Topic: 0.4 Your First Real Exploration

Recall the 5 steps, **explore**, **discuss**, **conjecture**, **apply**, **extend** and the 3 guiding principles, **exploration**, **explanation**, and **fun**!

1. Pick pairs of two numbers, when is their sum even? When is their sum odd? Can their sum be zero? When is their sum positive, when is their sum negative? Any conjectures?

2. Do the same for subtraction.

3. Do the same for multiplication.

4. Do the same for division.

5. What can you say about the sum, difference, product, or quotient of two numbers?

6. When adding two numbers, when is their sum divisible by 3? Divisible by 4? etc. Can you generalize?

7. What about other operations? Can you generalize?