Lesson Plan with Reflections
Tom Wong's Numeracy Class
Downtown College Prep (SJUSD)

While we had originally planned for this lesson to be 1 80-minute period, it ended up taking two 80-minute periods, with certain sections cut entirely as noted below.

Lesson Subject / Title: Ordering Decimals

Grade Level(s): 9th grade (students performing 2+ years below grade level)

Time: 9:55-11:15 AM

Objectives: Students will be able to use base-10 blocks to build and order whole numbers to the millions and decimals to the 1000ths.

California State Content Standards (all in *Number Sense* strand):
Gr. 4: 1.1 Read and write whole numbers in the millions.
1.2 Order and compare whole numbers and decimals to two decimal places
Gr. 6: 1.1 Compare and order positive and negative fractions, decimals, and mixed numbers and place them on a number line
Gr. 7: 1.1 Read, write, and compare rational numbers in scientific notation (positive and negative powers of 10), compare rational numbers in general

Materials: Base-10 blocks for 10 pairs (3 big cubes, 1 dozen flats, 1 dozen rods, 1 dozen little cubes per pair), poster paper (12 sheets), markers (10 sets), note cards (12 sets of 4)

Anticipatory Set/Introduction:
9:55-10:10: Attendance, Minute Math, Warm-up (Tom)
What is the place value name for each digit in 123,456? For example, 6 is in the ones place. [don't go over this, just circulate to see how well they do with this]
10:10-
1 min. "We're going to be using base-10 blocks to review ordering whole numbers and then to order decimals. Does anyone remember using base-10 blocks before?" *Yes*. "Good! Let's start by filling out this place value chart with the names of the blocks and the place value name. You will need a pen or pencil and nothing else on your desk."

Procedures (How will you conduct the lesson?):
Should we have bags/baskets prepared with at least 10 little cubes, 10 rods, and 10 flats, and 1 big cube or would this be too distracting?? I ended up giving each student 1 flat, 1 rod, and 1 little cube to look at as we discussed the questions below. When it was time to come back together as a group, I said: "Hands off of the blocks now. If you have to sit on your hands to keep from touching them, sit on your hands."

1 min. 1. Provide students with **handout #1** to complete the place value chart as we go along. [Aide and I pass them out while Tom readies the overhead transparency version.]
2. Introduce the names for the base-10 blocks representing the **whole number** place values in Chart #1:
allot **10 min.** for a-i below (approx. 1 min. per letter, 2 min. for f and i)
a. "What is the smallest block we have?" *Little cube (students may say "ones").* "We call this the little cube. In our first place value chart, it is also the ones place. So we need to label the "place value name" as the "ones"." Tom records it in the proper place in his overhead transparency version.
b. What is the next largest block that we have?" *Rod (students may say "tens").* "We call this the rod. In our first place value chart, it is also the tens place. So we need to label the "base-10 block" as the "rod" and the "place value name" as the "tens"." Tom records in the proper places in his overhead transparency version.
c. "Why do we call this the tens? Can anyone show me with the little cubes and the rods why this might be?" [hope that a student will show that 10 lcs make a rod. If no one does, show them the geometric proof by lining up 10 little cubes next to 1 rod using overhead b-10 blocks.]
d. What is the next largest block that we have?" *Flat (students may say "100s").* "We call this the flat. In our first place value chart, it is also the hundreds place. So we need to label the "base-10 block" as the "flat" and the "place value name" as the "hundreds"." Tom records in the proper places in his overhead transparency version.
e. "Why do we call this the hundreds? Can anyone show me with the blocks why this might be?" [hope that a student will either show that 10 lcs make a rod and then 10 rods make a flat so 10 x 10 = 100 or that there are 100 little cubes that make up a flat. If no one does, show them the geometric proof by lining up 10 rods next to a flat using overhead b-10 blocks.]
f. okay, a quick review [After each question, wait at least 3 seconds before calling on a student. When receive a response, follow up with, e.g., 'did anyone get the same answer?' 'did anyone get a different answer?" 'how did you figure that out?']:
How many little cubes in a rod? (10)
How can you prove it? (10 little cubes fit on one rod)
How many rods are in a flat? (10)
How many little cubes are in a flat? (100)
g. What is the next largest block that we have?" *Big cube (students may say "1000s").* "We call this the big cube. In our first place value chart, it is also the thousands place. So we need to label the "base-10 block" as the "big cube" and the "place value name" as the "thousands"." Tom records in the proper places in his overhead transparency version.
h. "Why do we call this the thousands? Can anyone show me with the blocks why this might be?" [hope that a student will either show that 10 lcs make a rod and then 10 rods make a flat and 10 flats make a big cube so 10 x 10 x 10= 1000 or that there are 100 little cubes that make up a flat and 10 flats make a big cube so 100 x 10 = 1000. If no one does, show them the geometric proof by lining up 10 flats next to a big cube.]
i. okay, a quick review [After each question, wait at least 3 seconds before calling on a student. When receive a response, follow up with, e.g., 'did anyone get the same answer?' 'did anyone get a different answer?" 'how did you figure that out?']:
How many flats are in a big cube? (10)

