

Cartridge Recycling Student Worksheet

Cartridge Recycling

Cartridges for Planet Ark encourages all Australians to limit what we call 'complex waste' products going to landfill. Complex waste is material that has multiple component types, is not biodegradable and takes up a lot of space. The organisation has provided us with some facts and figures about recycling rates for printer cartridges in Australia.



Refer to the data sets shown below to complete the activities. Write all answers in your book.

Table 1. Total returns in weight and numbers for each of the past 10 years

Years	Items	Weight (kgs)
2010	2,754,737	1,340,842
2011	2,997,411	1,390,618
2012	3,262,393	1,431,086
2013	3,214,505	1,229,111
2014	1,657,062	602,014
2015	3,303,140	1,204,254
2016	3,479,147	1,173,540
2017	3,582,658	1,166,942
2018	3,582,642	1,117,021
2019	3,674,076	1,045,817

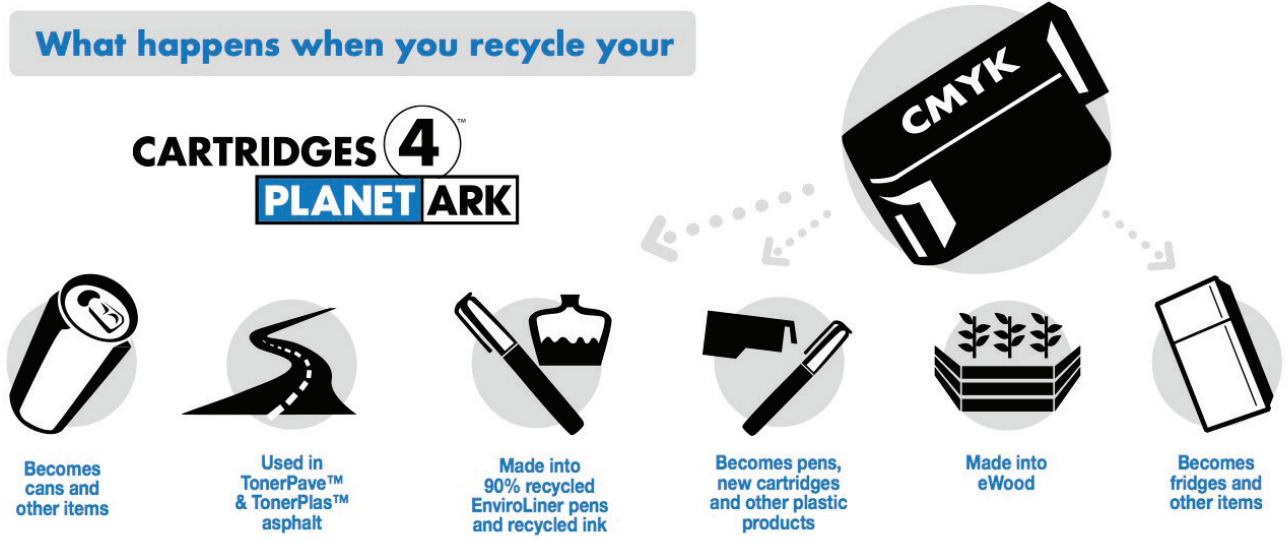
Table 2. For 2013 total number and total weight for each state

	Items	Weight (kgs)
ACT	77,844	36,287.50
NSW	946,602	354,935.57
NT	25,910	11,105.20
QLD	425,224	153,233.50
SA	321,505	107,269.64
TAS	43,311	12,101.26
VIC	940,938	353,471.16
WA	351,173	133,773.72
N/A (unlabelled Retail bags)	81,998	66,933.45

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Table 3. Item sizes 2013

Description	Quantity	Kilograms
Small cartridge	50,966	9,624.0
Large cartridge	403,108	322,794.2
Unspecified cartridge	685,952	433,736.9
Small inkjet	529,017	10,580.3
Large inkjet	248,290	8,810.0
Oversized inkjet	24,688	2,691.6
Unspecified inkjet	542,586	24,114.1



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Questions

1. How many items were collected in 2012? Write the answer out in words rather than numbers.
2. In 2017, how many more items were collected than in 2014? Write a sentence that explains how you arrived at this figure.
3. In the years 2010 to 2012, what total weight of cartridges were collected? Express your answer to the nearest ton (one thousand kilos).
4. Use the table that provides figures for each Australian state to find out how many cartridges came from Victoria to be recycled.
5. Why were 81,998 items not allocated to a state in this table? Write your answer in a complete sentence.
6. What relationship exists between the type of cartridge and the total weights recorded in Table 3?
7. Are oversized inkjet printers more or less popular than small ones? What is the difference in those two figures?
8. What type of cartridges collected in 2013 numbered 248,290 items?
9. In 2013, South Australia recorded a cartridge collection that weighed how much in kilograms?

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10. Use Table 1 to find out the average weight of each cartridge collected in 2015.

11. The article we read earlier states that 'almost 50 percent of people are getting it wrong'. If everyone in NSW got it right, increasing their recycling of cartridges by 50%, how many total items would have been collected in 2013?

12. Calculate the mean (average) number of items collected across New South Wales, Queensland and Victoria in 2013. Ignore the unlabelled items.

13. Calculate the weight range (lowest weight subtracted from highest weight) for the items collected from all the states and territories in 2013. Ignore the unlabelled items.

14. Find the median (middle quantity) of all cartridge types collected in 2013, using Table 3. Ignore the unspecified items.

Challenge: Use one of the data sets presented here to create your own graphic organiser. Your goal is to present a small selection of data that would be useful and informative to an adult target audience interested in cartridge recycling rates in Australia over the past five years. Complete this activity on an A4 sheet of paper and paste it into your book.