

Preliminary Planning Sheet

Grade 3 – Mary Sells Popcorn

Domain(s)

Operations and Algebraic Thinking

Standard(s)

3.OA.D.9

Mathematical Practices

MP.1 MP.3 MP.4 MP.6 MP.7

Major Underlying Mathematical Concepts

- Patterns
- Days of week
- Money notation
- Number sense to \$2.10
- Addition/Multiplication

Problem Solving Strategies

- Model (manipulatives)
- Diagram/Key
- Table
- Tally chart
- Number line
- Graph
- Array

Formal Mathematical Language and Symbolic Notation

- Model
- Diagram/Key
- Table
- Number line
- Pattern
- Money notation (\$, .)
- Cost
- More/Less than
- Days, week, month
- Monday, Tuesday, Wednesday ...
- Multiple
- Input/Output
- Rule: $\$0.05 \cdot b = m$
- Dollar
- Variable
- Graph
- Data
- Total/Sum
- 1st, 2nd, 3rd ...
- Dozen
- 1/2
- Running total

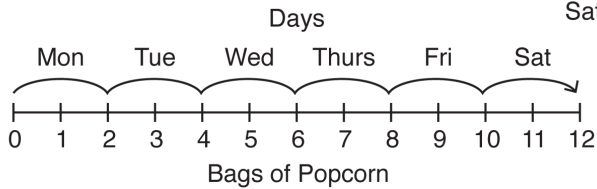
Possible Solution(s)

Mary has to sell popcorn for 6 days.

Rule
b is bags
m is money
$.05 \cdot b = m$

$$.05 \cdot b = m$$
$$.05 \cdot 4 = \$.20$$
$$.05 \cdot 10 = \$.50$$
$$.05 \cdot 20 = \$1.00$$

Day	Number of Bags	Money	Running Total
Mon.	2	\$.10	\$.10
Tue.	4	\$.20	\$.30
Wed.	6	\$.30	\$.60
Thurs.	8	\$.40	\$1.00
Fri.	10	\$.50	\$1.50
Sat.	12	\$.60	\$2.10



Possible Connections

Below are some examples of mathematical connections. Your students may discover some that are not on this list.

- Patterns: Bags +2, Day +1, Money +\$.10.
- All data in this task are even numbers.
- 6 days is 1 day less than 1 week.
- If Mary sells popcorn for 1 more day, that would be a week, and a total of \$2.80.
- On the 6th day, Mary earns \$0.30 more than \$1.80 she needs.
- Table is continued to show more sales.
- Find and use the rule $0.05 \cdot b = m$
- Graph input/output of bags and cost.
- Relate to a similar task and state a math link.
- Solve more than one way to verify the answer.
- Continue the pattern for 2 weeks or a month.