How many little cubes are in a big cube? (1000)
How many rods are in a big cube? (100)

2 min. j. "How could we build 1,234 [show this number on the board, don't say it for them] using the base-10 blocks, remembering that we are thinking of the little cube as 1 whole?" [wait time for students to think about this; then 2 student volunteers to come up and show using the base-10 blocks—expect to see 1 big cube, 2 flats, 3 rods, 4 little cubes. Ask for explanations, agreement from other students; *alternatively, could have student pairs make this if have passed out the blocks]*

allot **5 min.** for k-o below (1 min per letter)
k. "Now let's fill in the "numeral" part of the place value chart. What should we put here [pointing to 1s column]?" Continue similarly for students (and then Tom) to write in 10, 100, and 1000.
l. Once we have the numerals, it is easy to see how many powers of 10 we have for these whole numbers by looking at how many zeroes there are. How many zeroes are there in 1? *None*. Right. So we write that power of 10 as 10^0. Continue similarly to do 10^1 10^2 10^3

m. "OK, now, how we could use the base-10 blocks to build 10,234?" [Use this example to get the idea of a super rod (SR) as being 10 big cubes.] Expect students to have no problem with the 4 LCs, 3 Rs, 2 Fs. Build a super-rod to show that. Then, fill in the necessary parts of the place value chart (Tom does on overhead).
n. "What do you think we would make if we had enough big cubes to build 10 super-rods?" *Yes, a super-flat.*
o. "Okay, we have one more spot in our place value chart for something that is 10 times bigger than a super-flat. So, imagine 10 super-flats next to each other. What would we have? *Yes, a super-cube!* "Let's finish filling in our chart for the super-cubes."
If time:
How many big cubes in a super cube? (1000)
How many flats in a super cube? (10x1000 = 10,000)
2 min. p. "We're almost done with this part of the place value chart. See if you can fill in the powers of 10 and the numerals for the ten thousands, hundred thousands, and millions." [Tom, Melissa, student aide circulate to check to see how students are doing]
1 min. q. "Anyone have an idea for the numeral for the ten thousands place? Hundred thousands? Millions?" [take volunteers; check if others agree]
1 min. r. "Anyone have an idea for the power of 10 for the ten thousands place? [hint: remember, for whole numbers, we can count the # of zeroes] Hundred thousands? Millions?" [take volunteers; check if others agree]

if time: connect back to warm-up and record 123,456 on the place value chart #1 so students can see it.

3. Partner activity #1

a. "Each pair picks a poster sheet with either: 1) a number to describe using base-10 blocks and then to write out in words or 2) a list of blocks to represent in numerals and then to write out in words. Remember that, for now, the unit (= to 1 whole) is the little

cube. You will have 5 minutes to work with your partner and then you will share your poster with the class."

b. Different tasks (10 needed to cover 20 students) will be:
1,030,567 (7 lc, 6 r, 5 fs, 0 bcs, 3 srs, 0 sfs, 1 sc)
1,900,045
1,030,507
1,200,357
2,009,046
9 sfs, 5 flats, 8 srs, 7 lcs, 6 rods [suggest writing out "little cubes" on the posters to limit ambiguity/confusion; put on the sheet out of order to increase the challenge] [980,567]
2 scs, 4 rs, 9 bcs, 5 lcs [2,009,045]
8 srs, 7 lcs, 1sc, 6 rs, 5 fs [1,080,567]
2 scs, 5 fs, 9 sfs, 3 lcs [2,900,503]
8 srs, 7 lcs, 1sc, 5 fs [1,080,507]
extension possibilities for early finishers:
100 big cubes
13 super-flats

c. Pairs will have **5-7 minutes** to complete their posters. Then, we will talk about ordering the numbers.
"Please set aside the blocks for right now. If you have to sit on your hands to resist touching the blocks, go ahead and do so. Okay, which group thinks they have the largest #?" "Does anyone think their number is larger than that?" "How could we tell?" *first look at # of scs, then # of sfs.* [goal in this part is for pairs to bring them up and put the posters in order from greatest to least along the wall to the left as students enter the room; focus on looking at the place value of each digit; continue from largest to smallest]
allot **10 min.** (1 min. per pair) for sharing of posters

The first lesson really ended here with closure noted in the reflections section.
Day 2 started with a warm-up (mystery #; see separate posting) that ended up being too challenging for the students.

