**LESSON PLAN**

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| **Teacher:**  ŞAKİRE ÖRMECİ **Date:** 21.11.2011  **Learning Level:** 7-B **Number of students:** 18  **Lesson Length:** 80 min. **Topic:** Algebraic Expressions  **Lesson Objective:**  **1.** Students should be able to model algebraic expressions by using algebra tiles.  **2.** Students should be able to get insight to rules of addition, subtraction and multiplication of algebraic expression by using algebra tiles and comprehend the rules.  **Materials:** Board marker, board, Algebra tiles, power point. |

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| **Time** | **Content** | **Teacher’s Activity** | **Students’ Activity** |
| 10’ | Review background knowledge & short historical information | Teacher asks students previous knowledge algebraic information. Teacher asks students what the algebraic expressions are and why we need them. She has students give example to algebraic expression and lets them define it with their words. Afterwards she gives formal definition of algebraic expression and wants students to write algebraic expression of example (first slide). Then she explains where the name of algebra come from and gives short historical information. | Students tell what they learn before about algebraic expressions. Students give examples about algebraic expressions. They try to define algebraic expression. |
| 10’ | Algebra tiles &  Modeling examples | Teacher introduces the algebra tile and model an algebraic expression. After that she wants student to work with their partner and to model given algebraic expressions by using algebra tiles. While students modeling, she goes around and help students. | Students listen to teacher and examine algebra tiles. Then they try to model given algebraic expressions by using algebra tiles. |
| 13’ | Activity 1  “ Addition& subtraction of Algebraic terms” - Pair work | Teacher wants students to model given addition problem of algebraic terms by using algebra tiles. While students modeling, she goes around and help students. After that she asks student how they found solution and has them realize they used “similar terms”. Then she lets student solve same problem without using algebra tiles. Hence she has students add similar terms. Lastly she lets students write the rule of addition and subtraction. | Students try to model addition problem and realize that they organize similar terms and add them together. After that they apply this inference to solve problem without using algebra tiles. |
| 7’ | Application to rule | Teacher gives to problem and let students solve them by using rule. She has also one student show his/her solution on the board. | Students try to solve problems and one student solve problem on the board. |
| 10’ | Activity 2 | Teacher wants students to model scalar multiplication of algebraic expression. While students modeling, she goes around and help students. Then she gets students realize the distribution rule of multiplication for algebraic expressions. | Students model multiplication and find result. Then they realize that they can find same result by distributing multiplication. |
| 5’ | Activity 3- “Multiplication of two algebraic expressions” | Teacher shows how to model of multiplication of two algebraic expressions. | Students listen to teacher carefully and take notes. |
| 15’ | Example | Teacher wants students to model examples of multiplication two algebraic expressions to find solution. While students modeling, she goes around and help students. | Students try to model multiplication problem and comprehend concept of multiplication of algebraic expressions. |
| 10’ | Generating rule of multiplication of algebraic expression | Teacher has students solve same problem without using algebra tiles. By questioning, she gets students use distribution rule for multiplication of algebraic expressions | Students try to solve same problem without modeling, they apply distribution rule to find solution. |