Section 1.4 Homework

- 1. The following video shows students playing two games: "The Trash Can Game" and "101 and Out" <u>https://www.teachingchannel.org/videos/second-grade-math-lesson</u>. (You will need to join to see it, but you don't have to pay.) How does *each* game help students understand the value of base ten? How does the teacher use both pair work and whole class work?
- 2. Draw the number 134_5 using base 5 blocks. Write what it is equal to in base 10. (This is like example 4 in the text).
- **3.** If you wanted to convert the number 78 **into** base 5, how many base 5 flats would you need? How many rods? How many units? What base 5 number does this represent? (This is like example 5 in the text, and it is the opposite of the above question.)
- **4.** Explain how you would play Bizz-Buzz in base 4. How would it be different than in base 5? How would it be similar?
- 5. a. Draw the flats, rods and units for base 4 (hint: think of the powers of 4).
 b. Draw the number 321₄ using base 4 blocks (this is like the problem, above, with the base 5 bocks), and say what number this is in base 10. Show your calculations and draw the picture of the blocks.
 - **c.** If you wanted to convert the number 58 into base 4, how many flats would you need? How many rods? How many units? What base 4 number does this represent? *Show your calculations and draw the picture of the blocks.*
- 6. Convert 234_5 into base 10 using the base 5 place value columns. You can use blocks if you like, but you do not have to.
- **7.** Convert 71 into base 5 using the base 5 place value columns. You can use blocks if you like, but you do not have to.
- 8. Convert the following using your own preferred method. Show your work *with* each problem.
 - a. Convert 91 into base 6.
 - b. Convert 1437 into base 10.
 - c. Convert 10111_2 into base 10.
 - d. Convert 51 into binary (base 2).
 - e. Convert $4E8_{12}$ into base 10 (E=11).
 - f. Convert 50 into base 7.