

## Week 1 Balanced Math Activities

### Shared Problem Solving

*Sarah has some coins that add up to 32 cents. What fraction of her coins could be pennies? Show as many possible answers as you can.*

### Math Games

Students in this group play Fraction Action (this game is a form of bingo that uses a spinner and equivalent fractions).

### Independent Math Journals

Explain what the numerator and denominator stand for in the fraction  $\frac{2}{3}$ .

### Modelled/Guided Problem Solving

A hexagon can be covered in many different ways to show equal parts. For example, the teacher shows a hexagon pattern block and asks the students how to divide the hexagon using triangles. How many triangles does it take to cover the hexagon? The teacher then guides the students through an investigation to find different ways to cover a hexagon to show equal parts. Students sketch and label diagrams showing the different fraction they found.

### Math Facts

Students in this group use multiplication flashcards to reinforce the “doubles” strategy. See page 90 for more details on this strategy.

## Week 2 Balanced Math Activities

### Shared Problem Solving

*Mrs. Blue is having her fence painted red by a group of students. The students will make \$20.75 for painting each section*

*of the fence. At the end of Day 1, four sections of the fence are painted. On Day 2, the students had the remaining three sections of the fence left to paint. What fraction of the fence did the students paint on Day 1? What is the total price Mrs. Blue paid the students for painting her fence?*

### Math Games

Students in this group play “Pie in the Sky”. This is a board game that has students trying to outsmart their components with strategy and equivalent fractions.

### Independent Math Journals

Is the fraction  $\frac{1}{3}$  equal to the fraction  $\frac{4}{12}$ ? Explain your answer using picture, numbers and words.

### Modelled/Guided Problem Solving

“Can you build it? Fractangle Puzzles” Students will use the math manipulatives color tiles or snap cubes to solve the fractangle puzzles. The teacher models how to use the tiles to solve puzzle #1 and then guides the students through the rest of the puzzles, encouraging the students to orally explain their thinking using mathematical terminology.

### Can you build it? Fractangle Puzzles

*Puzzle #1 - This rectangle is  $\frac{1}{2}$  blue and  $\frac{1}{4}$  yellow. The rest is black.*

*Puzzle #2 - This rectangle has 12 cubes (or tiles). Three are green.  $\frac{1}{4}$  are red.  $\frac{1}{6}$  are yellow. The rest are blue.*

*Puzzle #3 - This rectangle is  $\frac{3}{8}$  blue and  $\frac{1}{4}$  yellow. The rest of the rectangle is red.*

*Puzzle #4 - This rectangle is  $\frac{3}{5}$  red. The rest of the rectangle is blue and yellow, but not in equal amounts.*

**Math Facts**

Students use multiplication flashcards to drill for the use of the strategy “doubles plus one more group”. See page 91 for more details.

All five activities in the Balanced Math Program do not need to pertain to the main concept being taught. One of the program’s benefits is that it allows opportunities for concepts that have already been taught to be reviewed or revisited. This is valuable since some math concepts take time and repeated exposure for students to grasp. For example, if the main concept of a two week period is fractions and if the teacher also wants to review the concept of elapsed time, the Balanced Math Program can accommodate this need.

For this to occur, the Balanced Math Rotation can be set up as in the above example, but in Week 1, instead of the Modelled/Guided group performing the pattern block activity, they can have an elapsed time activity with the teacher instead. This enables the teacher to move ahead with the daily lessons, focussing on fractions. However, it also allows the teacher to work with every student in the class in a small group environment to review the concept of elapsed time for another week. If after that week, the teacher still feels that the students need more time to work on the concept, Week 2’s rotation may be the Math Games group doing an activity on elapsed time rather than playing Pie In The Sky.

The mathematics curriculum is extensive and teachers often find that even though

they want more time to work on a particular concept, they must move ahead to keep up with the course of study and to ensure that all concepts have been covered by the end of the year. The Balanced Mathematics Program offers teachers a way to alleviate some of this strain and also gives students a better chance to obtain a solid grasp of mathematical concepts.

**Groupings and Classroom Setup**

Small groups should be made by homogeneous grouping (according to student ability). Grouping students this way avoids the situation where one student takes over and does all the work. It has been argued that ability grouping can be demeaning to those students not in the “top group”. However, the Balanced Math Program, exposes all students to the same higher level thinking activities. When students are grouped according to their level of ability, they feel more comfortable and realize that they each have something to offer. When the whole class gets together for the Share the Wealth sessions at the end of a Balanced Math cycle (five day rotation), the diversity among the groups can spark some valid mathematics discussions. For example, consider the following problem:

Leslie has 6 bushels of apples. There are 9 apples in each bushel. How many apples does Leslie have altogether?

One group may look at this problem and draw a picture to show repeated addition, whereas another group may look at the problem and multiply. Both of these strategies lead students to the correct