**LESSON PLAN**

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| **Student-Teachers:** Tuğba AKTAN **Date of lesson:** 01.02. 2012    **No. of students:** 18  **Length of lesson:** 40 minutes  **Grade of level:** Form 3 Set 6  **Topic:** Standard form  **Learning Objectives:**  Students will be able to   * Understand why we need to use standard form. * Show large numbers into a standard form. * Make comparisons between the numbers in standard form   **Assessment Strategies:** Questioning, observing, checking their works on worksheets.  **Materials:** computer, board, pencils, worksheet, 3-D planets  **Resources: -** General notes from maths department   * Boardworks, N2 Powers, roots and standard form * [www.mathsrevision.com](http://www.mathsrevision.com)   (Scientific notation ppt)   * <http://www.youtube.com/watch?v=2LUQVzerseI&feature=related>   **Homework:** |

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| **Time** | **Content** | **Teacher’s activity** | **Students’ Activity** |
| 5’ | Introducing the objectives | Greetings  Teacher gives general information about the today’s lesson. | Students prepare and become ready for the lesson. |
| 5’ | Introduction to topic | Teacher asks students about some common questions which are related to very large and small numbers.   * How far is the sun from the earth? * How many seconds are there in 70 years? * How many years ago dinosaurs roamed the earth? * How wide is an atom?   *The aim of these questions to take students attention from the beginning with an effective start.*  Teacher asks students about what they realized in this numbers.  After she gets students’ opinion, she asks them whether there is a short way to write these numbers. | Students try to guess and they have fun.  Teacher just takes few guess from students to prevent to not be far from focus.  Students should realize that these are very small or large numbers and it is very difficult to write these numbers, it takes too much time, by the help of directed question.  Probably, students won’t have any idea. |
| 10’ | Review  &  Powers of ten | Teacher asks students about the general formula for negative indices to review.  Before she starts standard form, she wants students to calculate the powers of ten and distributes a worksheet.  *The aim of this worksheet is to provide students find some similarities between the very large and very small numbers that is shown at the beginning with powers of ten.*  She asks students:   * Can I write 200 as 2 x 100 and 100 as 102 ?   She asks similar question and wants to get students opinion about whether all numbers can be expressed in this way? | Most of them will answer the question with the help of an example.  Students will be familiar with this exercise because previous lesson they investigated negative indices with a similar worksheet. Therefore they should be easily complete the table.  Students should make connection between the large and small numbers with the powers of ten.  They probably won’t be sure, therefore working on different examples from students would be better. |
| 10’ | Standard form | Teacher says that standard form is very similar thing that we did.  After that she gives the definition of standard form to the students and adds that standard form could be called also scientific notation.  Teacher shows them short way to write the numbers as standard form and makes some examples. | Students need to take notes on their notebooks.  Students also will make some practice. |
| 7’ | Order of numbers in standard form | Teacher wants students to order the diameters of planet which are given in standard form.  She wants students to find the planets on the board in the lights of the given diameter and ask students why she put these planets on the string with this order.  *Interdisciplinary connections provide students to see that mathematics is a useful tool for other branch of sciences.* | Students should specify the smallest or largest number by take attention to the powers of ten.  They should find at least Pluto and Jupiter on the string. They probably will infer that the order is related to the distance from the sun. |
| 3’ | Video | Teacher shows them a video about the big stars in universe as a closed activity.  *Such kind of visuals will be helpful to motivate students and to make better their attitudes toward mathematics because they are set 6 and they do not willingly do math.* | Students probably be surprised when they see stars that are bigger than sun. |