Exponents and Scientific Notation Assignment

Instructions:

Students get into pairs. Each pair gets one of each sheet (A and B). Decide who completes sheet A and who completes sheet B.

Each student individually comes up with questions in the left column (Questions I Create). They do not solve them at this point.

Students then write their questions on their partner's sheet in the right column (Questions I Answer).

Both students now complete both sets of questions – the ones they created and the ones their partner created.

When done, students check that they both got the same answers for all their questions, discuss any differences and resolve any errors.

Staple the sheets together and hand them in.

Your Name_____ Group_____

Partner's Name_____

Exponents and Scientific Notation Assignment A

Questions I Create (and solve)	Questions I Answer (from my partner)
Multiplying with the same base Ex: Simplify $a^8 \times a^{11}$ **Question:** **Solution:**	**Multiplying with the same base (multiple terms)** Ex: Simplify $3x^3z^{11} \cdot 5xz^4$ **Question:** **Solution:**
Dividing with the same base (multiple terms) Ex: Simplify $15x^3z^{11} \div 5xz^4$ **Question:** **Solution:**	**Dividing with the same base** Ex: Simplify $\frac{a^{13}}{a^{11}}$ **Question:** **Solution:**
Exponent with an exponent Ex: Simplify $(x^5)^7$ **Question:** **Solution:**	**Exponent with an exponent (multiple terms)** Ex: Simplify $(3a^2bc^4)^5$ **Question:** **Solution:**

Negative exponents Ex: Write using positive exponents g^{-12} **Question:** **Solution:**	**Negative exponents (and positive ones)** Ex: Write using positive exponents $a^{-2}x^{4}z^{-12}$ **Question:** **Solution:**
Scientific Notation (large numbers) Ex: Write in scientific notation $1\ 250\ 000\ 000$ **Question:** **Solution:**	**Scientific Notation (small numbers)** Write in scientific notation 0.00000098 **Question:** **Solution:**
Multiplying numbers in scientific notation Ex: Solve the following and write your answer in scientific notation $(3.2 \times 10^{-2})(4.7 \times 10^{7})$ **Question:** **Solution:**	**Dividing numbers in scientific notation** Ex: Solve the following and write your answer in scientific notation $(7.2 \times 10^{9}) \div (6.8 \times 10^{-3})$ **Question:** **Solution:**

Your Name_____ Group_____

Partner's Name_____

Exponents and Scientific Notation Assignment B

Questions I Create (and solve)	Questions I Answer (from my partner)
Multiplying with the same base (multiple terms) Ex: Simplify $3x^3z^{11} \cdot 5xz^4$ **Question:** **Solution:**	**Multiplying with the same base** Ex: Simplify $a^8 \times a^{11}$ **Question:** **Solution:**
Dividing with the same base Ex: Simplify $\frac{a^{13}}{a^{11}}$ **Question:** **Solution:**	**Dividing with the same base (multiple terms)** Ex: Simplify $15x^3z^{11} \div 5xz^4$ **Question:** **Solution:**
Exponent with an exponent (multiple terms) Ex: Simplify $(3a^2bc^4)^5$ **Question:** **Solution:**	**Exponent with an exponent** Ex: Simplify $(x^5)^7$ **Question:** **Solution:**

Negative exponents (and positive ones) Ex: Write using positive exponents $a^{-2}x^4z^{-12}$ **Question:** **Solution:**	**Negative exponents** Ex: Write using positive exponents g^{-12} **Question:** **Solution:**
Scientific Notation (small numbers) Write in scientific notation 0.00000098 **Question:** **Solution:**	**Scientific Notation (large numbers)** Ex: Write in scientific notation $1\ 250\ 000\ 000$ **Question:** **Solution:**
Dividing numbers in scientific notation Ex: Solve the following and write your answer in scientific notation $(7.2 \times 10^9) \div (6.8 \times 10^{-3})$ **Question:** **Solution:**	**Multiplying numbers in scientific notation** Ex: Solve the following and write your answer in scientific notation $(3.2 \times 10^{-2})(4.7 \times 10^7)$ **Question:** **Solution:**