Weekly Challenge

**Solve the challenge, share your solution and summit the ranks of our Community!**

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**IDEAS WANTED**

We're actively looking for ideas on how to improve Weekly Challenges and would love to hear what you think!

SUBMIT FEEDBACK



# Challenge #178: Chuck Like a Woodchuck

AYXAcademy
Alteryx

The solution to last week's challenge can be found here.

How much could a woodchuck chuck if a woodchuck could chuck wood?


Today we are ready to answer an age-old question that has been left unanswered: How much could a woodchuck chuck if a woodchuck could chuck wood?

To best calculate this, we need to make the following assumptions:
1. First off, a point of clarification that woodchucks do not chuck wood. But what if a woodchuck could chuck wood? As a burrowing creature, the best information we have is to understand the amount of soil excavated during burrowing. We can use the weight of soil excavated to equate it to the weight of wood.
2. All soil is not created equal. Per cubic foot of type of soil, moisture, density and make-up can vary.
3. All wood is not created equal; density of wood can largely affect the cubic foot weight.

The challenge:
1. We have provided a sampling of three different woodchuck burrows excavated over a 7 day period. Within a burrow there can be rooms and tunnels that makeup a burrow. Dimensions of the rooms and tunnels have been provided in addition to the soil composition of the excavation site. Using this data set, determine the cubic feet of soil excavated and, ultimately the weight of soil excavated from each burrow.
2. Take the average weight of soil 'chucked' from each burrow.
3. From the average weight of wood across 10 tree species, figure out how many cubic feet of wood would have been chucked if a woodchuck could chuck the wood.

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challenge_178_solution.yxmd

Data Analysis | Intermediate | Join | Parse | Preparation | Transform

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patrick_digan
17 - Castor

Spoiler

challenge_178_start_file.yxmd

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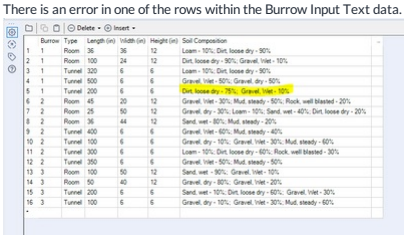
LifebloomX
7 - Meteor

There is an error in one of the rows within the Burrow Input Text data.



| | Burrow | Type | Length (in) | Width (in) | Height (in) | Soil Composition |
|---|---|---|---|---|---|---|
| 1 | 1 | Room | 36 | 36 | 12 | Loam - 10%, Dirt, loose dry - 90% |
| 2 | 1 | Room | 100 | 24 | 12 | Dirt, loose dry - 90%, Gravel, Inlet - 10% |
| 3 | 1 | Tunnel | 320 | 6 | 6 | Loam - 10%, Dirt, loose dry - 90% |
| 4 | 1 | Tunnel | 500 | 6 | 6 | Gravel, Inlet - 50%, Gravel, dry - 50% |
| 5 | 1 | Tunnel | 200 | 6 | 6 | Dirt, loose dry - 75%, Gravel, Inlet - 10% |
| 6 | 2 | Room | 45 | 20 | 12 | Gravel, Inlet - 30%, Mud, steady - 50%, Rock, well blasted - 20% |
| 7 | 2 | Room | 25 | 50 | 12 | Gravel, dry - 30%, Loam - 10%, Sand, wet - 40%, Dirt, loose dry - 20% |
| 8 | 2 | Room | 36 | 44 | 12 | Sand, wet - 80%, Mud, steady - 20% |
| 9 | 2 | Tunnel | 400 | 6 | 6 | Gravel, Inlet - 60%, Mud, steady - 40% |
| 10 | 2 | Tunnel | 100 | 6 | 6 | Gravel, dry - 10%, Gravel, Inlet - 30%, Mud, steady - 60% |
| 11 | 2 | Tunnel | 300 | 6 | 6 | Loam - 10%, Dirt, loose dry - 60%, Rock, well blasted - 30% |
| 12 | 2 | Tunnel | 350 | 6 | 6 | Gravel, Inlet - 50%, Mud, steady - 50% |
| 13 | 3 | Room | 100 | 50 | 12 | Sand, wet - 90%, Gravel, Inlet - 10% |
| 14 | 3 | Room | 50 | 40 | 12 | Gravel, dry - 80%, Gravel, Inlet - 20% |
| 15 | 3 | Tunnel | 200 | 6 | 6 | Sand, wet - 10%, Dirt, loose dry - 60%, Gravel, Inlet - 30% |
| 16 | 3 | Tunnel | 100 | 6 | 6 | Gravel, dry - 10%, Gravel, Inlet - 30%, Mud, steady - 60% |

The row doesn't add up to 100 %. Also, what does the Cubit Foot Dried (lbs) mean exactly?

| | Tree | Cubic Foot Dried (lbs) |
|---|---|---|
| 1 | Sugar Maple | 44 |
| 2 | Chestnut Oak | 46 |
| 3 | Lodgepole Pine | 29 |
| 4 | Yellow Poplar | 28 |
| 5 | Redwood | 30 |
| 6 | Tamarack | 37 |
| 7 | Witch-Hazel | 43 |
| 8 | Balsam Fir | 26 |
| 9 | American Elm | 36 |
| 10 | Black Cottonwood | 24 |

Does this mean lbs per cubic foot? or ft^3 per pound (lb)?

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**ddiesel**
13 - Pulsar

Fun one!

▷ Spoiler

challenge_178_end_file_ddiesel.yxmd

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**JORGE4900**
8 - Asteroid

I also noticed that error not matching 100% that @LifebloomX mentioned.

I used Regex to parse out the two fields--(Soil & Percent), but the following line always came out with extra spaces; I ended up using an extra data cleansing tool to get rid of the trailing space.

I love Regex tool, but sometimes it makes me struggle.
Sand, wet - 90%
\s*(.*)\s{1,2}-\s{\d{2}}%

▷ Spoiler

challenge_178_Jorge_Solution.yxmd

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**T_Willins**
14 - Magnetar

I also saw the less than 100% error. Data collection workflow needs validations built in? Now if a woodchuck sells seashells to make batter bitter was he fuzzy?

▷ Spoiler

challenge_178_solution.yxmd

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RolandSchubert
16 - Nebula

Spoiler

challenge_178_solution_rsc.yxmd

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LifebloomX
7 - Meteor

I also didn't like the fact that we are told to take the average of the wood without knowing the ratio of the wood woodchucks use. The ratio of wood should've been provided just like the soil.

Spoiler

I got rid of the % by changing the field to Double.

challenge_178_DK.yxmd

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fmeo
8 - Asteroid

Spoiler

Share 0 LIKES Reply

pjdit
8 - Asteroid

My Solution!

Spoiler

challenge_178_PD_Solution.yxmd

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