

# Stand Tall, Molly Lou Melon

Intermediate

## **Skills Review:**

Choose an appropriate Skills Review Activity based on the needs of the students in your classroom. Skills Review Activities begin on SR-1.

## **Total Class Lessons:**

### **Day One: What's the Score?**

**Standard:** Computation (Standard #9)

**Indicator:** solve multi-step problems using problem-solving strategies

### **Day Two: Stacking Pennies**

**Standard:** Computation (Standard #9)

**Indicator:** solve problems using order of operations and the associative property of multiplication

## **Wheel Time Activities:**

*These activities are designed to fit the Elementary Math Instructional Format where students are divided into three groups and rotate through one activity per day. Students will experience all three types of activities (Independent, Group, and Teacher-Directed) over a three-day period. Then, a second set of activities can be used for the remaining days in the unit. However, these activities can be adapted to suit the needs/organization of each classroom.*

**Independent Activity:**

- **Beezy Path**

**Standard:** Computation (Standard #9)

**Indicator:** associative property of multiplication

**Group Activity:**

- **Square Off**

**Standard:** Computation (Standard #9)

**Indicator:** associative property of multiplication

**Day One - Total Class Lesson: Molly Lou's Football Scores**

**Standard:** Computation (Standard #9)

**Indicator:** solve multi-step problems using problem-solving strategies

**Targeted Use:** Total Class lesson

**Additional Uses:** Teacher Directed Activity

**Vocabulary:** problem solving strategy chart to clarify problem solving strategies

**Possible Questions/Prompts:**

Have you ever watched or played football?

Does anyone know the score of your favorite team?

**Materials Needed:**

Stand Tall Molly Lou Melon by Patty Lovell

Paper & Pencil

**Skills Review:**

*Choose an appropriate Skills Review Activity based on needs of the students in your classroom. Skills Review Activities begin on SR-1.*

**Total Class Lesson - Directions:**

1. Read the story to the class.
2. Go back to the section in the book where Molly Lou is playing football on the first day of school. Have a discussion about football points and scoring. To keep today's lesson simpler, focus on: a touchdown is 6 points, a field goal is 3 points, and an extra point is 1 point (a team can only get one extra point after a touchdown.)
3. Ask students how they might determine how Molly Lou's team scored 13 points.
4. Refer to the problem solving chart as you discuss strategies that might be used to solve the problem.
5. Brainstorm and model a few students' suggested strategies. Discuss.
6. Tell students that one problem solving strategy is to use a chart. Draw the chart on the overhead or chart tablet. (See example below)
7. Model a "guess and check" strategy using the chart to determine how many touchdowns, field goals and extra points were needed to get 13 total points. (Note: the first and second row demonstrates a guess and check strategy. Cross out both to show they are not correct solutions.)
8. Students should record the chart on their own paper.
9. Use the chart to determine additional solutions.

10. Give other possible team scores. Students should use the chart to find solutions.

Example: Molly Lou's Team's Football Scores

Touchdown 6 points	Extra point 1 point	Field Goal 3 points	Total Points
1 = 6 pts	0 = 0 pts	1 = 3 pts	<del>9 points</del>
2 = 12 pts	2 = 2 pts	0 = 0 pts	<del>14 points</del>
1 = 6 pts	1 = 1 pt	2 = 6 pts	13 points

**Wheel Time:** See suggested activities listed beginning on p. Ki-8.

**Reflection:** *(Students should respond to one of the following prompts in their math journal.)*

- Explain how using a chart can help you organize the way you solve a problem.
- What is another strategy you could use to solve this problem? What makes it a successful strategy?

## Day Two - Total Class Lesson: Stacking Pennies

**Standard:** Computation (Standard #9)

**Indicator:** solve multi-step problems using problem-solving strategies

**Targeted Use:** Total Class lesson

**Additional Uses:** Wheel Time (Teacher Directed or Group Activity)

**Vocabulary:** order of operations  
associative property of multiplication  
parentheses

**Possible Questions/Prompts:**

What are the ways to write a multiplication problem using 3 different number facts?