**[this section was never taught in the end!] [approx. 40 min. into the lesson]*
4. Moving into decimals, using place value chart #1: The next part of the lesson is talking about 0.1, 0.01, 0.001. Start by continuing to think of the lc as 1. Introduce the mini-flat, mini-rod, and mini-cube.
a. "Okay, now that we have used the base-10 blocks to review building and ordering whole numbers from the ones to the millions, let's go on to include the decimal numbers you have been studying. Look at the place value chart #1 again. What do we still need to fill in?" *yes, the last three columns*.
b. "First, we need to put in our decimal point. Does anyone have an idea about where that goes?" [want students to realize that it must be after the ones place. Hint, if needed: When you see something that costs a dollar, what are the different ways it might look? $1 or $1.00 so that suggests we should put the decimal point right after the ones place.

This makes sense because the decimal point tells us when the value is going to be a fractional part of a whole]
c. “Everyone, please put the decimal point where it goes now.” [Tom models putting it where it goes between ones and tenths cells in place value name row]
d. “Okay, now let’s figure out what base-10 block would represent 1/10 of a little cube. Can you imagine what one slice would look like if I took the little cube and cut it like a loaf of bread into 10 slices? Yes, it would be like a flat but much smaller. We call it a *mini-flat*.”
e. “So we need to label the “base-10 block” as a “mini-flat” and the “place value name” as the “tenths”. You know the value is tenths because 10/10ths = 1 whole and right now the little cube is = 1 whole.” Tom records in the proper places in his overhead transparency version. [if needed, use the big cube as if it were the magnified little cube to then help students see the mini-flat slices, then mini-rods, etc.]
f. “Okay, now let’s figure out what base-10 block would represent 1/10 of a mini-flat. Can you imagine what I would get if I took the mini-flat and cut it into 10 slices? Yes, it would be like a rod but much smaller. We call it a *mini-rod*.”
g. “So we need to label the “base-10 block” as a “mini-rod”. Tom records in the proper place in his overhead transparency version. “Any ideas for what the place value name would be? Well, we want something 10 times smaller than 1/10 (1/10 x 1/10 = 1/100). Instead of Tens and then Hundreds [pointing to other part of place value chart], we go from tenths to hundredths. So, record the “place value name” as the “hundredths”.” Tom records in the proper place in his overhead transparency version.
h. “Alright, we have 1 more column left in our place value chart. What base-10 block do you think would be 1/10 of a mini-rod?” [WAIT TIME] [Hint: do you see a pattern in the blocks we have already written?] *Yes, it is a mini-cube.* Tom records in the proper place in his overhead transparency version.
i. “Any ideas about what the place value name would be?” [Hint: 1/100 x 1/10 = 1/1000.] *yes, this is the thousandths place.* Tom records in the proper place in his overhead transparency version.
j. “Now we need to fill in the last 6 boxes in our place value chart, the powers of 10 and numerals for tenths, hundredths, and thousandths. Let’s start with the powers of 10. See how we go from 10 to the 6, 5, 4, 3, 2, 1, 0. Any ideas what might be next?” *yes, -1, -2, -3*. Tom records in the proper places in his overhead transparency version. “Notice that now the power is negative, and you count how many digits there are to the right of the decimal point rather than how many zeroes there are.”
k. “What does 1/10 look like as a decimal? Let’s record that for the numeral in the mini-flat column when the little cube is the whole. Tom records in the proper place in his overhead transparency version.
l. Now let’s do the same for 1/100 and 1/1000. Tom records in the proper places in his overhead transparency version. [end of * section never taught]

