THE ALSPAC STUDY

SH FILE

DATA COLLECTED FROM THE YEAR 6 MATHS ASSESSMENT

Administered in schools

Prepared by

The ALSPAC Study Team

Documentation giving frequencies, background and instructions for use.

Last updated for version 1c of the built file (partial update only).

October 2019

Contents

Introduction and Methodology

Background

The “Maths Assessment for 10 and 11 Year Olds" was designed for teachers to administer to Year 6 children and return to the study. The test was administered in a pack that also contained a copy of “Questionnaire for the Head Teacher” for the Head Teacher to complete, copies of “Questionnaire for the Class Teacher” for each Year 6 Class Teacher to complete, copies of the questionnaire “The Developing Child” for each Year 6 Class Teacher to complete (one per child born within the ALSPAC recruitment dates) and copies of science and spelling tests (one per child in the class) and accompanying teacher booklets. The ALSPAC cohort is split across three academic years, so this pack was administered in three sweeps, during the academic years ending in the summers of 2002, 2003 and 2004 (see Table 1).

Table 1: Coding of school years on ALSPAC data files and expected progress of the ALSPAC cohort according to their dates of birth

School year	Code	Expected position of ALSPAC children born between:		
		April 1991 & August 1991	September 1991 & August 1992	September 1992 & January 1993
1995 / 1996	1	Reception	-	-
1996 / 1997	2	Year 1	Reception	-
1997 / 1998	3	Year 2	Year 1	Reception
1998 / 1999	4	Year 3	Year 2	Year 1
1999 / 2000	5	Year 4	Year 3	Year 2
2000 / 2001	6	Year 5	Year 4	Year 3
2001 / 2002	7	Year 6	Year 5	Year 4
2002 / 2003	8	Year 7	Year 6	Year 5
2003 / 2004	9	Year 8	Year 7	Year 6
2004 / 2005	10	Year 9	Year 8	Year 7
2005 / 2006	11	Year 10	Year 9	Year 8
2006 / 2007	12	Year 11	Year 10	Year 9
2007 / 2008	13	-	Year 11	Year 10
2008 / 2009	14	-	-	Year 11

Contents

The maths test for Year 6 children was devised by Terezinha Nunes and Peter Bryant and contains 19 questions, many of which have multiple parts.

Administration

From each of the relevant schools in Avon (i.e. those in the areas covered by the Bristol, South Gloucestershire, North Somerset and Bath & Northeast Somerset local education authorities) a list of children in Year 6, containing names and dates of birth, was requested at the beginning of each of the relevant academic years. Note that all schools in the BANES LEA were included even though, geographically speaking, only a small part of that LEA was actually in the ALSPAC enrolment area.

These children were given numbers, regardless of whether they were known to ALSPAC or not. These numbers consisted of 8 or 9 digits. The first 4 digits identified the school

(with the first digit indicating education authority), digits 5 and 6 identified the class / teacher within the school and the final 2 or 3 digits identified the child within the school. These numbers were added to the list of names, which was then returned to the school with the appropriate number of questionnaires and test booklets during the summer term.

The child was asked to enter their name on page 1 of the answer booklet and the date of the test and their school, class and date of birth on page 2. Reminder letters were sent out to head teachers if, after an appropriate interval, the completed questionnaires had not been returned. On receipt of the completed booklets, the children were identified on the class lists and the appropriate numeric ID applied to the front of the booklet. The page containing the name was then removed and destroyed.

For children living outside the study area, the questionnaire packs were sent to the mothers. In 2001/2 and 2002/3 each questionnaire was identified by a code comprising one or two letters identifying the country it was being sent to, followed by the mother's contact ID number. A different system was used in 2003/4 with each questionnaire identified by a code comprising one or two letters identifying the country it was being sent to, followed by a nine digit numeric code. This was an identifier that had been created for every ALSPAC eligible child for the purpose of linking schools data. The mother was asked to give the pack to the child to take into school. No reminders were sent to out-of-area cases.

Permissions

Permission to link data collected from schools to general ALSPAC data was originally sought from the accompanying adult at the Focus@7 clinic. However, in May 2003 the ALSPAC Ethics & Law Committee decided that in line with the data protection act it was not necessary for ALSPAC to obtain written consent before using the data, but that data on children for whom permission was actually refused at the Focus@7 clinic or for whom permission was subsequently withdrawn should not be used. At the time of writing there are 15 children for whom ALSPAC has such refusals.

Linking

There were no special complications linking the out-of-area children, since the questionnaire numbers for these children contained the standard ALSPAC contact ID. However, for two pairs of twins it was not possible to determine which record belonged to the first born and which belonged to the second born.

For children in the local LEAs, the questionnaires were linked to the lists of children provided by the schools by the questionnaire number (school / child), using date of birth and gender as a check. Some instances of teachers transposing questionnaire numbers were identified and corrected. The lists were then linked to ALSPAC identifiers using names and dates of birth.

Multiple Records

Multiple records were returned for a small number of ALSPAC eligible children. These occurred for one of three reasons:

1. The child moved schools during Year 6. This means there are two records in the same sweep but from different schools.
2. The child repeated Year 6. This means there are two records from the same school but in different sweeps.

3. The child did Year 6 twice in different schools. This means there are two records from different schools in different sweeps.
4. The child has both an out of area and local record. The records may be from different schools or may be from the same school if the child lived out of area but attended a local school and the teacher completed both the questionnaire sent directly from ALSPAC and the questionnaire sent via the mother.

One record was selected for each child as follows. For 2 & 3 above the record that came from the year in which the child should have sat the tests by age (see table 3 and variable SH006) was retained. For 1 above the record that was from the same school as the record on the SE built file was retained. For 4 above the record from the local school was retained.

Data Processing

The contents of the answer booklets were transcribed to a form (see Appendix A) by student coders following set guidelines (see Appendix B). Unfortunately the date of test and date of birth of the child were not transcribed so it has not been possible to derive an age at testing. Teachers generally gave the test to the whole class to do, including many children not eligible for ALSPAC by date of birth. In order to avoid transcribing booklets for children definitely not eligible for ALSPAC the following rules were followed:

- In 2001/2 all booklets for children born between 01/03/91 and 31/08/91 were transcribed (allowing for pre-term births of up to one month before the earliest eligible expected date of birth of 01/04/91). In addition school lists were checked for any dates of birth stated as before September 1990 or after August 1991 (i.e. children not in their expected year group) and booklets transcribed if the child was thought to be in ALSPAC.
- In 2002/3 all booklets were transcribed.
- In 2003/4 all booklets for children born between 01/09/92 and 31/01/93 were transcribed (allowing for post term births of up to one month after the latest eligible expected date of birth of 31/12/92). In addition school lists were checked for any dates of birth stated as before September 1992 or after August 1993 (i.e. children not in their expected year group) and booklets transcribed if the child was thought to be in ALSPAC.

Although not designed specifically for scanning the forms were captured using ALSPAC's document scanning system. The use of code 'X' in many fields meant that the system was set to accept any character resulting in frequent letter / number confusion. In order to resolve this, the recodes detailed in Table 2 were automatically applied to correct frequently occurring letters to numbers. This was done after some piloting involving looking up a sample of occurrences. Any remaining spurious letters were checked manually.