**Materials Needed:**

Stand Tall Molly Lou Melon by Patty Lovell

Counters (beans, paper clips, sticks, etc.)

Paper & Pencil

Overhead or chalkboard

Crayons or markers

Baggies

**Skills Review:**

*Choose an appropriate Skills Review Activity based on the needs of the students in your classroom. Skills Review Activities begin on SR-1.*

**Total Class Lesson - Directions:**

The following activities for the total class lesson as well as the independent and group activities were adapted from STAMM (E-3, E-19).

1. Reread the story *Stand Tall, Molly Lou Melon*.
2. Visit the page where Molly stacked her pennies ten high on her teeth.
3. Discuss the associative property of multiplication which indicates that when three numbers are to be multiplied, the result of multiplying the first and second factors times the third factor is the same as multiplying the first factor times the product of the second and third factors.
4. Look at the ten pennies on Molly's teeth. This could be written as the product of  $(5 \times 2) \times 1$  or  $5 \times (2 \times 1)$ . The result is the same for both of these problems. The pennies could be divided into one large group with two groups of five or with five groups of two.
5. Discuss at this point the concept of what is inside the parentheses should always be computed first.
6. Distribute to each student a bag of counters with at least 75 counters.
7. Put  $4 \times (3 \times 2) =$  on the board or overhead and ask students how it might be modeled with the counters.
8. Work together with the students to model the problem. Remind students to do what is inside the parentheses first. Model three sets of two. (see 1<sup>st</sup> box) "What is that product?" (6)

Example of how to model on board or overhead

○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○
○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○
3 X 2		4 X 6		

9. Show the students how they can write their answer underneath the problem. Example:  $4 \times (3 \times 2) =$

$$4 \times 6 =$$

Now ask what the problem tells us to model. (4 sets of 6)  
(See 2<sup>nd</sup> box)

10. Have the students count out four groups of six counters. They should lay these to the side. Record the answer on the board. (24)

11. Now write  $3 \times (2 \times 9) =$  on the board. Ask students what this problem tells us to model.

12. Work together with the students and model first two sets of nine, working what is inside the parentheses first. Record that product as in the previous problem.

$$3 \times (2 \times 9) =$$

$$3 \times 18 =$$

Now have the students show what the problem tells them to model (3 sets of 18). "What is the product?" (54)

13. Ask students what they notice about these two problems. (The answers are the same even though they multiplied the numbers in different orders.)

14. Continue with several problems allowing students to see the concepts as well as recording their work.

15. Pass out the activity entitled "Flea Jumps". Go over the directions and reinforce the concept of the associative pairs. Remind them to do the operation in parentheses first.

16. Have the students complete the activity.

17. When students have finished the activity, discuss:

a. Which ones are associative pairs?

b. Where are the associative pairs on the graph? How can you tell?

18. Spend time sharing and discussing students' written responses to #4 on the activity.

**Wheel Time:** See suggested activities listed beginning on p. Ki-8

**Reflection:** *(Students should respond to one of the following prompts in their math journal.)*

- How many different numbers could you multiply together and still use the associative property of multiplication?
- If you have all the same numbers multiplied together would you need to use parentheses?

## **Stand Tall, Molly Lou Melon - Wheel Time Activities**

*These activities are designed to fit the Elementary Math Instructional Format where students are divided into three groups and rotate through one activity per day. Students will experience all three types of activities (Independent, Group, and Teacher-Directed) over a three-day period. Then, a second set of activities can be used for the remaining days in the unit. However, these activities can be adapted to suit the needs/organization of each classroom.*

## **Stand Tall, Molly Lou Melon - Independent Activity**

### **Beezy Path**

**Standard:** Computation (Standard #9)

**Indicator:** associative property of multiplication

**Materials:** *Each student will need an activity folder containing the following: blackline entitled "Beezy Path", activity direction sheet, crayon or marker. (Each student will also need paper and pencil.)*

1. Each student will remove the contents of the activity folder and read the directions.

2. They will then pick 3 numbers from the beehive and on their paper make two different equations using parentheses with these numbers.
3. Each student will then solve both equations and the products should be equal. If they are not equal the student needs to work the problems again.
4. The student will then find the correct answer on the honeycomb and color the hexagon to begin a path. If the answer is not shown, another set of numbers should be chosen.
5. The student continues in this manner until a path is formed across the honeycomb.

