Exemplars K–12 We Set the Standards!

Standards-Based Assessment + Instruction

Preliminary Planning Sheet

Grade 5 – Shh! It's a Secret

Domain(s)

Number and Operations in Base Ten

Standard(s)

5.NBT.A.1

Mathematical Practices

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

Major Underlying Mathematical Concepts

- Base-10 place value system
- Multiplication by powers of 10

Problem Solving Strategies

- Model (manipulatvies)
- Diagram/Key
- Table
- Place value chart

Formal Mathematical Language and Symbolic Notation

- Diagram/Key
- Number line
- Variable/Expanded notation
- Table
- Multiplication
- Division
- Addition
- Sum/Product
- Place value
- Ones, tens, hundreds, thousands
- Digit
- Equation
- Rules: 1(20) = x, 20(20) = x, 400(20) = x
- Greater than (>)/Less than (<)

Possible Solution(s)

Yes, Layla is correct. The correct number is 8,421.

Place Value	Times 20	Number
Thousands	400 x 20	8,000
Hundreds	20 x 20	400
Tens	1 x 20	20
Ones	——	1

8,000 + 400 + 20 + 1 = 8421

1 x 20 = 20
20 x 20 = 400
400 x 20 = 8,000
20 ÷ 1 = 20
400 ÷ 20 = 20
8,000 ÷ 400 = 20

Place Value Chart

Thousands	Hundreds	Tens	Ones
8	4	2	1

8,000 + 400 + 20 + 1 = 8421

Possible Connections

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

- A digit x 10 constantly increases in place value to the left.
- A digit ÷ 10 constantly decreases in place value to the right.
- Relate to a similar task and state a math link.
- Solve more than one way to verify the answer.
- 1 (20) = x, x/20 = 1.
- 20 (20) = x, x/400 = 20.
- 400 (20) = x, x/8,000 = 400.