Table 2: Automatic recodes applied to correct numbers misread as letters

Letter(s)	Number
c, C, D, o, O, Q	0
i, I, l	1
z, Z	2
J	3
s, S	5
B	8
q	9
x	X

Response Rates

A total of 15,312 answer booklets were received back. 7 of these records do not appear on this built file because they are about children for whom permission was refused, 16 because they are surplus records about children for whom multiple records were received and 4 because they belonged to two sets of out of area twins for whom it was not possible to determine which booklet was for which child. This leaves 15,285 records, of which 10,353 are for children eligible for ALSPAC and after exclusion of data for triplets/quadruplets 10,342 records appear on the built file.

Response rates for the maths assessment in each academic year for the local schools are displayed in Table 3. A total of 270 different schools returned at least 1 copy of the maths assessment in at least one of the three trawls.

Table 3: Response rates for local schools

Academic year	2001/2	2002/3	2003/4
Schools invited to participate	344	339	336
No response (% of those invited)	47 (14%)	31 (9%)	29 (9%)
Refused to participate (% of those invited)	23 (7%)	20 (6%)	15 (4%)
Schools sent packs (% of those invited)	274 (80%)	288 (85%)	292 (87%)
Returned at least 1 copy of the maths assessment (% of those sent packs)	222 (81%)	220 (76%)	212 (73%)
Overall response rate (% of schools invited that returned at least 1 copy of the maths assessment)	65%	65%	63%

Response rates for the maths assessment in each academic year for the out of area cases are displayed in Table 4. Note that this is a slight approximation as it is based on the number of packs sent out to mothers not the number of questionnaires (so counts only once for twins, triplets etc.).

Table 4: Response rates for out of area cases

Year	2001/2	2002/3	2003/4
Mothers sent pack(s)	420	996	284
Mothers from whose pack(s) maths assessments were returned (% of mothers sent packs)	91 (22%)	411 (41%)	109 (38%)

Sample

There are a total of 17,356 records on this file. This number is made up of the 14,676 fetuses in the core ALSPAC sample (regardless of whether or not the test data is available for them) plus 2,680 records for children eligible for ALSPAC but not in the core sample. A further 4,932 records for children not eligible for ALSPAC are not presented on this built file.

Of the 14,676 fetuses in the core ALSPAC sample, 14,062 were live born. The maths test data are available for 7,673 (55%) of these live born children. For further information on the ALSPAC sample, please see section 5 of the "Guide to ALSPAC data" which can be found in the "Collaborator Pack" on the ALSPAC documentation CD.

File version history

Built version 1a – December 2007

The first published version of this data file.

Built version 1b – December 2008

Due to the extension of direct access to ALSPAC data to non-ALSPAC staff and in order to comply with guidance issued in 1996 by the ALSPAC Law & Ethics Committee regarding the confidentiality of multiple pregnancies SH001 has been recoded to 2 "No" for the 11 children from triplet and quadruplet pregnancies for whom test data are available and all other variables set to set to -11/-111 as appropriate. Note that 3 of these triplet/quadruplet children are not in the core sample.

Note that the frequency tables have not been updated to reflect these changes.

Built version 1c – October 2019

Variables 'y6sch' and 'y6year' have been renamed to 'y6sch_sh' and 'y6year_sh', respectively. This change has been made because other variables in the SEFG file also had the names 'y6sch' and 'y6year'. In order for all ALSPAC variable names to be unique, these variables have been updated (these variables in the SEFG file have also been updated, and now end '_sefg').

Identifier Variables

ALN & QLET

These are the standard ALSPAC child identifiers and are only available for records belonging to children who have been identified as being eligible for ALSPAC. For non-eligible children, ALN has been set to -2 and QLET to Z.

Y6SCH (note that this is now variable 'y6sch_sh')

ALSPAC has devised a unique 9-digit identifier for schools called ALSPSCID, which is derived from the official DfES identifier set. Although schools will (generally) keep the same value of ALSPSCID across time, since children have the potential to move between schools, any indicator of which school a child is in is time dependent. Variable y6sch_sh contains the appropriate values of ALSPSCID for each child when the Year 6 school packs were administered. This information is only available for children attending schools within the local LEAs (value 1 in variable SH003a below). Note that two or more out-of-area children may actually attend the same school, but there is no way in which this can be ascertained from the data. y6sch_sh is set to -2 for out-of-area children.

Y6YEAR (note that this is now variable 'y6year_sh')

This is the school year in which the data on each child were collected:

y6year School year in which Year 6 data were collected

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7 2001 / 2002	2492	24.1	24.1	24.1
	8 2002 / 2003	5952	57.5	57.5	81.6
	9 2003 / 2004	1909	18.4	18.4	100.0
	Total	10353	100.0	100.0	

Administrative Variables

Data availability

Variable SH001 indicates whether or not the maths test data is available for each case. If this variable equals 2 ('No') then all other variables on this file (except for ALN & QLET) are set to -10.

sh001 Data available

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10353	59.7	59.7	59.7
	2 No	7003	40.3	40.3	100.0
	Total	17356	100.0	100.0	

Region of Education

This is the area where the child attends school. The local LEAs are Bristol, South Gloucestershire, North Somerset and Bath & Northeast Somerset. For the non-local children the countries / regions have been grouped in order to maintain confidentiality.

sh003 Education region

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Local LEAs	9742	94.1	94.1	94.1
	2 Rest of England, Wales & Northern Ireland	540	5.2	5.2	99.3
	3 Scotland & Republic of Ireland	25	.2	.2	99.6
	4 Continental Europe	13	.1	.1	99.7
	5 USA & Canada	13	.1	.1	99.8
	6 Australia & New Zealand	10	.1	.1	99.9
	7 Elsew here in w orld	10	.1	.1	100.0
	Total	10353	100.0	100.0	

An indicator of whether the child was local or not was derived as SH003a by recoding 2 - 7 as 2 in SH003.

sh003a Education region (summary)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Local	9742	94.1	94.1	94.1
	2 Not local	611	5.9	5.9	100.0
	Total	10353	100.0	100.0	

Type of School

This information is only available for children attending schools within the local LEAs (value 1 in variable SH003a above).

sh004 Type of school

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Primary	9199	88.9	94.4	94.4
	3 Special	36	.3	.4	94.8
	4 Private	507	4.9	5.2	100.0
	Total	9742	94.1	100.0	
Missing	-2 Not local	611	5.9		
Total		10353	100.0		

Education Authority

This information is only available for children attending local Primary and Infant schools (values 1 & 2 in variable SH004 above).

sh005 Education authority

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Bristol	3357	32.4	36.5	36.5
	2 Bath & North East Somerset	349	3.4	3.8	40.3
	3 South Gloucestershire	3748	36.2	40.7	81.0
	4 North Somerset	1745	16.9	19.0	100.0
	Total	9199	88.9	100.0	
Missing	-3 Private / Special	543	5.2		
	-2 Not local	611	5.9		
	Total	1154	11.1		
Total		10353	100.0		

Child is in Correct School Year

An indicator of whether the child was in the correct year according to their date of birth (see table 1) at the time of the Year 6 data collection was derived as SH006:

sh006 Child is in correct school year

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10318	99.7	99.7	99.7
	2 No	35	.3	.3	100.0
	Total	10353	100.0	100.0	

School Grouping Identifier

Variable SH008 identifies the school groupings of the children. It is an 11-digit code that is a combination of Y6SCH and Y6YEAR. The first 9 digits are the school code (Y6SCH) and the 10th and 11th digits identify the year in which the data were collected (Y6YEAR). So children that share values of SH008 were all taught at the same school in the same year. Again, it is missing where Y6SCH is missing. Note that on the SE files the equivalent variable (SE008) is a class grouping identifier. This cannot be exactly replicated here, as we have no identifier of class groupings within schools.

