Number

Activity 8 Assessment

The Order of Operations

Developing Fluency with Whole Number Operations

Understands number relationships and properties and applies them to whole number operations.

? – 240 = 720 50 × ? = 2000

720 + 240 = 960 2000 ÷ 50 = 40

"I solved each equation using an operation I am comfortable with."

Uses estimation to check reasonableness of solutions.

A forklift can carry 2000 kg. An operator is unloading boxes of shoes weighing 78 kg. How many boxes can the forklift safely carry at one time?
78 × ? = 2000

"78 is close to 80. I know 80 × 20 = 1600 and 80 × 5 = 400. 1600 + 400 = 2000. An estimate of 25 boxes seems reasonable."

Uses mental math strategies to solve single-step equations with larger numbers.

78 × 25 = (70 + 8) × (20 + 5)
= (70 × 20) + (8 × 20) + (70 × 5) + (8 × 5)
= 1400 + 160 + 350 + 40
= 1950

```
  7 8
×   2 5
1 4 0 0   (70 × 20)
  1 6 0   (20 × 8)
  3 5 0   (70 × 5)
+   4 0   (8 × 5)
1 9 5 0
```

	70	8
20	1400	160
5	350	40

"I decomposed the numbers to make multiplying easier."

Observations/Documentation

Number

Activity 8 Assessment

The Order of Operations

Developing Fluency with Whole Number Operations (cont'd)		
Solves multi-step equations using mental math strategies and properties of operations. 1560 + 1682 – 440 – 602 = ? 1560 – 440 = **1120** 1682 – 602 = **1080** **1120** + **1080** = 2200	Uses order of operations to solve equations and explains the effect when order is not followed. 9 × 8 – 3 + 16 ÷ 4 = 72 – 3 + 4 = 73 "I have to do multiplication and division first. If the order isn't followed and I perform the operations in the order in which they appear, I get 21 R1."	Flexibly selects mental math strategies and applies order of operations to solve multi-step equations/problems. To claim the prize in a contest, you must answer this skill-testing question: 19 + 11 × 6 – 4 = ? 19 + 11 × 6 – 4 = 19 + 66 – 4 = 20 – 1 + 66 – 4 = 20 + 66 –1 – 4 = 86 – 5 = 81
Observations/Documentation		