5. Seeing decimals more concretely, using place value chart #2:
a. “Sometimes it is helpful to think of a different base-10 block as meaning 1 whole because we can’t really build using a mini-flat and mini-rods and mini-cubes. That’s what we will do in Place Value Chart #2. Start by copying the same names for the base-10 blocks from the first row of Place Value Chart #1.” [allot **2 min.** for students to do

this] Tom records in the proper places in his overhead transparency version. Melissa and aide circulate to check on students.
b. “Now, see how the directions say that the big cube is the unit, representing 1 whole. That means we put “ones” for the “place value name” under “big cube”.” Tom records in the proper place in his overhead transparency version.
c. “What do you think the super-rod would represent if the big cube=1? Look at the first place value chart for a hint. Or, think about what is ten times bigger than a 1.” *Yes, a ten, so the SR is the tens place.* Tom records in the proper place in his overhead transparency version.
d. “See if you can figure out what a SF and a SC would represent, and fill in the place value name.”
e. [after some wait time] “what did you call the SF when the big cube is = 1?” *Hundreds*. Why? [because 100 is 10 times bigger than 10. Or, I saw the pattern from the first chart.]
f. “What about a super-cube when a big cube is = 1?” *Thousands.*
g. “Now let’s fill in the place value names for the flat. What is it? *Tenths* why?
h. “What about the rod? *100ths.*
i. “What about the little cube? *1000ths.*
Tom records in the proper places in his overhead transparency version.

[We did not got into mini-flats or into powers of 10 on Day Two.]**
j. “Now we are ready to do the mini-flat. Any ideas what the appropriate place value name is when a big cube = 1? *10,000ths*. This is kind of like what we see in the first place value chart but instead of being 10 times bigger than the thousands place, we are looking at 10 times smaller than the thousandths place.
Tom records in the proper place in his overhead transparency version.
k. “Similarly, the mini-rod is the hundred thousandths place and the mini-cube is the millionths place.” Tom records in the proper places in his overhead transparency version.

l. “Now we can fill in the powers of 10 and the numerals in the appropriate boxes, starting with the big cube as 10^0 and first going to the left (to the 10s, 100s, and 1000s places). Then, 10ths, 100ths, 1000ths are just like in the first place value chart and we can continue the pattern so 10,000ths place is 10^{-4}, etc.” Tom records in the proper places in his overhead transparency version. . [end of ** section never taught]

3 min. total m. “See if you can fill in all the boxes in the row for numerals. When you think you’re done, compare answers with your partner. We have another activity with the blocks to try after you finish this chart!” [All circulate and find someone to come up and record their work at the overhead.]

6. Practicing building a decimal with base-10 blocks, using bc=1:
a. “Okay, now that we have finished the chart, I want you to use it to help you make this number using the base-10 blocks (show 0.123 on the board). [this task was actually done by describing, students did not yet have blocks of their own.] Remember that the

big cube is = 1 whole. You may work alone or with your table partner. You have 2 min. Go!"
[want to see 1 flat, 2 rods, 3 little cubes; common error might be to use the big cube for the "1" tenth; all circulate to check for understanding/answer questions/make sure on task]
b. After 2 min., ask for a volunteer to share answer. *If time:* "Any ideas how we would say this decimal?" Write out for them: one hundred twenty-three thousandths. "Great job everyone! *If time:* Now let's try this number: 12.345 (this time say it). You have 2 min. to describe how this number could be built with the base-10 blocks." [1 super-rod, 2 big cubes, 3 flats, 4 rods, 5 lcs]
c. After 2 min., ask for a volunteer to share answer and reasoning. Check if others agree/disagree.
d. Now, each table pair is going to get 4 decimal numbers on notecards. Put the decimals in order from smallest to largest. Build each number with the base-10 blocks to check your answer! Record your work on the worksheet.

Distribute a plastic bin, Ordering Decimals worksheet, and set of notecards to each pair of students.

e. Ideally have 10 min. for students to work on this. If no time to discuss, perhaps could be the exit ticket or the homework??
f. Notecards will have the following decimals (2 copies of each of 5 regular and 1 extension set):
1.5 1.52 0.152 1.502
1.4 1.43 1.043 0.143
1.5 1.005 0.156 1.56
1.6 1.62 0.162 1.602
1.6 1.63 1.063 0.163

extension possibilities:
1.234 1234 12.34 123.4
.0098 .0908 .908 9.08
1¾ 1½ 1.34 1.234

All circulate as students work. Especially encourage students to build with the blocks so they can see the differences in size.
If there is sufficient time, have the "matched" table pairs compare answers.

