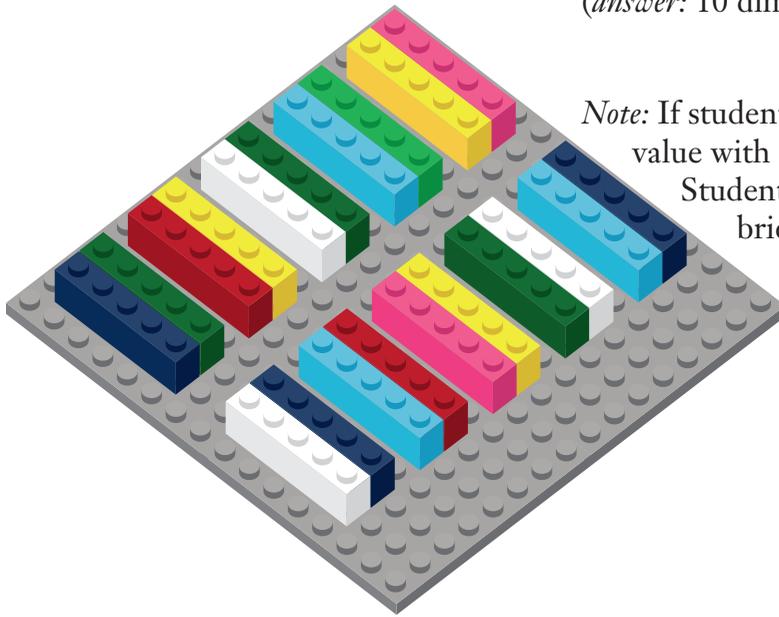




6. Challenge students to work in pairs to create a dollar. Pose the following question: Can you and your partner find a way to model one dollar?

Let students use bricks to model one dollar using pennies, nickels, or dimes. Discuss possibilities with the class after they have created some models.

Ask students how many pennies are in a dollar (*answer: 100 pennies*), how many nickels are in a dollar (*answer: 20 nickels*), and how many dimes are in a dollar (*answer: 10 dimes*).



*Note:* If students have learned how to model place value with bricks, you can review this concept now. Students can exchange ten 1x1 bricks for one 1x2 brick, and ten 1x2 bricks for one 1x3 brick to show the tens and hundreds place values (See *Addition Using LEGO® Bricks—Teacher Edition*).

*Possible solution:  
Ten sets of 10 pennies, or  
ten dimes; or twenty sets of  
5 pennies, or twenty nickels;  
or 100 pennies*



# Brick Math Lesson of the Month from Basic Measurement Using LEGO® Bricks

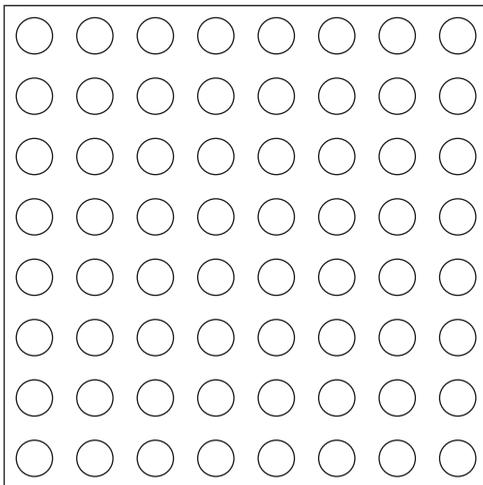
## Student Workbook Pages

### Coin Values

1. Build a model of one penny with one 1x1 brick. Write 1 cent in terms of money.

\_\_\_\_\_

Draw and label your model. (Leave your one cent model on the baseplate.)



2. How many 1x1 bricks are needed to model a nickel? \_\_\_\_\_

Build a model of a nickel using five 1x1 bricks of the same color.

Write 5 cents in terms of money. \_\_\_\_\_

Draw and label your model on the baseplate above. (Leave your model of a nickel on the baseplate.)



- 3.** Build a model of a dime using bricks of the same color. How many ways could you model a dime? \_\_\_\_\_ Model it at least two ways.

Draw and label your two models of the dime on the baseplate. (Leave your dime models on the baseplate.)

- 4.** How much money in total is modeled on the baseplate with one penny, one nickel, and one dime? \_\_\_\_\_

Explain how you determined the total amount.

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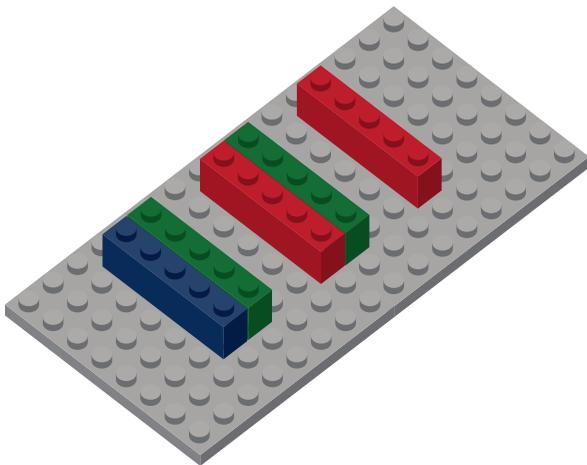
- 5.** Build a model of five nickels.

Count by fives and identify the value of the coins modeled.

Record the monetary amount of five nickels using the correct symbols of money.

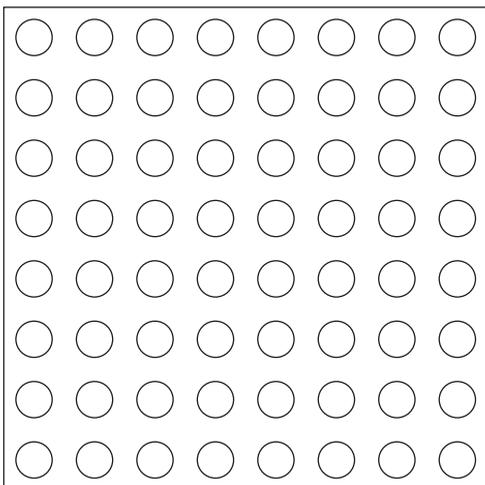
\_\_\_\_\_

Looking at this model, identify the number of dimes in 25 cents. \_\_\_\_\_ dimes





Draw your model and label the amounts.



**6.** Challenge: Can you and your partner find a way to model one dollar? Use bricks to model one dollar using pennies, nickels, and/or dimes.

What are some possible combinations of coins that equal one dollar?

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How many pennies are in a dollar? \_\_\_\_\_

How many nickels are in a dollar? \_\_\_\_\_

How many dimes are in a dollar? \_\_\_\_\_