Monday, April 19th

From last week: Permeability and Filtering

Team	Sand # of scoops	Loam # of scoops	~~Permeability Rate (in/hr)~~ measurements	~~Blue Dye Output~~ perm. (in/hr.)
Molly, etc.	3	0	4in ; 2 min.	133 in/hr
Juan, etc.	3	0	3in ; 1'40"	107 in/hr
Caiti, etc.	2	1	3in ; 3'33"	50 in/hr
All Clay!	--	--	0.03 inches/hour	No Output!

Question 1: How did your results for permeability compare to what you predicted would happen based on what you know about soil texture and/or structure?

Question 2: Based on the color of the water leaching out of the different textured soils, what conclusions can you make about the soils' abilities to filter groundwater?

$$\text{permeability} = \frac{\text{depth (in.)}}{\text{time (hr.)}} = \frac{3\text{ in}}{0.06\text{ hr}} = 50\text{ in/hr}$$

3 min 33 sec = ? hours

× 60

180 sec + 33 sec = 213 sec

$$213\text{ sec} \cdot \frac{1\text{ min}}{60\text{ sec}} \cdot \frac{1\text{ hr}}{60\text{ min}}$$

213 sec ÷ 60 ÷ 60 = 0.06 hours

$$\text{perm} = \frac{\text{depth (in)}}{\text{time (hr)}} = \frac{4\text{ in}}{0.03\text{ hr}} = 133\text{ in/hr}$$

2 min
×60
120 s ÷ 60 ÷ 60 = 0.03 hr

$$\text{perm.} = \frac{\text{dist (in)}}{\text{time (hr)}} = \frac{3\text{ in}}{0.028\text{ hr}} = 107\text{ in/hr}$$

1 m 40 s

×60

60 s + 40 s = 100 s

100 s ÷ 60 ÷ 60 = 0.028 hr

Murph vs. Bregar

race in different places at different times

	time	dist	speed
murphy 1978 trans am	8 mins	~~200 meters~~ 7800 inches	975 in/min
bregar bulldozer	3 mins	1700 inches	567 in/min

Speed = dist/time