Strategies/Accommodations for Students with Special Needs:
Care with language, vocabulary. Modeling what to record and where on the overhead.
Use of table partner as a resource during activities.
Reinforcing content from chart #1 in chart #2
Focusing on more familiar content first (whole number ordering) to build confidence.
Provide extension possibilities to extend each of the activities as desired

Lesson Conclusion:

The closure will be somewhat dependent on how far we get. If there is sufficient time for students to do the 2nd pair activity, come back together with 8 min. left. Collect all materials except those used by the pair that will be sharing.
"Christopher will come around to collect all of the big cubes in this box. Put all the orange blocks in these bins by the overhead. Put all the yellow blocks in the plastic bin and then on the back table."

Choose one pair to share their work, writing on the board their decimals in order (from least to greatest) and showing how they have built them with base-10 blocks. Ask them to share how they decided which was smallest and which was largest. [big point to get out: have to look at the place values; just because a decimal has more digits total doesn't mean it is bigger than another one (e.g., 3.5 vs. 3.05)]

Assessment Strategies:
Warm-up responses [to gauge initial whole number place value understanding to the hundred thousands]
Place value charts worksheet [to see that students accurately identified the blocks representing each place value from millions to thousandths (or even millionths!)]
Activity #1 posters [to see that students accurately described how the number would be built with base-10 blocks if little cube is 1, or that they correctly interpreted what number was represented by a set of base-10 blocks—about half of the class did each task; to see if class could work together to place the 9 numbers in order from smallest to largest]
Ordering Decimals worksheet (based on Activity #2) [to see that students could accurately 1) describe how each decimal would be built with base-10 blocks if the big cube is 1 and 2) order the decimals]

Reflections:
- This plan was too ambitious! Tom had mentioned that the students were used to only 40-45 min. of total lesson time before moving to individual work (e.g., computer-based skills practice).
- Responses to the warm-up problem showed some students understood the whole-number place values while others had no idea, or had "thousands" and "thousandths" confused.
- I should have distributed the blocks (1 little cube, 1 rod, 1 flat, and maybe even 1 big cube) to each student earlier in the lesson so they could see the relationships among the blocks more quickly
- In the portion of the lesson where I introduced the super-rod, super-flat, and super-cube, I needed a better space in the room so that it would be central (for all students to see easily) but not directly in front of any students.
- On the posters, I should I have labeled them with letters (or something else!) so that it would be easy to distinguish between them without having to say 1 million 2 hundred thousand, etc.
- In reality, the first day of this lesson ended with a very different closure than I had anticipated. I had expected to get at least into some of the work on ordering decimals. As it was, I think that I had said something like: "When you were

ordering these posters (with the whole numbers to the millions), you were looking at each of the place values, and how it would be built with base-10 blocks, to help you determine which was smaller and which was larger. This is just the same as you will do when ordering decimals on Monday."

- The poster activity ended up assessing a few students' understanding of ordering as they participated, but I cannot be sure that all students agreed with/understood the final ordering.
- We never got into the "mini-flat, etc." discussion. Students' attention was difficult to maintain and the "super-rod, etc." was enough for students to meet the lesson objectives.

Numeracy Name:
Minute Quiz 3-7 A Date: Period:

Solve the following division problems. You have exactly one minute!

48 ÷ 12	120 ÷ 10	10 ÷ 5
40 ÷ 4	6 ÷ 1	9 ÷ 9
60 ÷ 5	50 ÷ 5	15 ÷ 3
8 ÷ 4	60 ÷ 12	81 ÷ 9

Numeracy Name:
Minute Quiz 3-7 A Date: Period:

Solve the following division problems. You have exactly one minute!

48 ÷ 12	120 ÷ 10	10 ÷ 5
40 ÷ 4	6 ÷ 1	9 ÷ 9
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48 ÷ 12	120 ÷ 10	10 ÷ 5
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60 ÷ 5	50 ÷ 5	15 ÷ 3
8 ÷ 4	60 ÷ 12	81 ÷ 9

Numeracy
Minute Quiz 3-7 B

Name:
Date: Period:

Solve the following division problems. You have exactly one minute!

12 ÷ 3	27 ÷ 9	40 ÷ 8
50 ÷ 5	20 ÷ 5	36 ÷ 9
30 ÷ 6	14 ÷ 7	16 ÷ 4
84 ÷ 12	108 ÷ 9	30 ÷ 6

Numeracy
Minute Quiz 3-7 B

Name:
Date: Period:

Solve the following division problems. You have exactly one minute!

12 ÷ 3	27 ÷ 9	40 ÷ 8
50 ÷ 5	20 ÷ 5	36 ÷ 9
30 ÷ 6	14 ÷ 7	16 ÷ 4
84 ÷ 12	108 ÷ 9	30 ÷ 6

Numeracy
Minute Quiz 3-7 B

Name:
Date: Period:

Solve the following division problems. You have exactly one minute!

