

# Math Topic: Patterns and Relations (Variables and Equations)

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*Grade Level(s): Grade 7, Unit 6 in MMS*

## **Learning Outcomes:**

**B6: Model and solve problems that can be represented by one-step linear equations of the form  $x + a = b$ , concretely pictorially, and symbolically, where  $a$  and  $b$  are integers.**

**B7: Model and solve problems that can be represented by linear equations in the form of  $ax + b = c$ , etc...**

**B3: Demonstrate an understanding of preservation of equality.**

**B4: Explain the difference between an expression and an equation.**

## **Context of Lesson within the unit:**

**This lesson comes at the end of the unit after students have been taught, and have had experience with, multiple ways of solving problems. They are familiar and comfortable with the math language and learning intentions of the unit. They have had repeated experience with the math concepts, and practice giving examples and non-examples.**

## **Materials:**

- Student text book and notebook
- Paper for recording group responses
- Access to computers, poster paper, video recording equipment, etc...
- Criteria checklist/Self-assessment sheet created from students' own criteria

## Lesson Ideas:

1. **Share Learning Intention:** Create a visual demonstrating your understanding of the concepts taught in this unit.
2. **Warm-up or review of concepts:** Brainstorm the things we learned in this unit. What were the most important things or big ideas we learned about? Refer to text book “What You’ll Learn” section. Students sorted these learning intentions at the beginning of the unit into “got it” or “need to know more” or “not sure” columns.
3. **Activity with many levels of entry introduced and practiced:** Introduce visual presentation of your understanding project by generating ideas for the form it could take. What would that look like? Who will our audience be?
4. **Establish Criteria for success:** Students worked in groups, and each group generated a criteria statement for what it would look like if you fully understood the concept for each learning intention in the unit. The groups presented to the rest of the class, and we discussed their criteria and added detail or got more specific.  
You will know you fully understand the concept when you:
5. **Activity continued:** Students chose their form of presentation. Most chose to use Publisher to create a poster, some did power point presentations, some made videos (earlier unit)
6. **Reflection:** Self assessment based on criteria and learning intention. Students self assessed and peer assessed their work using their criteria.

### Lesson Review:

- ✓ Did I connect the concept to previous experiences?
- ✓ Did I provide individual choice?
- ✓ Was there an open-ended task?
- ✓ Was it possible to enter the task from a variety of levels?
- ✓ Was time provided for ‘Turn and Talk’ for sharing of strategies and perspectives?