Big Data - Small Data Investigation

***Objective**:* Assess the usefulness of expressing large or small numbers in scientific notation.

DUE DATE: EMAILED BY MONDAY 13 OCT, NO LATER THAN 0755HRS. LATE SUBMISSIONS WILL RECEIVE ONE LETTER GRADE REDUCTION PER DAY

***Rubric**:*

30+/32: Accurate solutions, work is sequenced and clear, explained and justified. Display is clear, accurate, neat, and within requirements.

28-30/32: Accurate solutions, work is sequenced, clear, explained. Display is clear, accurate, neat and within requirements

24-27/32: Accurate solutions, work is sequenced and clear. Display is clear, accurate, neat and within requirements.

20-23/32: Solutions may not be accurate, work is sequenced and clear. Display is clear, accurate, neat and within requirements.

Presentation Format Requirements:

a. 8.5" x 11"; Landscape orientation. One page per item-value = 5 pages + cover page: Title, Team name (N3CS15_ _ n, where 'n' is your period number, + question response page (may be in portrait orientation).

b. photo of your item

c. Typed, including calculations! *(You'll need to use the equation editor!)*

d. Cite your data sources on each page of the item

e. Show your steps for each calculation; all values except standard form are in SCIENTIFIC NOTATION.

f. Round all final decimal values to the nearest thousandth.

g. ONE presentation per team; FILENAME: PJ01N3CS15(TEAM INITIALS)(PERIOD)., for example: PJ01N3CS15BN4 would be from BOEING PERIOD 4. ***INCORRECT FILENAMES WILL NOT BE ACCEPTED AND CONSIDERED LATE UNTIL CORRECTED.***

Tasks

a. Write each researched value in scientific notation in the stated units.

1. Sol Distance: Std. form (m), Sci Notation: cm, m, light years!
2. Films: Std. form ($); Sci Notation: dollars, pennies, millions of dollars
3. Athletes: Std. form ($); Sci notation: dollars, pennies, millions of dollars
4. Atomic Radii: Std. form (m); Sci notation: m, cm, km, light years!
5. Product Cost: Std. form ($); Sci notation: dollars, pennies, millions
6. Average team height: Std form (cm); Sci notation: m, km, nm, light years! (extra credit)

Questions

1. If you were to add/subtract/multiply/divide these numbers, would you use the standard form or scientific notation? Justify your response.

2. Why is a length that is expressed in km not expressed in cm or light years? Justify your response.

3. Why do you see athlete salaries or movie revenue in millions of dollars instead of dollars or pennies? Justify your response.

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Scientific Notation: Data Choices
N3CS15

	1	2	3	4	5	6	7	8	9	10
Sol to (km)	Earth	Barnard's Star	Uranus	Saturn	Venus	Jupiter	Mercury	Neptune	Tau Ceti	Proxima Centauri
Top Grossing Films ($) 2014	Capt. America: Winter Soldier	The Lego Movie	Maleficent	Dawn of the Planet of the Apes	Guardians of the Galaxy	Transformers: Age of Extinction	X-Men: Days of Future Past	The Amazing Spiderman 2	Godzilla	22 Jump Street
Highest Paid Athletes, 2014 ($)	Messi	Tiger	Ronaldo	Roger Federer	Floyd Mayweather	Kobe	Phil Mickelson	Rafael Nadal	Matt Ryan	Lebron
Atomic Radius (m)	H	U	C	Na	O	K	N	Au	Ti	Fe
Product ($)	iPhone6+ (128GB)	Cessna CitationX	PS4	G650 (Gulfstream)	Xbox One	2014 Mustang Shelby GT	2014 LeBron 11's	Rolex Submariner watch	2014 Kobe IX	2014 Porsche GT3
Your Mean Height(cm)										