12 ÷ 3	27 ÷ 9	40 ÷ 8
50 ÷ 5	20 ÷ 5	36 ÷ 9
30 ÷ 6	14 ÷ 7	16 ÷ 4
84 ÷ 12	108 ÷ 9	30 ÷ 6

Numeracy
Minute Quiz 3-7 C

Name:
Date: Period:

Solve the following division problems. You have exactly one minute!

36 ÷ 4	40 ÷ 10	8 ÷ 2
12 ÷ 12	24 ÷ 12	55 ÷ 11
32 ÷ 8	35 ÷ 5	40 ÷ 4
72 ÷ 6	60 ÷ 6	8 ÷ 4

Numeracy
Minute Quiz 3-7 C

Name:
Date: Period:

Solve the following division problems. You have exactly one minute!

36 ÷ 4	40 ÷ 10	8 ÷ 2
12 ÷ 12	24 ÷ 12	55 ÷ 11
32 ÷ 8	35 ÷ 5	40 ÷ 4
72 ÷ 6	60 ÷ 6	8 ÷ 4

Numeracy
Minute Quiz 3-7 C

Name:
Date: Period:

Solve the following division problems. You have exactly one minute!

36 ÷ 4	40 ÷ 10	8 ÷ 2
12 ÷ 12	24 ÷ 12	55 ÷ 11
32 ÷ 8	35 ÷ 5	40 ÷ 4
72 ÷ 6	60 ÷ 6	8 ÷ 4

Numeracy
Warm-up 3-7

Name:
Date: Period:

What is the place value name for each digit in 123,456?

6 is in the _____one's_____ place

5 is in the _____ place

4 is in the _____ place

3 is in the _____ place

2 is in the _____ place

1 is in the _____ place

Numeracy
Warm-up 3-7

Name:
Date: Period:

What is the place value name for each digit in 123,456?

6 is in the _____one's_____ place

5 is in the _____ place

4 is in the _____ place

3 is in the _____ place

2 is in the _____ place

1 is in the _____ place

Numeracy
Place Value Chart

Name:
Date: Period:

Place Value Chart if the *Little* Cube is the "Unit"

Base-10 block	Super-Cube (SC)	Super-Flat (SF)	Super-Rod (SR)	Big Cube (BC)	Flat (F)	Rod (R)	Little Cube (LC)	Mini-Flat (MF)	Mini-Rod (MR)	Mini-Cube (MC)
Place Value Name	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
Power of 10	10^{6}	10^{5}	10^{4}	10^{3}	10^{2}	10^{1}	10^{0}	10^{-1}	10^{-2}	10^{-3}
Numeral	1,000,000	100,000	10,000	1,000	100	10	1	0.1	0.01	0.001

Place Value Chart if the *Big* Cube is the "Unit"

Base-10 block	Super-Cube (SC)	Super-Flat (SF)	Super-Rod (SR)	Big Cube (BC)	Flat (F)	Rod (R)	Little Cube (LC)	Mini-Flat (MF)	Mini-Rod (MR)	Mini-Cube (MC)
Place Value Name	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths	Ten Thousandths	Hundred Thousandths	Millionths
Power of 10	10^{3}	10^{2}	10^{1}	10^{0}	10^{-1}	10^{-2}	10^{-3}	10^{-4}	10^{-5}	10^{-6}
Numeral	1000	100	10	1	0.1	0.01	0.001	0.0001	0.00001	0.000001

Numeracy
Place Value Chart

Name:
Date: Period:

Place Value Chart if the *Little* Cube is the “Unit”

Base-10 block										
Place Value Name										
Power of 10										
Numeral										

Place Value Chart if the *Big* Cube is the “Unit”

Base-10 block										
Place Value Name										
Power of 10										
Numeral										

Ordering Decimals Activity Name: _____

Complete the chart below.

1) Record the 4 decimals from your index card.
2) Describe how each decimal would look with base-10 blocks if a big cube represents 1 whole.
3) Put the decimals in order from smallest to largest.

Decimal	Description of what this decimal looks like with base-10 blocks if a big cube represents 1 whole	Ordering (#1 should be the smallest decimal while #5 should be the largest decimal)
0.123	1 F, 2 R, 3 LC	

How did you decide which decimal was the smallest?

How did you decide which decimal was the largest?

What is one thing you learned working with the base-10 blocks today?

What is one question you still have about ordering decimals?