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Shades of Gray(water) – Worksheet Example Answers

1. Calculate how much water a household with ___4___ people uses every day.

Fixture	Use (gallons/person)	# of People	Daily Use (use × # people)
baths	1.5	4	6
clothes washers	15	4	60
dish washers	1	4	4
faucets	11	4	44
showers	12	4	48
toilets	19	4	76
Total	***59.5***	4	238

2. Using the scale 1 gallon = 1 ml, calculate how much water you will use in your model.

Fixture	Daily Use (gallons)	Daily Use (ml)
baths	6	6
clothes washers	60	60
dish washers	4	4
faucets	44	44
showers	48	48
toilets	76	76

3. Starting with baths, measure out the amount calculated in step 2 into the cup.
4. Pour the cup into the labeled funnel.
5. Repeat steps 3 and 4 for each fixture.
6. Make observations about what happens to the water. Do any change color?

   Yes, the water that came from the toilet and now is in the “blackwater” measuring cup is now the color of the food dye.

   How much water is in the cup on the bottom labeled “graywater”?

   For this example, 162 ml, or the total amount of water with toilet use subtracted out.

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7. The toilet is the only fixture in the house that does not require potable water to flush. It can use graywater. Using the amount of graywater your family generated, how many toilet flushes can you do?

   Since our scale was 1 ml = 1 gallon, ___162____ gallons of graywater would have been produced in a real house.

   Now let's calculate how many flushes we could use this graywater for in a low flow toilet

___162_____	÷	1.5	=	__108___
gallons of graywater		gallons/flush		flushes

8. Can you think of any other places where we can use graywater in our houses? What about outside?

   Possible answers: Watering plants, cleaning, watering outside landscape.

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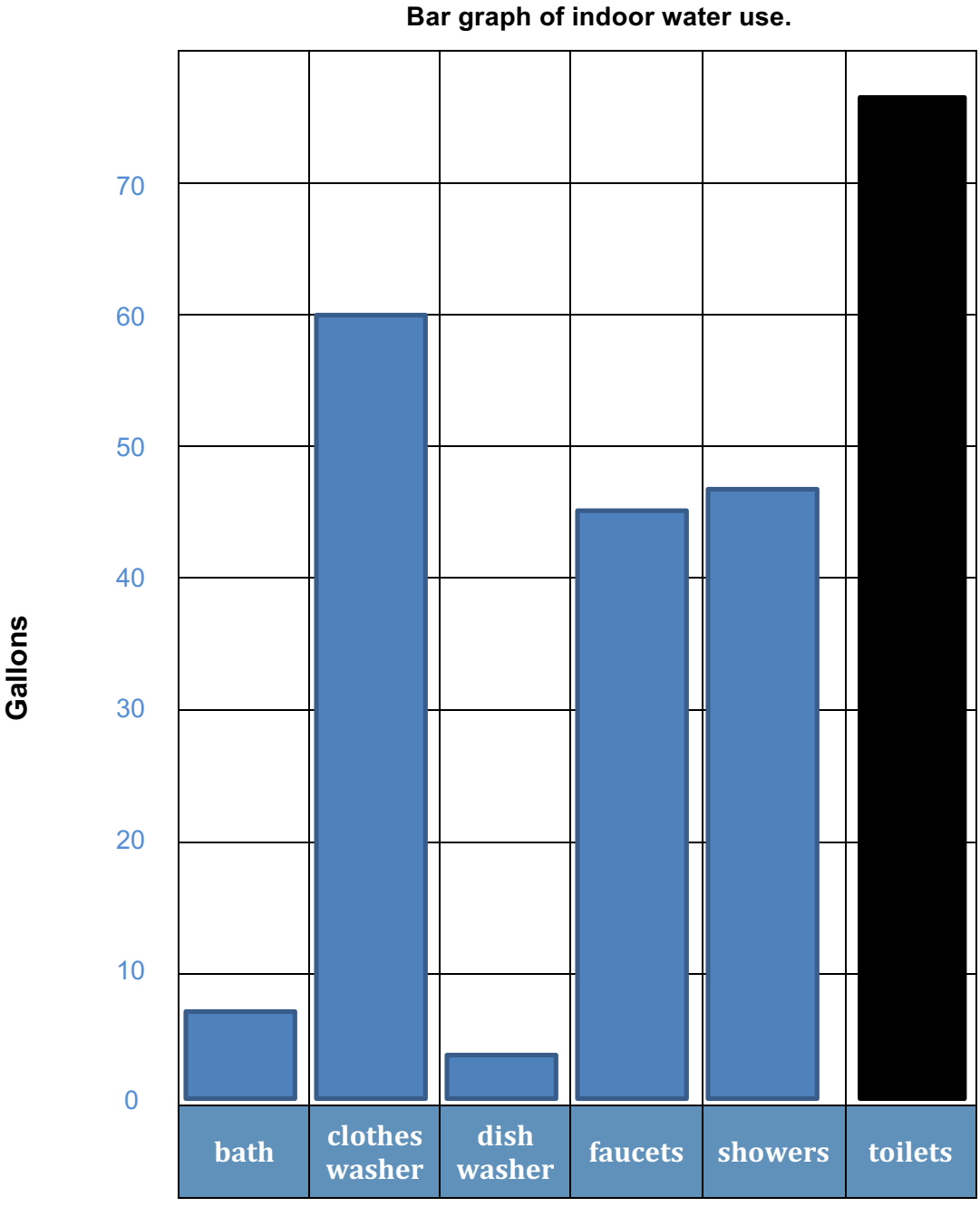
9. Make a bar chart using your numbers from step 1. Color the graywater sources blue and the blackwater sources black.



Note: Each student graph will look different; depending on the # of people in the household; in addition, expect the scale to vary