**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per.\_\_\_\_\_\_\_ Score:\_\_\_\_\_**

**U13 HWK #1** *Scientific Notation*

1. Change these LARGE scientific notation numbers to standard notation and standard into scientific notation.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scientific Notation | Standard Notation |  | Scientific Notation | Standard Notation |
| 1.
 |  |  | 4,560 |
| 1.
 |  |  | 1,220,000 |
| 1.
 |  |  | 1,405,000,000 |

1. Now try these SMALL numbers.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scientific Notation | Standard Notation |  | Scientific Notation | Standard Notation |
| 1.
 |  |  | 0.0065 |
| 1.
 |  |  | 0.005005 |
| 1.
 |  |  | 0.00000000709 |

1. Change the numbers below into scientific notation.

|  |  |  |  |
| --- | --- | --- | --- |
| 1.
 | 1.
 | 1.
 | 1.
 |

1. Express the numbers below in scientific notation with 3 significant figures.

|  |  |
| --- | --- |
| 1. 4,651,284
 | 1. 0.0005643411
 |

1. A calculator gives you an answer of 4.02E$-6$, write this number in scientific notation and standard form.
2. A calculator gives you an answer of 2.21E7, write this number in scientific notation and standard form.
3. Enter the following problems into your calculator, write the answer in scientific notation and standard form. Express your answer with three significant figures.

|  |  |  |
| --- | --- | --- |
| 1.
 | 1.
 | 1.
 |

1. The nucleus of a cell has a diameter of 1 micrometer that is equivalent to 0.000001 meters. Change this number to scientific notation.
2. The length of a DNA nucleotide building block is about 1 nanometer that is 0.000000001 meters. Change this number to scientific notation.
3. Teenagers spend $13 billion on clothing each year. Change this number to scientific notation. (Go back and look at your place value chart if you don’t know how many zeros a billion has.)
4. A bakery is making cakes for a huge weeklong city celebration. The recipe for each cake calls for 96 grams of sugar. Each cake serves 12 people and the city plans on serving 1500 slices of cake per day for 7 days.
5. How many total cakes does the bakery need to make?
6. If the bakery wants to know how much sugar to purchase for the entire event choose the best unit of measurement that would be the most appropriate to use. Find the amount of sugar needed based on the measurement you chose.

 Grams Kilograms Tons

1. Rosa is very health conscious and wants to know how much sugar is in her piece of cake. Determine the amount of sugar in one piece of cake and label your answer with the appropriate unit of measure.