An assessment of the development of

mathematical concepts

Teacher's administration booklet

MATHS ASSESSMENT

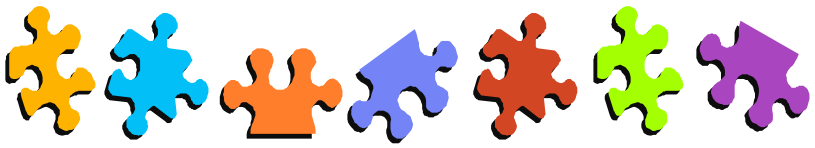
FOR 10 AND 11 YEAR OLDS

This is designed especially for the Children of the 90s. It is not like the national assessments and is aimed at identifying different concepts. Your children will hopefully find it interesting and fun.

All the children have their own answer booklet. Please read the instructions and allow the children enough time to attempt each question. If you feel you need to rephrase any instructions, feel free to do so as long as you ensure that you are not giving the children extra clues.

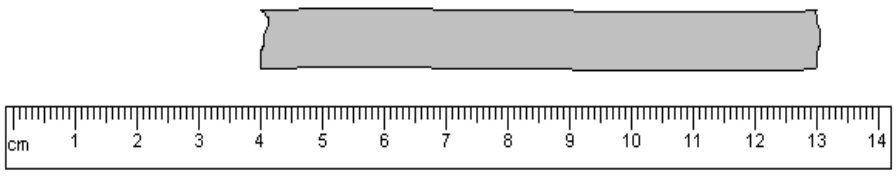
Please make sure that each child has a pencil and that there are no rulers on the tables before you start the assessment.

Thank you



 June 2002

PAGE 2 OF THE TEACHER'S BOOKLET



Answer ☐ **cm**

Make sure there are no rulers on the table before this question is asked)

Here is a picture of a ribbon and a ruler.

How long is the ribbon?

Use the ruler in the picture to help you find out.

Write your answer in the empty box.

[Editing: The response recorded on the coding sheet is presented as SH021, with XX recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SH020 by recoding (9 = 1)(else = 2) in SH021. An indicator of whether the child attempted the question was derived as SH022 by recoding (-6 = 2)(else = 1) in SH021.]

sh020 Question 1 (ribbon length) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	7656	73.9	73.9	73.9
	2 No	2697	26.1	26.1	100.0
	Total	10353	100.0	100.0	

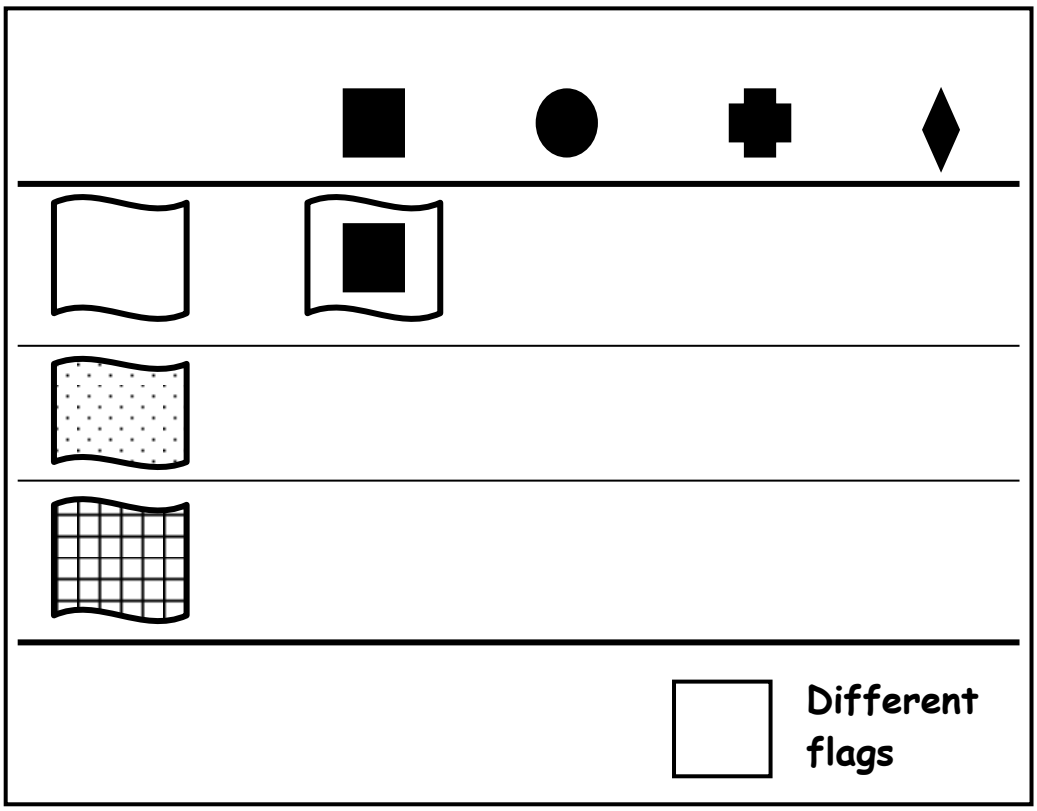
sh022 Question 1 (ribbon length) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10305	99.5	99.5	99.5
	2 No	48	.5	.5	100.0
	Total	10353	100.0	100.0	

sh021 Question 1 (ribbon length): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	.0	.0	.0
	2	1	.0	.0	.0
	3	1	.0	.0	.1
	4	43	.4	.4	.5
	5	19	.2	.2	.7
	6	6	.1	.1	.7
	7	67	.6	.7	1.4
	8	133	1.3	1.3	2.7
	9	7656	73.9	75.4	78.1
	10	1791	17.3	17.6	95.8
	11	39	.4	.4	96.2
	12	13	.1	.1	96.3
	13	208	2.0	2.0	98.4
	14	13	.1	.1	98.5
	15	2	.0	.0	98.5
	16	3	.0	.0	98.5
	17	70	.7	.7	99.2
	18	4	.0	.0	99.3
	19	4	.0	.0	99.3
	20	3	.0	.0	99.3
	22	1	.0	.0	99.3
	27	2	.0	.0	99.4
	29	1	.0	.0	99.4
	32	1	.0	.0	99.4
	34	1	.0	.0	99.4
	40	3	.0	.0	99.4
	44	1	.0	.0	99.4
	45	16	.2	.2	99.6
	50	4	.0	.0	99.6
	52	1	.0	.0	99.6
	69	3	.0	.0	99.7
	76	1	.0	.0	99.7
	78	1	.0	.0	99.7
	80	1	.0	.0	99.7
	81	1	.0	.0	99.7
	90	28	.3	.3	100.0
	91	1	.0	.0	100.0
	99	1	.0	.0	100.0
	Total	10148	98.0	100.0	
Missing	-6 Question 1 omitted	48	.5		
	-2 Other response	157	1.5		
	Total	205	2.0		
Total		10353	100.0		

PAGE 3 OF THE TEACHER'S BOOKLET



At Pear Tree School they have three different types of material that the students can use to make as many flags as they need. One is plain, one has some dots, and the third has squares.

The teacher brought boxes with 4 different figures for the children to paste on the centre of the flags. The teacher wants the children to make as many different flags as they can.

Imran has made one flag using plain material and a square figure.

How many different flags can the children make? Write your answer in the box.

