

UNHAPPY MEALS

Here is a picture of a few toys that came with different McDonald's Happy Meals. These toys are a lot of fun for kids! They are also one of the most successful marketing tools used by the McDonald's restaurant chain! The problem is that they cannot be recycled, so they will inevitably end up in landfills. Below you will see some data on how many of these toys McDonald's stores distribute. The toys come in a small plastic bag. There are 12 dozen packages of toys in each box — this quantity is called a gross.



Below is a sampling of stores in the Lower Mainland. Using the number of boxes per year as a set of data, what is the average number of boxes each of the McDonald's restaurants distributes per year? To calculate the average/mean: see Intro Graphing Week 7 for reference.

Part 1 — How Many Boxes per Store

Store	Number of Toys Given Out	Estimate boxes per month	And per year
Langley (200 th & 84 th)	2-3 boxes per week		
Maple Ridge (Dewdney & 240 th)	48 toys on Friday Sept. 20, 2019		
Maple Ridge (227 th & Lougheed)	About 300 a day		
Burnaby (Lougheed Mall)	400-500 per day		
Surrey (Guilford area)	Sept 1-Sept 20, 2019: 2960 toys		
South Surrey (Wal-Mart)	40 – 60 per day		

Approximately, how many boxes of toys would the six stores combined give away in one month? One year?

Approximately how many individual packages of toys would the six stores give away in one month? One year?

Calculate the mean/average number of boxes given away by a typical store in one month?

Part 2 — Toy Orders Around the World

Above you calculated a mean. This piece of information would give you an approximate number of boxes of toys that the average store would order in a one-month period. Using the



mean you calculated for the stores above, approximately how many boxes of toys combined would all these stores order over both a one-month and one-year period?

- There are 197 stores in BC. How many boxes would this be in one month?
One year?

- There are 1478 stores in Canada. How many boxes would this be in one month? One year?

- There are 13,837 stores in the USA. How many boxes would this be in one month? One year?

- There are 38,695 stores in the world. How many boxes would this be in one month? One year?

Part 3 — What a Waste!

A box of toys has the dimensions of 60 cm by 45 cm by 30 cm. Remember volume is calculated by the formula — $V = L \times W \times H$ (units in cm^3)

What is the volume of a single box?



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In one month, what is the volume of all the boxes distributed in BC?

A litre is another of the accepted metric system units of measurement for volume. The volume of one litre is equal to 10 cm x 10 cm x 10 cm.

How many cm^3 is one litre equal to?

How many litres of toy boxes would be distributed by all the stores in BC in one month?

A large backyard in-ground swimming pool holds about 100,000 litres. How many swimming pools worth of toys would be distributed in one month in BC?

