

**Academic Standard for Mathematics**

<https://learningconnection.doe.in.gov/Standards/PrintLibrary.aspx>

**Lesson Objective**

By the end of the lesson, students will be able to:

7.7.12 Note the method of finding the solution and show a conceptual understanding of the method by solving similar problems.

7.EE.4 Use variables to represent quantities in a real-world or mathematical problems, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

**Standards for Mathematical Practices**

- ☒ Make sense of problems and persevere in solving them.
- ☒ Reason abstractly and quantitatively.
- ☐ Construct viable arguments and critique the reasoning of others.
- ☐ Model with mathematics.
- ☐ Use appropriate tools strategically.
- ☒ Attend to precision.
- ☒ Look for and make use of structure.
- ☐ Look for and express regularity in repeated reasoning.

**Type of Mathematical Knowledge Objective is seeking to measure**

- ☒ Declarative
- ☒ Procedural
- ☒ Conceptual

**Mathematic Conceptual Categories**

- ☒ Number and Quantity
- ☐ Algebra
- ☒ Functions
- ☐ Modeling
- ☐ Geometry
- ☐ Statistics and Probability

**Common Core Literacy Standards:** <https://learningconnection.doe.in.gov/Standards/PrintLibrary.aspx>

Reading/Writing for Technical Subjects:

**Supporting Diverse Learners**

Student Assets: Writes well and has a willingness to do problems.

Anticipated Challenges: She reads below grade level.

Considerations for IEP and/or ILP:

**Checklist Overview:** Use the checklist below to select your method(s) and your support strategies for this lesson. In the agenda section that follows, be sure to name the strategies in the appropriate section.

**Rationale for Method(s): Why are you approaching the lesson this way?** I decided to use guided practice so that the student could get help while trying to decode the problems. I also chose a hands-on activity so that the student could practice by herself and gain confidence in her computation skills.

**Method(s) for Instruction**

- ☐ Class/Group Discussion
- ☐ Cooperative Learning
- ☐ Small Group
- ☒ Guided Practice
- ☐ Lecture or Direct Instruction
- ☐ Question/Answer
- ☐ Learning Stations

- ☐ Teacher Modeling/Demo.
- ☐ Journal writing
- ☐ Role Play
- ☒ Hands-on
- ☐ Inquiry Learning
- ☐ Game
- ☐ Simulation/Role Playing
- ☐ Independent Learning
- ☒ Other

**Use of Technology**

- ☐ Cell Phone
- ☐ PollEverywhere.com
- ☐ CPS Clickers
- ☐ Elmo Document Camera
- ☐ Software
- ☐ Student Computers
- ☐ Teacher Computer w/LCD
- ☐ Video Clips/DVD
- ☐ Website
- ☐ Web 2.0 tool
- ☐ Other

Study Skills	Reading Strategy	Writing Strategy	Vocabulary Strategy
<input type="checkbox"/> Two column notes <input type="checkbox"/> Guided note taking <input type="checkbox"/> Opinion-proof chart <input type="checkbox"/> Problem-solution chart <input type="checkbox"/> Venn diagram <input type="checkbox"/> Cause and effect frames <input type="checkbox"/> MVP Most Valuable Point <input type="checkbox"/> Creating metaphors  <input checked="" type="checkbox"/> Other	<input type="checkbox"/> EQW Experience/Questions/still wondering <input type="checkbox"/> KWL (word problem chart) <input type="checkbox"/> Five-Step Problem solving <input type="checkbox"/> Reciprocal teaching <input type="checkbox"/> Graphic Organizer <input type="checkbox"/> Anticipation/Prediction guides <input type="checkbox"/> Word Problem Roulette <input type="checkbox"/> Problematic Situation <input type="checkbox"/> Read-talk-write <input type="checkbox"/> Directed reading thinking activity <input checked="" type="checkbox"/> Other	<input type="checkbox"/> Learning Logs <input type="checkbox"/> Question/Answer Relationship <input type="checkbox"/> Question the Author <input type="checkbox"/> RAFT <input type="checkbox"/> Writing to Learn <input type="checkbox"/> Social-academic language translations <input type="checkbox"/> Graphic organizers <input type="checkbox"/> Outlining  <input checked="" type="checkbox"/> Other:	<input type="checkbox"/> Frayer model <input type="checkbox"/> List-group-label <input type="checkbox"/> Semantic feature analysis <input type="checkbox"/> Word Sorts <input type="checkbox"/> Number Cubes <input type="checkbox"/> Cue Cards <input type="checkbox"/> Vocabulary self-awareness activity <input type="checkbox"/> Creating metaphors <input type="checkbox"/> Concept Definition Maps  <input type="checkbox"/> Other

**Strategies Rationale: Why are you selecting these support strategies? What will these help you and your students accomplish?** I hope for my student to become more confident in reading math questions and creating algebraic and geometric equations based on word problems.

### Agenda

**Anticipatory Set: How will you support students in accessing prior knowledge, personal, real world, and/or cultural connections?**

Warm Up: An introductory computation problem that involves solving an equation.

**During: What support strategies will you use to scaffold students learning so they meet or exceed targeted objective?**

Practice Activity: How to T-Chart

The student will read through a question, write the problem down in the left-hand column and then write how to solve the problem, in normal English, before actually computing an answer.

**Wrap up/Closing: How will you engage students in self-assessment and/or reflection on key concepts taught?** Ticket Out: Self-Assessment

The student will complete a checklist on the overall progress made during the Practice Activity.

**Daily Assessment** How do you know your students met your lesson objective(s)?

- ☒ knowledge
- ☐ comprehension
- ☐ application
- ☒ analysis
- ☐ synthesis
- ☐ evaluation

#### **Formative:**

- ☐ Class discussion
- ☐ CPS clickers
- ☐ Email teacher
- ☒ Entrance/Exit slip
- ☐ Teacher Observe
- ☐ Thumbs up, neutral, or down
- ☐ Homework check
- ☐ Listened to conversations
- ☐ Math Journal
- ☐ Quiz
- ☐ Video quiz
- ☐ Voting
- ☐ Whiteboard Check
- ☐ Other

#### **Summative:**

- ☐ Test
- ☐ Project
- ☐ Report
- ☐ Presentation
- ☐ Final Exam
- ☒ Other

### **Additional Teacher Preparation:**

Copy:

Locate:

### **Use of Materials**

- ☐ Teacher's Manual pg #
- ☐ Student Text pg #
- ☐ Picture Books
- ☒ Handouts: T-Chart
- ☐ Manipulative:
- ☐ Related Equipment:
- ☐ Adapted materials:

### **Additional Reference/Sources of Information:**

**Daily Reflection** *This would be a section at the end for the teacher to note any strengths or weaknesses of the plan. What worked well? What needs to be changed for next year? What are the next steps for the students and how will you get them there?*

The lesson went well and worked out pretty much like I had hoped. The student really liked and picked up the T-Chart easily after the first couple of problems. However the student didn't really want to have to come up with the answers in plain English all by herself. She even asked if I could make her a "filled out" version of the chart. The next step is for the student to have more experience writing in normal sentences/directions in Math. That is the next big skill I plan to work on.