[Editing: The response recorded on the coding sheet is presented as SH030, with XX recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SH030 by recoding (12 = 1)(else = 2) in SH031. An indicator of whether the child attempted the question was derived as SH032 by recoding (-6 = 2)(else = 1) in SH031.]

sh030 Question 2 (# flags) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	5936	57.3	57.3	57.3
	2 No	4417	42.7	42.7	100.0
	Total	10353	100.0	100.0	

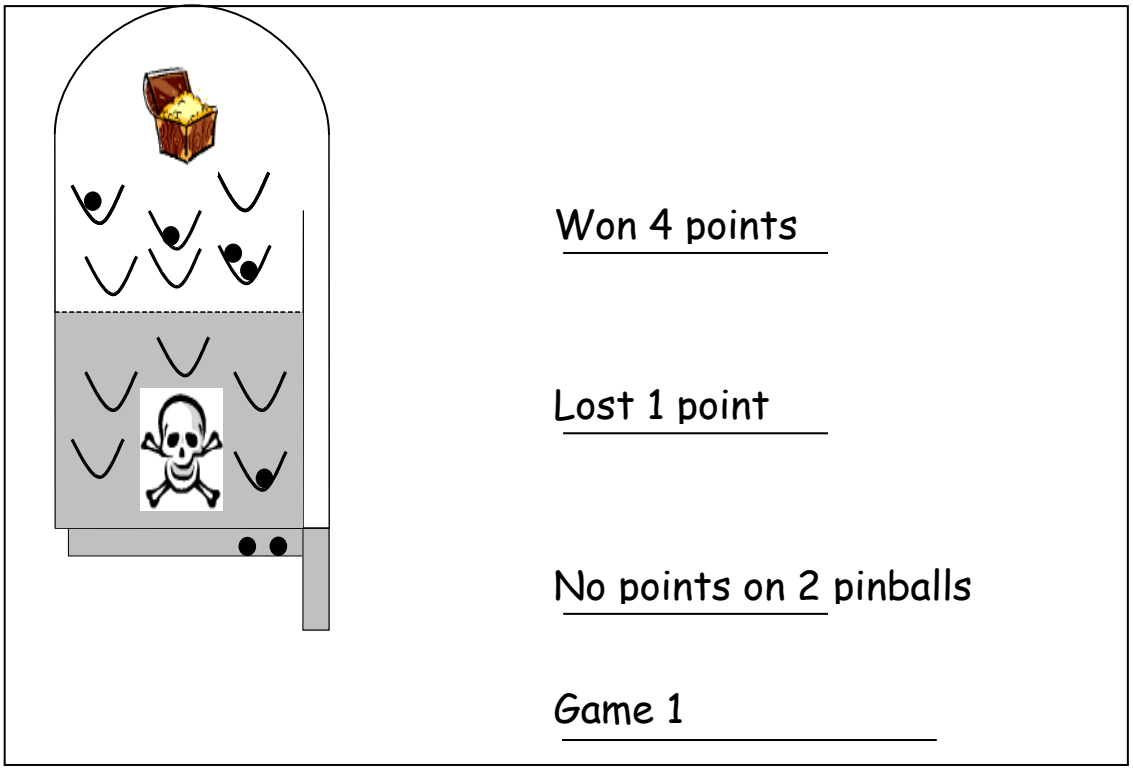
sh032 Question 2 (# flags) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10248	99.0	99.0	99.0
	2 No	105	1.0	1.0	100.0
	Total	10353	100.0	100.0	

sh031 Question 2 (# flags): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	2	.0	.0	.0
	1	6	.1	.1	.1
	2	46	.4	.4	.5
	3	198	1.9	1.9	2.5
	4	251	2.4	2.5	4.9
	5	90	.9	.9	5.8
	6	59	.6	.6	6.4
	7	128	1.2	1.2	7.6
	8	96	.9	.9	8.6
	9	56	.5	.5	9.1
	10	46	.4	.4	9.5
	11	698	6.7	6.8	16.4
	12	5936	57.3	57.9	74.3
	13	91	.9	.9	75.2
	14	72	.7	.7	75.9
	15	2160	20.9	21.1	97.0
	16	144	1.4	1.4	98.4
	17	16	.2	.2	98.5
	18	28	.3	.3	98.8
	19	13	.1	.1	98.9
	20	22	.2	.2	99.2
	21	13	.1	.1	99.3
	22	4	.0	.0	99.3
	23	4	.0	.0	99.4
	24	21	.2	.2	99.6
	25	1	.0	.0	99.6
	26	2	.0	.0	99.6
	27	3	.0	.0	99.6
	28	1	.0	.0	99.6
	29	1	.0	.0	99.6
	30	2	.0	.0	99.7
	32	1	.0	.0	99.7
	33	3	.0	.0	99.7
	34	1	.0	.0	99.7
	36	10	.1	.1	99.8
	37	1	.0	.0	99.8
	38	2	.0	.0	99.8
	40	1	.0	.0	99.9
	41	1	.0	.0	99.9
	44	2	.0	.0	99.9
	48	5	.0	.0	99.9
	50	1	.0	.0	99.9
	51	1	.0	.0	100.0
	60	3	.0	.0	100.0
	82	1	.0	.0	100.0
	91	1	.0	.0	100.0
	Total	10244	98.9	100.0	
Missing	-6 Question 2 omitted	105	1.0		
	-2 Other response	4	.0		
	Total	109	1.1		
Total		10353	100.0		

PAGE 4 OF THE TEACHER'S BOOKLET



In the pinball game, you win one point for each pinball that falls into the top area, where there is a treasure. Look at game 1. There are 4 pinballs in the treasure area.

You lose one point for each pinball that falls into the bottom area, where there is a skull. Look at game 1. There is one pinball in the skull area.

If your pinballs fall into the tube, you do not score. Look at game 1. There are 2 pinballs in the tube.

What is the score for this game? Write your answer on the line.

[Editing: The response recorded on the coding sheet is presented as SH041, with XX recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SH040 by recoding (3 = 1)(else = 2) in SH041. An indicator of whether the child attempted the question was derived as SH042 by recoding (-6 = 2)(else = 1) in SH041.]

sh040 Question 3 (pinball 1) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	8132	78.5	78.5	78.5
	2 No	2221	21.5	21.5	100.0
	Total	10353	100.0	100.0	

