

# Student Worksheet – Cartridge Recycling Data

## 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**

	Items	Weight (kgs)
2003	159,326	92,161
2004	598,753	358,804
2005	1,275,784	652,792
2006	1,672,202	776,164
2007	2,114,641	928,363
2008	2,640,942	1,166,890
2009	2,678,176	1,307,109
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

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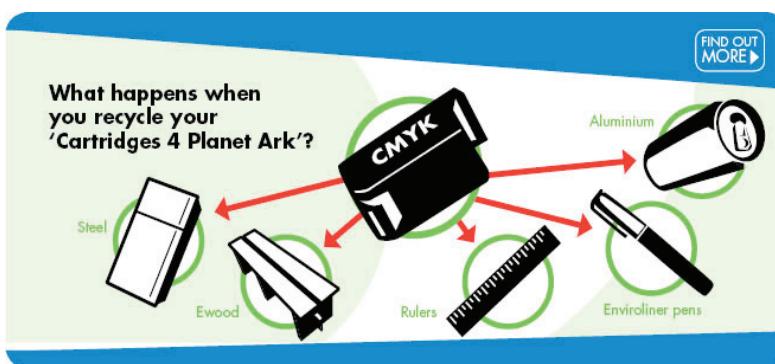
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**Table 2. For 2013 total number and total weight for each state**

	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

**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 2007, how many more items were collected than in 2004? Write a sentence that explains how you arrived at this figure.
3. In the years 2009 to 2011, 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?
10. Use Table 1 to find out the average weight of each cartridge collected in 2003.
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.

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# Printer cartridge recycling

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.



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