### **Stand Tall, Molly Lou Melon - Group Activity**

#### **Square Off**

**Standard:** Computation (Standard #9)

**Indicator:** associative property of multiplication

**Materials:** *Each group of 2 students will need an activity sheet entitled "Square Off", paper and pencil.*

1. Students will remove the contents of the activity folder and read the directions.
2. Each student will need to show their work on their own paper.
3. Using numbers from the game board one student forms a pair of equations using the associative property for multiplication. Example:  $(7 \times 5) \times 2 = 70$  and  $7 \times (5 \times 2) = 70$ .
4. The partner checks to make sure the answer is correct.
5. If the answer is correct the first player would put his initials in the boxes 7, 5, 2, and 70. If the player is incorrect the other player gets to initial the boxes.

6. The second player now makes his choices making sure to form a pair of equations.
7. Play continues until time is up and the winner is the student with the highest number of initialed boxes.

### **Stand Tall, Molly Lou Melon - Teacher Directed Activity #1**

*The teacher may decide to use one of the following activities in the Teacher-Directed portion of the lesson, or he/she may decide to use this time to work with an individual/small group on specific skills as needed.*

#### **Molly Lou's Transformation**

**Standard:** Geometry (Standard #5)

**Indicator:** Perform/recognize & explain transformations

**Materials:** Stand Tall, Molly Lou Melon. 3 x 5 index cards per student and crayons

1. Tell students that they will make a picture of Molly Lou on an index card, and then use it to demonstrate transformations.
2. Show students the picture in the book where Molly Lou has moved and she is waiting to get on the bus (towards the middle of the book). Have students draw Molly in the center of a 3 x 5 card. Then direct them to draw the book and the apple on Molly Lou's left.
3. Tell students they will be drawing the backside of the picture they just drew.
4. Students should turn index card over. They should draw the back of Molly Lou's head in center, and to her right draw the back of book and apple.
5. Review transformation terms: reflection (flip), translation (slide), and rotation (turn). Students demonstrate each

transformation by moving their index card as directed by the teacher. Example: "Show me a translation to the right." (The teacher should model each transformation. It should be easy to check students by seeing if their index card is in the correct position.)

6. If students demonstrate an understanding of one-step transformations, go on to two-step transformations. Example: "Rotate your card a half turn and then reflect it up." Repeat directions and check each student's card.
7. Repeat step 6 with other two-step transformations.

### **Stand Tall - Independent Activity - Beezy Path**

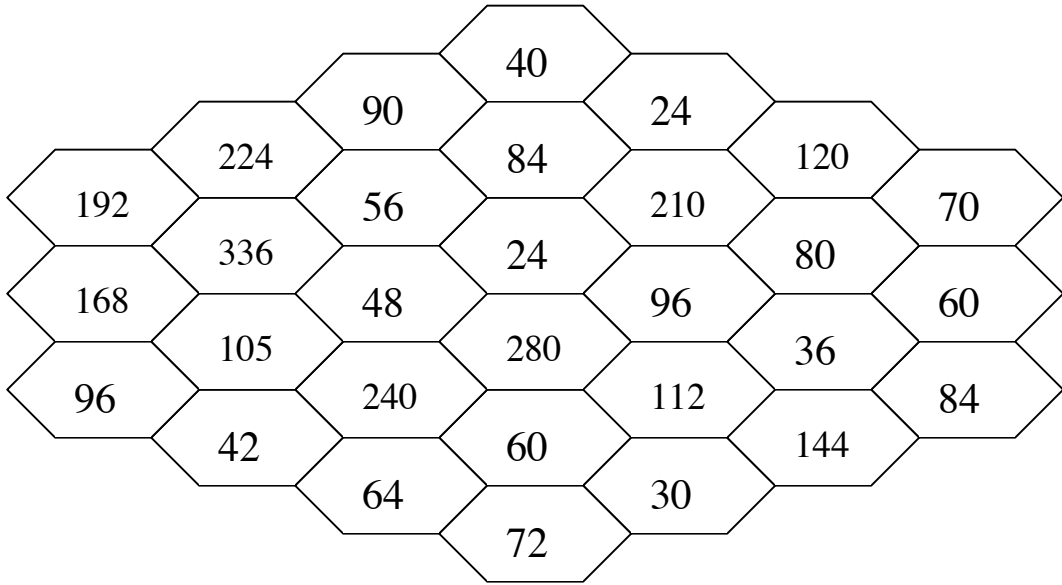
1. Examine the activity sheet entitled "Beezy Path". The top of the activity has a honeycomb with numbers inside each hexagon. The bottom is a beehive with 7 numbers inside.
2. Choose 3 numbers from the beehive and make two different equations with 3 numbers. Write the equations on your paper and use parentheses to show the use of the associative property of multiplication.
3. Find the correct answer on the honeycomb and color the hexagon to begin a path. If the answer is not shown, another set of numbers needs to be selected.
4. Continue to play using 3 different combinations of numbers until you have a path across the honeycomb.