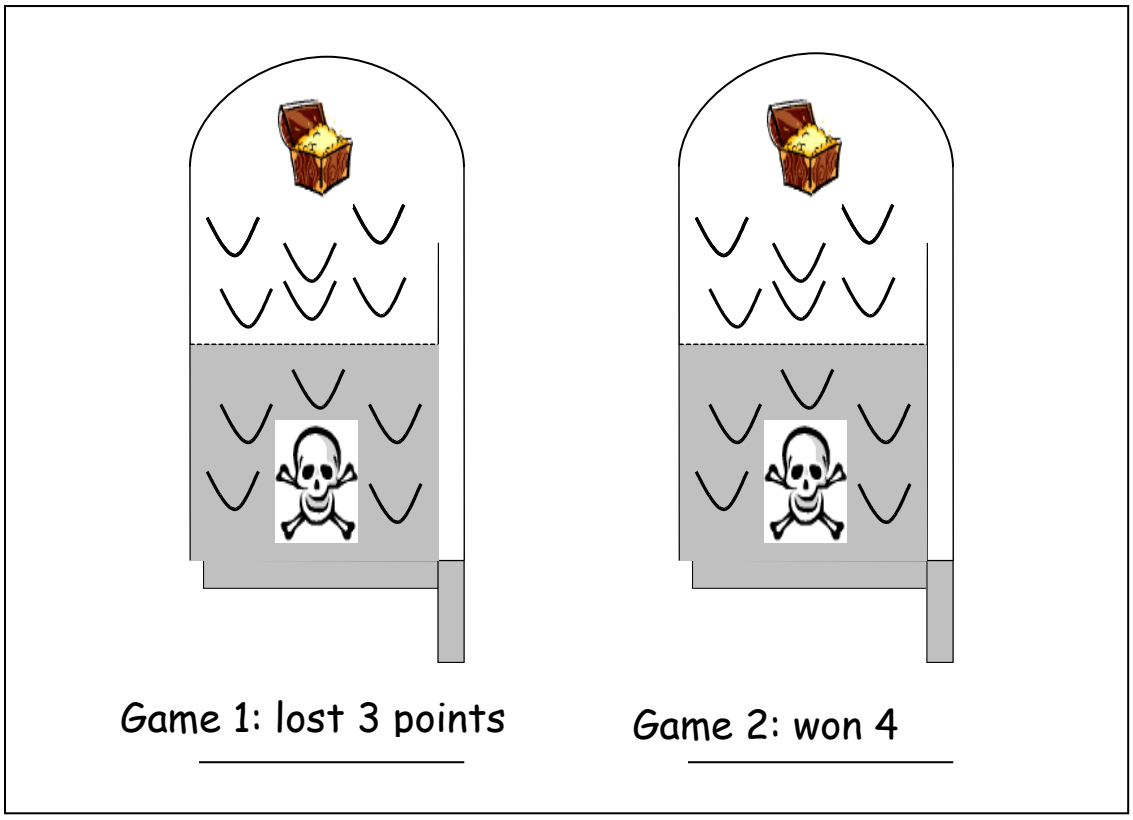
sh042 Question 3 (pinball 1) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10142	98.0	98.0	98.0
	2 No	211	2.0	2.0	100.0
	Total	10353	100.0	100.0	

sh041 Question 3 (pinball 1): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	89	.9	.9	.9
	1	461	4.5	4.6	5.4
	2	162	1.6	1.6	7.0
	3	8132	78.5	80.4	87.5
	4	677	6.5	6.7	94.2
	5	137	1.3	1.4	95.5
	6	27	.3	.3	95.8
	7	82	.8	.8	96.6
	8	24	.2	.2	96.8
	9	7	.1	.1	96.9
	10	6	.1	.1	97.0
	11	13	.1	.1	97.1
	12	11	.1	.1	97.2
	13	21	.2	.2	97.4
	14	7	.1	.1	97.5
	15	199	1.9	2.0	99.4
	16	32	.3	.3	99.8
	17	11	.1	.1	99.9
	18	1	.0	.0	99.9
	19	1	.0	.0	99.9
	20	3	.0	.0	99.9
	21	1	.0	.0	99.9
	22	1	.0	.0	99.9
	23	1	.0	.0	100.0
	24	2	.0	.0	100.0
	25	1	.0	.0	100.0
	53	1	.0	.0	100.0
	75	1	.0	.0	100.0
	Total	10111	97.7	100.0	
Missing	-6 Question 3 omitted	211	2.0		
	-2 Other response	31	.3		
	Total	242	2.3		
Total		10353	100.0		

PAGE 5 OF THE TEACHER'S BOOKLET



Ali played 2 games. When he played Game 1, he lost 3 points. Draw in the 7 pinballs to make him end with a losing score of 3 points.

When he played Game 2 he won 4 points. Draw in the 7 pinballs to make him end with a winning score of 4.

[Editing: The responses recorded on the coding sheet are presented as SH053 to SH055 for game 1 and SH063 to SH065 for game 2, with X recoded to -2 and blanks to -1. If all six responses were omitted then the variables were set to -6 and if all three variables for either game 1 or game 2 were omitted the relevant variables were set to -5. Otherwise, values of -1 were recoded to 0.

A variable for the total numbers of balls drawn in game 1 was calculated as SH056 by summing SH053 to SH055. SH056 was set to -2 if any of SH053 to SH055 were -2 and values of -6 and -5 were copied across. A variable for the total numbers of balls drawn in game 2 was calculated as SH066 in a similar manner.

A variable for the total score of the balls drawn in game 1 was calculated as SH051 = SH053 - SH054. Missing values of -6 and -5 were copied across as -106 and -105 respectively and if SH056 did not equal 7 then SH051 was set to -2. A variable for the total score of the balls drawn in game 2 was calculated as SH061 in a similar manner.

An indicator of whether the child drew a correct combination of balls in game 1 was derived as SH050 by recoding (-3 = 1)(else = 2) in SH051. Similarly, an indicator of whether the child drew a correct combination of balls in game 2 was derived as SH060 by recoding (4 = 1)(else = 2) in SH061. Indicators of whether the child attempted each part of the question were derived as SH052 and SH062 by recoding (-106, -105 = 2)(else = 1) in SH051 and SH061.]

sh050 Question 4, part 1 (pinball 2, game 1) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2714	26.2	26.2	26.2
	2 No	7639	73.8	73.8	100.0
	Total	10353	100.0	100.0	

sh051 Question 4, part 1 (pinball 2, game 1): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-7	78	.8	.9	.9
	-6	11	.1	.1	1.1
	-5	68	.7	.8	1.9
	-4	81	.8	1.0	2.8
	-3	2714	26.2	32.1	35.0
	-2	92	.9	1.1	36.0
	-1	659	6.4	7.8	43.8
	0	694	6.7	8.2	52.1
	1	2383	23.0	28.2	80.3
	2	177	1.7	2.1	82.4
	3	1263	12.2	15.0	97.3
	4	156	1.5	1.8	99.2
	5	42	.4	.5	99.7
	6	7	.1	.1	99.8
	7	20	.2	.2	100.0
	Total	8445	81.6	100.0	
Missing	-106 Question 4 omitted	118	1.1		
	-105 Part 1 omitted	82	.8		
	-102 Did not draw 7 balls	1708	16.5		
	Total	1908	18.4		
Total		10353	100.0		

sh052 Question 4, part 1 (pinball 2, game 1) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10153	98.1	98.1	98.1
	2 No	200	1.9	1.9	100.0
	Total	10353	100.0	100.0	

sh053 Question 4, part 1 (pinball 2, game 1): # balls drawn in white area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	2480	24.0	24.5	24.5
	1	528	5.1	5.2	29.7
	2	1069	10.3	10.5	40.2
	3	1710	16.5	16.9	57.1
	4	3259	31.5	32.1	89.2
	5	796	7.7	7.8	97.1
	6	169	1.6	1.7	98.7
	7	118	1.1	1.2	99.9
	8	7	.1	.1	100.0
	9	5	.0	.0	100.0
	Total	10141	98.0	100.0	
Missing	-6 Question 4 omitted	118	1.1		
	-5 Part 1 omitted	82	.8		
	-2 > 9	12	.1		
	Total	212	2.0		
Total		10353	100.0		

sh054 Question 4, part 1 (pinball 2, game 1): # balls drawn in grey area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	505	4.9	5.0	5.0
	1	812	7.8	8.0	13.0
	2	996	9.6	9.8	22.8
	3	5710	55.2	56.3	79.1
	4	1093	10.6	10.8	89.9
	5	886	8.6	8.7	98.6
	6	40	.4	.4	99.0
	7	95	.9	.9	99.9
	8	6	.1	.1	100.0
	Total	10143	98.0	100.0	
Missing	-6 Question 4 omitted	118	1.1		
	-5 Part 1 omitted	82	.8		
	-2 > 9	10	.1		
	Total	210	2.0		
Total		10353	100.0		

