

Name _____

Date _____

Partner _____

Scientific Notation Game

This game is for 2 players. You will need 3 dice or number cubes (to share) and one game sheet each. You will keep track of your own rolls on your own sheet.

DIRECTIONS:

- ✦ Each player will roll the three dice. You will then use the numbers you rolled to make a number in scientific notation. So, one number is used for the ones place, one number for the tenths place, and one number for the exponent on the ten.

$$\begin{array}{c} \text{_____} \cdot \text{_____} * 10^{\boxed{}} \\ \text{ones} \qquad \text{tenths} \qquad \text{exponent} \end{array}$$

- ✦ For **Round #1**, the goal is to arrange the numbers so you get the **largest** number possible.
- ✦ Write your number in both scientific notation and standard form.
- ✦ The players will take turns until they have each rolled 3 times.
- ✦ The players then compare their numbers, and the player with the largest number wins this round.

Example:

<table border="1"><tr><td style="padding: 5px;">2</td><td style="padding: 5px;">5</td><td style="padding: 5px;">4</td></tr></table>	2	5	4	<table border="1"><tr><td style="padding: 5px;">6</td><td style="padding: 5px;">1</td><td style="padding: 5px;">4</td></tr></table>	6	1	4	<table border="1"><tr><td style="padding: 5px;">3</td><td style="padding: 5px;">4</td><td style="padding: 5px;">5</td></tr></table>	3	4	5
2	5	4									
6	1	4									
3	4	5									
Dice rolls	Dice rolls	Dice rolls									
Possible number arrangements	Possible number arrangements	Possible number arrangements									
$2.5 * 10^4$	$6.1 * 10^4$	$3.5 * 10^4$									
$5.4 * 10^2$	$1.4 * 10^6$	$5.4 * 10^3$									

- ✦ For **Round #2**, you will roll the dice again. The goal is to arrange these numbers so you get the **smallest** number possible.
- ✦ Follow the same rules that are in Round #1.

Name _____

Date _____

Partner _____

Scientific Notation Toss! Game sheet

Round #1 (making largest number possible)

<div data-bbox="162 508 467 583"><input type="text"/> <input type="text"/> <input type="text"/></div> <p data-bbox="167 690 485 716">Arrange in scientific notation:</p>	<div data-bbox="625 508 963 583"><input type="text"/> <input type="text"/> <input type="text"/></div> <p data-bbox="646 690 964 716">Arrange in scientific notation:</p>	<div data-bbox="1084 508 1422 583"><input type="text"/> <input type="text"/> <input type="text"/></div> <p data-bbox="1089 690 1408 716">Arrange in scientific notation:</p>
--	--	--

Round #2 (making smallest number possible)

<div data-bbox="162 1207 467 1283"><input type="text"/> <input type="text"/> <input type="text"/></div> <p data-bbox="167 1392 485 1417">Arrange in scientific notation:</p>	<div data-bbox="625 1207 963 1283"><input type="text"/> <input type="text"/> <input type="text"/></div> <p data-bbox="646 1392 964 1417">Arrange in scientific notation:</p>	<div data-bbox="1084 1207 1422 1283"><input type="text"/> <input type="text"/> <input type="text"/></div> <p data-bbox="1089 1392 1408 1417">Arrange in scientific notation:</p>
--	--	--

When you are finished, complete the next page. List all your numbers and complete the two reflection questions. Be ready to discuss your answers during our discussion. If you still have time, you can try Round #3 and then answer the third reflection question.

Name _____ Partner _____

List all your numbers in order from least to greatest in Scientific Notation.

Reflection Questions

1. What did you have to look for when trying to make the largest possible number in Round #1? Why is this?

2. What did you have to look for when trying to make the smallest possible number in Round #2? Why is this?

Optional Round – Try this if you finish the other rounds before the rest of the class is ready to have our discussion.

In **Round #3** you will roll the dice again. This time, the goal is to arrange these numbers so you get the **largest** number possible. **BUT!!** The exponent must be a **NEGATIVE** number. Follow the same rules as for Rounds #1 & #2.

Round #3 (making **largest** number possible with a NEGATIVE exponent)

<div style="display: flex; justify-content: space-around;"><div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div><div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div><div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div></div> <p style="text-align: center;">Arrange in scientific notation:</p>	<div style="display: flex; justify-content: space-around;"><div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div><div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div><div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div></div> <p style="text-align: center;">Arrange in scientific notation:</p>	<div style="display: flex; justify-content: space-around;"><div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div><div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div><div style="border: 1px solid black; width: 40px; height: 40px; margin: 5px;"></div></div> <p style="text-align: center;">Arrange in scientific notation:</p>
--	--	--

1. ****Optional**** What was different in Round #3? What did you have to think about when choosing your exponent number? Why is this?