### **Stand Tall - Group Activity - Square Off**

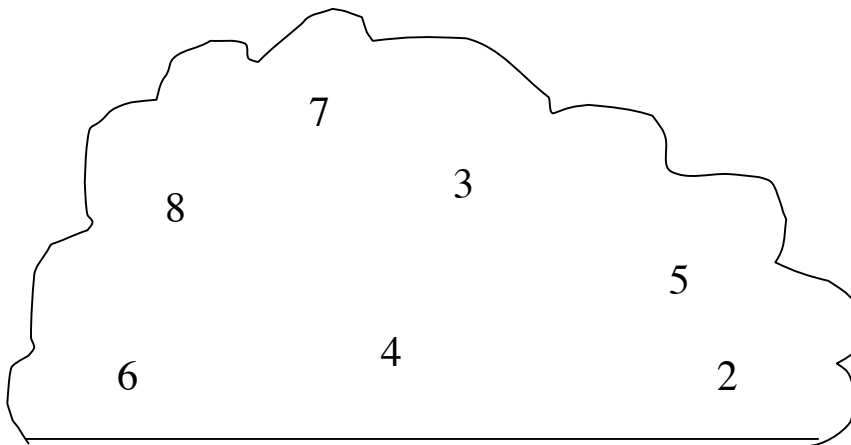
1. You and your partner will be sharing the activity sheet entitled "Square Off". Show your work on your own paper.
2. Using numbers from the game board one student forms a pair of equations using the associative property of multiplication. Example:  $(7 \times 5) \times 2 = 70$  and  $7 \times (5 \times 2) = 70$ .
3. Your partner needs to check to see if you have solved the equations correctly.
4. If you have a correct answer you put your initials in those 3 boxes on the activity sheet. If your answer is incorrect, your partner gets to put his initials in the boxes.
5. Your partner now gets their turn.
6. Continue to play until your time is up. The student with the highest number of initialed boxes wins the game.

# BEEZY PATH

$$\underline{\quad} = \underline{\quad} \times (\underline{\quad} \times \underline{\quad})$$



$$\underline{\quad} = \underline{\quad} \times (\underline{\quad} \times \underline{\quad})$$



## SQUARE OFF

12	0	45	1	90	14	21	1	48	98	2	9
50	45	80	2	7	95	76	8	42	78	10	120
3	28	3	2	85	42	8	27	4	8	50	36
70	48	64	4	38	60	5	24	5	75	5	6
10	6	5	7	28	4	7	56	6	56	70	1
32	8	32	6	60	24	7	3	65	86	4	9
12	9	120	8	90	40	10	20	9	6	12	30
10	92	5	7	40	1	4	10	2	18	100	3
14	5	100	6	82	14	3	4	55	7	16	8
2	9	16	76	1	18	10	72	9	0	20	70
16	3	24	5	10	2	3	30	4	36	36	1
2	6	64	40	54	7	9	48	1	56	8	1