sh055 Question 4, part 1 (pinball 2, game 1): # balls drawn in tube

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	5392	52.1	53.1	53.1
	1	998	9.6	9.8	62.9
	2	1225	11.8	12.1	75.0
	3	529	5.1	5.2	80.2
	4	1942	18.8	19.1	99.3
	5	33	.3	.3	99.7
	6	12	.1	.1	99.8
	7	21	.2	.2	100.0
	8	1	.0	.0	100.0
	Total	10153	98.1	100.0	
Missing	-6 Question 4 omitted	118	1.1		
	-5 Part 1 omitted	82	.8		
	Total	200	1.9		
Total		10353	100.0		

sh056 Question 4, part 1 (pinball 2, game 1): Total # balls drawn

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	.0	.0	.0
	2	12	.1	.1	.2
	3	410	4.0	4.0	4.2
	4	119	1.1	1.2	5.4
	5	141	1.4	1.4	6.8
	6	341	3.3	3.4	10.1
	7	8445	81.6	83.3	93.5
	8	304	2.9	3.0	96.5
	9	146	1.4	1.4	97.9
	10	132	1.3	1.3	99.2
	11	54	.5	.5	99.8
	12	14	.1	.1	99.9
	13	5	.0	.0	100.0
	14	1	.0	.0	100.0
	15	2	.0	.0	100.0
	16	1	.0	.0	100.0
	17	1	.0	.0	100.0
	Total	10133	97.9	100.0	
Missing	-6 Question 4 omitted	118	1.1		
	-5 Part 1 omitted	82	.8		
	-2 Other number (> 9)	20	.2		
	Total	220	2.1		
Total		10353	100.0		

sh060 Question 4, part 2 (pinball 2, game 2) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	4997	48.3	48.3	48.3
	2 No	5356	51.7	51.7	100.0
	Total	10353	100.0	100.0	

sh061 Question 4, part 2 (pinball 2, game 2): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-7	6	.1	.1	.1
	-6	1	.0	.0	.1
	-5	8	.1	.1	.2
	-4	15	.1	.2	.4
	-3	36	.3	.4	.8
	-2	41	.4	.5	1.3
	-1	65	.6	.8	2.1
	0	18	.2	.2	2.4
	1	1851	17.9	22.9	25.3
	2	282	2.7	3.5	28.8
	3	454	4.4	5.6	34.4
	4	4997	48.3	61.9	96.4
	5	149	1.4	1.8	98.2
	6	22	.2	.3	98.5
	7	122	1.2	1.5	100.0
	Total	8067	77.9	100.0	
Missing	-106 Question 4 omitted	118	1.1		
	-105 Part 2 omitted	177	1.7		
	-102 Did not draw 7 balls	1991	19.2		
	Total	2286	22.1		
Total		10353	100.0		

sh062 Question 4, part 2 (pinball 2, game 2) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10058	97.2	97.2	97.2
	2 No	295	2.8	2.8	100.0
	Total	10353	100.0	100.0	

sh063 Question 4, part 2 (pinball 2, game 2): # balls drawn in white area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	77	.7	.8	.8
	1	134	1.3	1.3	2.1
	2	137	1.3	1.4	3.5
	3	215	2.1	2.1	5.6
	4	6186	59.8	61.5	67.1
	5	2706	26.1	26.9	94.1
	6	399	3.9	4.0	98.0
	7	182	1.8	1.8	99.9
	8	14	.1	.1	100.0
	9	1	.0	.0	100.0
	Total	10051	97.1	100.0	
Missing	-6 Question 4 omitted	118	1.1		
	-5 Part 2 omitted	177	1.7		
	-2 > 9	7	.1		
	Total	302	2.9		
Total		10353	100.0		

sh064 Question 4, part 2 (pinball 2, game 2): # balls drawn in grey area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	4104	39.6	40.8	40.8
	1	2865	27.7	28.5	69.3
	2	819	7.9	8.1	77.4
	3	1992	19.2	19.8	97.3
	4	182	1.8	1.8	99.1
	5	55	.5	.5	99.6
	6	13	.1	.1	99.7
	7	15	.1	.1	99.9
	8	11	.1	.1	100.0
	Total	10056	97.1	100.0	
Missing	-6 Question 4 omitted	118	1.1		
	-5 Part 2 omitted	177	1.7		
	-2 > 9	2	.0		
	Total	297	2.9		
Total		10353	100.0		

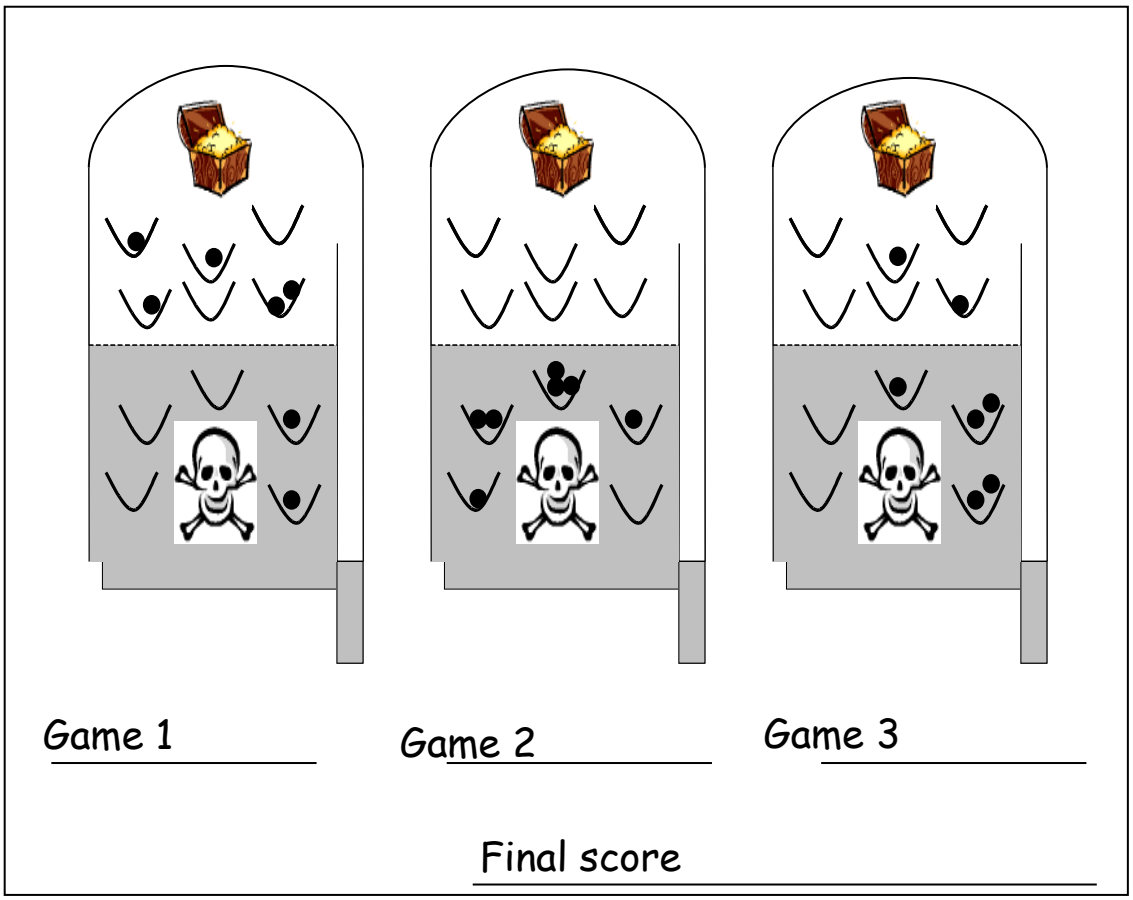
sh065 Question 4, part 2 (pinball 2, game 2): # balls drawn in tube

