

Centre Tasks**Centre A: The Garden
(Representing Fractions)**

The residents of an apartment building decided to make a rectangular community garden.

Their design is shown below.

The walkway is part of the garden.

What fraction of the garden does each type of vegetable cover?

Explain.

Lettuce	Tomatoes		Corn
Walkway			
Beans	Peppers	Cucumbers	

Centre Tasks (cont'd)**Centre B: Planting Seeds
(Comparing Fractions)**

Seeds come in small packages, with different numbers of seeds in each, depending on the type of vegetable.

This table shows the fraction of the garden each package of seeds will cover.

Vegetable	Lettuce	Tomatoes	Corn	Peppers	Cucumbers	Beans
Fraction of garden covered with 1 package of seeds	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{3}$

Use the fractions you identified in Centre A.
Determine how many packages of each seed the gardeners should buy.

Centre Tasks (cont'd)**Centre C: Tending to the Garden
(Working with Percents)**

These tasks need to be completed daily to maintain the garden.

Task	Time (h)
Watering	2
Weeding	4
Fertilizing	0.5
Pruning	1
Maintenance of Walkway	1
Picking/Cleaning Crop	1.5

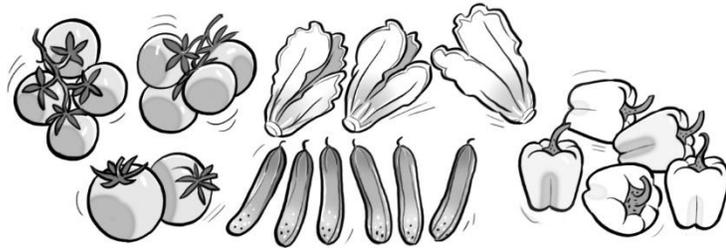
The gardeners want to divide up the tasks equally. To do this, they would like a visual that shows each time as a percent of the total daily time: 10 h. Create a visual to help the gardeners.

Centre Tasks (cont'd)

Centre D: Harvesting Vegetables (Fractions of a Set)

One day in mid-August, 24 vegetables were harvested from the garden.

Here is the harvest:



- Show each type of vegetable as a fraction of the whole harvest for that day.
- Order the fractions from least to greatest.
- Create a visual to show the harvest.
Partition the rectangle to show the harvest of each type of vegetable.

Today's Harvest

Centre Tasks (cont'd)**Centre E: Recording Temperatures
(Interpreting Integers)**

The gardeners recorded the temperatures daily.
This table shows the temperatures for the first 10 days of May.

Date	Daytime High (°C)	Nighttime Low (°C)
May 1	15	-3
May 2	12	-7
May 3	23	4
May 4	24	15
May 5	23	10
May 6	29	16
May 7	28	8
May 8	15	-4
May 9	19	0
May 10	17	-1

- Which day had the coldest daytime temperature?
- Which day had the coldest nighttime temperature?
- Frost is possible any time the nighttime temperature drops to 4°C or lower.
For which dates was there a risk of frost?
- Order the nighttime temperatures from highest to lowest.

Centre Tasks (cont'd)**Centre F: Applying Fertilizer
(Relating Fractions, Decimals, and Percents)**

The gardeners want to use an organic fertilizer that is high in nitrogen and low in potash. Here are their options.

**Natural Nutrients
Fertilizer**Nitrogen: $\frac{1}{5}$ Phosphate: $\frac{1}{10}$ Potash: $\frac{1}{20}$ **Greener Growers
Fertilizer**

Nitrogen: 0.15

Phosphate: 0.2

Potash: 0.05

**Perfect Plants
Fertilizer**

Nitrogen: 5%

Phosphate: 10%

Potash: 5%

- Which fertilizer best matches their needs?
- For the chosen fertilizer, express the value of each chemical as:
 - a fraction
 - a decimal
 - a percent
- Identify the fertilizer that has the most phosphate. Show your thinking.

Centre Tasks (cont'd)

Answers

Centre A:

Lettuce: $\frac{2}{18}$ or $\frac{1}{9}$; Tomatoes: $\frac{3}{18}$ or $\frac{1}{6}$; Corn: $\frac{3}{18}$ or $\frac{1}{6}$;

Cucumbers: $\frac{2}{18}$ or $\frac{1}{9}$; Peppers: $\frac{1}{18}$; Beans: $\frac{2}{18}$ or $\frac{1}{9}$

Centre B:

Lettuce: 1 package; Tomatoes: 2 packages; Corn: 1 package;
Cucumbers: 1 package; Peppers: 1 package; Beans: 1 package

Centre C:

Visual to show: Watering: 20%; Weeding: 40%; Fertilizing: 5%;
Pruning: 10%; Maintenance of Walkway: 10%;
Picking/Cleaning Crop: 15%

Centre D:

Tomatoes: $\frac{10}{24}$, or $\frac{5}{12}$; Cucumbers: $\frac{6}{24}$, or $\frac{1}{4}$; Lettuce: $\frac{3}{24}$, or $\frac{1}{8}$;

Peppers: $\frac{5}{24}$;

Least to greatest: $\frac{1}{8}$, $\frac{5}{24}$, $\frac{1}{4}$, $\frac{5}{12}$

T	T	T
T	T	T
T	T	T
T	C	C
C	C	C
C	L	L
L	P	P
P	P	P

Name _____ Date _____

Number
Unit 3 Line Master 12h

Centre Tasks (cont'd)

Answers

Centre E:

May 2; May 2; May 1, May 2, May 3, May 8, May 9, May 10;
16, 15, 10, 8, 4, 0, -1, -3, -4, -7

Centre F: Natural Nutrients Fertilizer; Nitrogen: $\frac{1}{5}$, 0.2, 20%;

Phosphate: $\frac{1}{10}$, 0.1, 10%; Potash: $\frac{1}{20}$, 0.05, 5%;

Greener Growers Fertilizer; 20%.