

# Week 1: Practical

## Questions

This document includes fields for answering questions for the Week 1 practical. You do not need to turn this in, or even use it. A separate file to keep track of your progress, or a pen and paper, are completely fine.

## Exercise 1: Transferring data to a spreadsheet

Fill in 1 and 3 below with potential causes of error

1. Answer: Seeds are tallied incorrectly
2. Answer: Tallies are not counted correctly in the lab notebook
3. Answer: Counts are not correctly input into spreadsheet

Year	Month	Day	Species	Site numb	Tree numb	Fruit numb	Fruit lengt	Fruit width	Fruit height	Seeds
2010		5	9 F_petio	70	70	1	15	18	14	238
2010		5	10 F_petio	70	70	2	17	19	15	198
2010		5	10 F_petio	70	70	3	21	21	16	220
2010		5	11 F_petio	70	70	4	NA	NA	NA	169
2010		5	11 F_petio	70	70	5	15	16	14	188
2010		5	11 F_petio	70	70	6	16	16	15	139

## Exercise 2: Making spreadsheet data tidy

How many columns did you need to create the new dataset?

2 columns

Are there any missing data in this dataset?

No missing data

	A	B	C	D	E	F	G	H
1	Species	Egg loads						
2	Het1	35						
3	Het1	32						
4	Het1	34						
5	Het1	38						
6	Het1	34						
7	Het1	34						
8	Het1	34						
9	Het1	34						
10	Het1	32						
11	Het1	30						
12	Het2	51						
13	Het2	55						
14	Het2	52						
15	Het2	54						
16	Het2	55						
17	Het2	54						
18	Het2	56						
19	Het2	53						
20	Het2	54						
21	Het2	54						
22	LO1	72						
23	LO1	76						
24	LO1	77						
25	LO1	78						

### Exercise 3: Making data tidy again

No questions were asked.

	A	B	C	D	E	F	G	
1	Fruit	Species	Count					
2		1 Het1	0					
3		2 Het1	0					
4		3 Het1	0					
5		4 Het1	1					
6		5 Het1	0					
7		1 Het2	0					
8		2 Het2	2					
9		3 Het2	3					
10		4 Het2	0					
11		5 Het2	0					
12		1 LO1	4					
13		2 LO1	37					
14		3 LO1	0					
15		4 LO1	0					
16		5 LO1	3					
17		1 SO1	0					
18		2 SO1	1					
19		3 SO1	0					
20		4 SO1	3					
21		5 SO1	2					
22		1 SO2	1					
23		2 SO2	12					
24		3 SO2	2					
25		4 SO2	0					
26		5 SO2	0					
27								

## Exercise 4: Tidy data and spreadsheet calculations

What columns should this new dataset include? Write your answer below.

Species, wasp number, Head length (mm), Head width (mm), Thorax length (mm), Thorax width (mm), Abdomen length (mm), Abdomen width (mm)

How many rows are needed?

26 rows of data (plus the header column)

What formula will you type into your empty spreadsheet cell to calculate  $V_{\text{thorax}}$ ? Keep in mind the order of operations indicated in the equation above.

$$= (4/3) * 3.14 * (E2/2) * ( (F2/2)^2 )$$

What are some reasons that we might want to be cautious about our calculated wasp volumes? Explain in 2-3 sentences.

There is error associated with the measurement of fig wasp dimensions (e.g., length, width). There is also error because we are assuming that the head is a sphere and the thorax and abdomen are ellipses. These errors could compound on one another.

[illegible]