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	3864	37.3	38.4	38.4
	1	2586	25.0	25.7	64.1
	2	399	3.9	4.0	68.1
	3	3044	29.4	30.3	98.4
	4	74	.7	.7	99.1
	5	14	.1	.1	99.2
	6	63	.6	.6	99.9
	7	6	.1	.1	99.9
	8	8	.1	.1	100.0
	Total	10058	97.2	100.0	
Missing	-6 Question 4 omitted	118	1.1		
	-5 Part 2 omitted	177	1.7		
	Total	295	2.8		
Total		10353	100.0		

sh066 Question 4, part 2 (pinball 2, game 2): Total # balls drawn

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	27	.3	.3	.3
	2	18	.2	.2	.4
	3	49	.5	.5	.9
	4	684	6.6	6.8	7.7
	5	99	1.0	1.0	8.7
	6	469	4.5	4.7	13.4
	7	8067	77.9	80.3	93.7
	8	452	4.4	4.5	98.2
	9	58	.6	.6	98.7
	10	83	.8	.8	99.6
	11	19	.2	.2	99.8
	12	20	.2	.2	100.0
	13	4	.0	.0	100.0
	14	1	.0	.0	100.0
	Total	10050	97.1	100.0	
Missing	-6 Question 4 omitted	118	1.1		
	-5 Part 2 omitted	177	1.7		
	-2 Other number (> 9)	8	.1		
	Total	303	2.9		
Total		10353	100.0		

PAGE 6 OF THE TEACHER'S BOOKLET



Sarah played 3 games. Look at the first game. What was her score for Game 1? Write your answer on the line for Game 1.

What was her score for Game 2? Write your answer on the line for Game 2.

What was her score for Game 3? Write your answer on the line for Game 3.

She wanted to know her final score counting all three games. What was her final score?

[Editing: The numerical components of the responses recorded on the coding sheet are presented as SH073, SH083, SH093 and SH103 for game 1, game 2, game 3 and the final score respectively, with XX recoded to -2 and blanks to -1. The sign components of the responses recorded on the coding sheet are presented as SH074, SH084, SH094 and SH104 for game 1, game 2, game 3 and the final score respectively, with W recoded to 1, L to 2 and blanks to -1. If all eight variables were omitted then they were set to -6 and if both variables for any of the four parts were omitted the relevant variables were set to -5.

A single variable for the response to game 1 was calculated as SH071 by multiplying SH073 by -1 if SH074 = 2. (It is therefore assumed that an absence of a sign indicates a positive score.) Missing values of -6, -5, -2 and -1 were copied across as -106, -105, -102 and -101 respectively. Single variables for the responses to game 2, game 3 and the final score were calculated as SH081, SH091 and SH101 in a similar manner.

An indicator of whether the child got the score correct for game 1 was derived as SH070 by recoding (3 = 1)(else = 2) in SH071. Similarly, indicators of whether the child got the score correct in game 2, game 3 and the final score were derived as SH080, SH090 and SH100 by recoding (-7 = 1)(else = 2) in SH081, (-3 = 1)(else = 2) in SH091 and (-7 = 1)(else = 2) in SH101. Indicators of whether the child attempted each part of the question were derived as SH072, SH082, SH092 and SH102 by recoding (-106, -105 = 2)(else = 1) in SH071 SH081, SH091 and SH101.]

sh070 Question 5, part 1 (pinball 3, game 1) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	7594	73.4	73.4	73.4
	2 No	2759	26.6	26.6	100.0
	Total	10353	100.0	100.0	

sh072 Question 5, part 1 (pinball 3, game 1) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10005	96.6	96.6	96.6
	2 No	348	3.4	3.4	100.0
	Total	10353	100.0	100.0	

sh071 Question 5, part 1 (pinball 3, game 1): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-18	1	.0	.0	.0
	-13	1	.0	.0	.0
	-7	2	.0	.0	.0
	-5	3	.0	.0	.1
	-3	29	.3	.3	.4
	-2	44	.4	.4	.8
	0	14	.1	.1	.9
	1	56	.5	.6	1.5
	2	77	.7	.8	2.3
	3	7594	73.4	76.0	78.2
	4	72	.7	.7	79.0
	5	1736	16.8	17.4	96.3
	6	17	.2	.2	96.5
	7	75	.7	.8	97.2
	8	14	.1	.1	97.4
	9	7	.1	.1	97.5
	10	13	.1	.1	97.6
	11	2	.0	.0	97.6
	12	12	.1	.1	97.7
	13	10	.1	.1	97.8
	14	5	.0	.1	97.9
	15	6	.1	.1	97.9
	16	6	.1	.1	98.0
	17	2	.0	.0	98.0
	18	155	1.5	1.6	99.6
	20	21	.2	.2	99.8
	21	1	.0	.0	99.8
	22	10	.1	.1	99.9
	23	1	.0	.0	99.9
	26	1	.0	.0	99.9
	27	1	.0	.0	99.9
	28	1	.0	.0	99.9
	30	1	.0	.0	99.9
	40	1	.0	.0	99.9
	63	3	.0	.0	100.0
	83	2	.0	.0	100.0
	Total	9996	96.6	100.0	
Missing	-106 Question 5 omitted	132	1.3		
	-105 Part 1 omitted	216	2.1		
	-102 Other response	2	.0		
	-101 Sign only stated	7	.1		
	Total	357	3.4		
Total		10353	100.0		

sh073 Question 5, part 1 (pinball 3, game 1): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	14	.1	.1	.1
	1	56	.5	.6	.7
	2	121	1.2	1.2	1.9
	3	7623	73.6	76.3	78.2
	4	72	.7	.7	78.9
	5	1739	16.8	17.4	96.3
	6	17	.2	.2	96.5
	7	77	.7	.8	97.2
	8	14	.1	.1	97.4
	9	7	.1	.1	97.4
	10	13	.1	.1	97.6
	11	2	.0	.0	97.6
	12	12	.1	.1	97.7
	13	11	.1	.1	97.8
	14	5	.0	.1	97.9
	15	6	.1	.1	97.9
	16	6	.1	.1	98.0
	17	2	.0	.0	98.0
	18	156	1.5	1.6	99.6
	20	21	.2	.2	99.8
	21	1	.0	.0	99.8
	22	10	.1	.1	99.9
	23	1	.0	.0	99.9
	26	1	.0	.0	99.9
	27	1	.0	.0	99.9
	28	1	.0	.0	99.9
	30	1	.0	.0	99.9
	40	1	.0	.0	99.9
	63	3	.0	.0	100.0
	83	2	.0	.0	100.0
	Total	9996	96.6	100.0	
Missing	-6 Question 5 omitted	132	1.3		
	-5 Part 1 omitted	216	2.1		
	-2 > 99	2	.0		
	-1 Sign only stated	7	.1		
	Total	357	3.4		
Total		10353	100.0		

sh074 Question 5, part 1 (pinball 3, game 1): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	1509	14.6	94.8	94.8
	2 Lost	83	.8	5.2	100.0
	Total	1592	15.4	100.0	
Missing	-6 Question 5 omitted	132	1.3		
	-5 Part 1 omitted	216	2.1		
	-1 Score only stated	8413	81.3		
	Total	8761	84.6		
Total		10353	100.0		

sh080 Question 5, part 2 (pinball 3, game 2) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	5825	56.3	56.3	56.3
	2 No	4528	43.7	43.7	100.0
	Total	10353	100.0	100.0	

sh081 Question 5, part 2 (pinball 3, game 2): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-40	2	.0	.0	.0
	-37	1	.0	.0	.0
	-28	1	.0	.0	.0
	-21	1	.0	.0	.1
	-20	1	.0	.0	.1
	-14	1	.0	.0	.1
	-10	2	.0	.0	.1
	-9	1	.0	.0	.1
	-8	13	.1	.1	.2
	-7	5825	56.3	58.4	58.6
	-6	68	.7	.7	59.3
	-5	11	.1	.1	59.4
	-4	33	.3	.3	59.7
	-3	19	.2	.2	59.9
	-2	40	.4	.4	60.3
	-1	22	.2	.2	60.5
	0	3522	34.0	35.3	95.8
	1	13	.1	.1	96.0
	2	26	.3	.3	96.2
	3	23	.2	.2	96.4
	4	17	.2	.2	96.6
	5	12	.1	.1	96.7
	6	33	.3	.3	97.1
	7	264	2.5	2.6	99.7
	8	7	.1	.1	99.8
	9	3	.0	.0	99.8
	10	3	.0	.0	99.8
	11	1	.0	.0	99.8
	12	1	.0	.0	99.9
	14	5	.0	.1	99.9
	15	1	.0	.0	99.9
	18	1	.0	.0	99.9
	20	3	.0	.0	100.0
	27	1	.0	.0	100.0
	28	1	.0	.0	100.0
	60	1	.0	.0	100.0
	80	1	.0	.0	100.0
	Total	9980	96.4	100.0	
Missing	-106 Question 5 omitted	132	1.3		
	-105 Part 2 omitted	196	1.9		
	-101 Sign only stated	45	.4		
	Total	373	3.6		
Total		10353	100.0		

sh082 Question 5, part 2 (pinball 3, game 2) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10025	96.8	96.8	96.8
	2 No	328	3.2	3.2	100.0
	Total	10353	100.0	100.0	

sh083 Question 5, part 2 (pinball 3, game 2): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	3522	34.0	35.3	35.3
	1	35	.3	.4	35.6
	2	66	.6	.7	36.3
	3	42	.4	.4	36.7
	4	50	.5	.5	37.2
	5	23	.2	.2	37.5
	6	101	1.0	1.0	38.5
	7	6089	58.8	61.0	99.5
	8	20	.2	.2	99.7
	9	4	.0	.0	99.7
	10	5	.0	.1	99.8
	11	1	.0	.0	99.8
	12	1	.0	.0	99.8
	14	6	.1	.1	99.8
	15	1	.0	.0	99.9
	18	1	.0	.0	99.9
	20	4	.0	.0	99.9
	21	1	.0	.0	99.9
	27	1	.0	.0	99.9
	28	2	.0	.0	99.9
	37	1	.0	.0	100.0
	40	2	.0	.0	100.0
	60	1	.0	.0	100.0
	80	1	.0	.0	100.0
	Total	9980	96.4	100.0	
Missing	-6 Question 5 omitted	132	1.3		
	-5 Part 2 omitted	196	1.9		
	-1 Sign only stated	45	.4		
	Total	373	3.6		
Total		10353	100.0		

sh084 Question 5, part 2 (pinball 3, game 2): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	60	.6	1.0	1.0
	2 Lost	6173	59.6	99.0	100.0
	Total	6233	60.2	100.0	
Missing	-6 Question 5 omitted	132	1.3		
	-5 Part 2 omitted	196	1.9		
	-1 Score only stated	3792	36.6		
	Total	4120	39.8		
Total		10353	100.0		

sh090 Question 5, part 3 (pinball 3, game 3) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	4759	46.0	46.0	46.0
	2 No	5594	54.0	54.0	100.0
	Total	10353	100.0	100.0	

sh092 Question 5, part 3 (pinball 3, game 3) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9830	94.9	94.9	94.9
	2 No	523	5.1	5.1	100.0
	Total	10353	100.0	100.0	

sh091 Question 5, part 3 (pinball 3, game 3): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-93	1	.0	.0	.0
	-83	1	.0	.0	.0
	-20	1	.0	.0	.0
	-15	1	.0	.0	.0
	-10	1	.0	.0	.1
	-8	11	.1	.1	.2
	-7	70	.7	.7	.9
	-6	7	.1	.1	.9
	-5	441	4.3	4.5	5.5
	-4	70	.7	.7	6.2
	-3	4759	46.0	48.6	54.8
	-2	126	1.2	1.3	56.0
	-1	15	.1	.2	56.2
	0	1713	16.5	17.5	73.7
	1	80	.8	.8	74.5
	2	1850	17.9	18.9	93.4
	3	365	3.5	3.7	97.1
	4	25	.2	.3	97.4
	5	71	.7	.7	98.1
	6	20	.2	.2	98.3
	7	93	.9	.9	99.2
	8	22	.2	.2	99.5
	9	15	.1	.2	99.6
	10	7	.1	.1	99.7
	11	1	.0	.0	99.7
	12	6	.1	.1	99.8
	13	5	.0	.1	99.8
	14	5	.0	.1	99.9
	15	1	.0	.0	99.9
	19	1	.0	.0	99.9
	20	1	.0	.0	99.9
	21	4	.0	.0	99.9
	23	1	.0	.0	99.9
	24	1	.0	.0	100.0
	28	1	.0	.0	100.0
	32	1	.0	.0	100.0
	52	1	.0	.0	100.0
	90	1	.0	.0	100.0
	Total	9795	94.6	100.0	
Missing	-106 Question 5 omitted	132	1.3		
	-105 Part 3 omitted	391	3.8		
	-102 Other response	3	.0		
	-101 Sign only stated	32	.3		
	Total	558	5.4		
Total		10353	100.0		

sh093 Question 5, part 3 (pinball 3, game 3): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1713	16.5	17.5	17.5
	1	95	.9	1.0	18.5
	2	1976	19.1	20.2	38.6
	3	5124	49.5	52.3	90.9
	4	95	.9	1.0	91.9
	5	512	4.9	5.2	97.1
	6	27	.3	.3	97.4
	7	163	1.6	1.7	99.1
	8	33	.3	.3	99.4
	9	15	.1	.2	99.6
	10	8	.1	.1	99.7
	11	1	.0	.0	99.7
	12	6	.1	.1	99.7
	13	5	.0	.1	99.8
	14	5	.0	.1	99.8
	15	2	.0	.0	99.8
	19	1	.0	.0	99.9
	20	2	.0	.0	99.9
	21	4	.0	.0	99.9
	23	1	.0	.0	99.9
	24	1	.0	.0	99.9
	28	1	.0	.0	99.9
	32	1	.0	.0	100.0
	52	1	.0	.0	100.0
	83	1	.0	.0	100.0
	90	1	.0	.0	100.0
	93	1	.0	.0	100.0
	Total	9795	94.6	100.0	
Missing	-6 Question 5 omitted	132	1.3		
	-5 Part 3 omitted	391	3.8		
	-2 > 99	3	.0		
	-1 Sign only stated	32	.3		
	Total	558	5.4		
Total		10353	100.0		

sh094 Question 5, part 3 (pinball 3, game 3): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	263	2.5	4.5	4.5
	2 Lost	5573	53.8	95.5	100.0
	Total	5836	56.4	100.0	
Missing	-6 Question 5 omitted	132	1.3		
	-5 Part 3 omitted	391	3.8		
	-1 Score only stated	3994	38.6		
	Total	4517	43.6		
Total		10353	100.0		

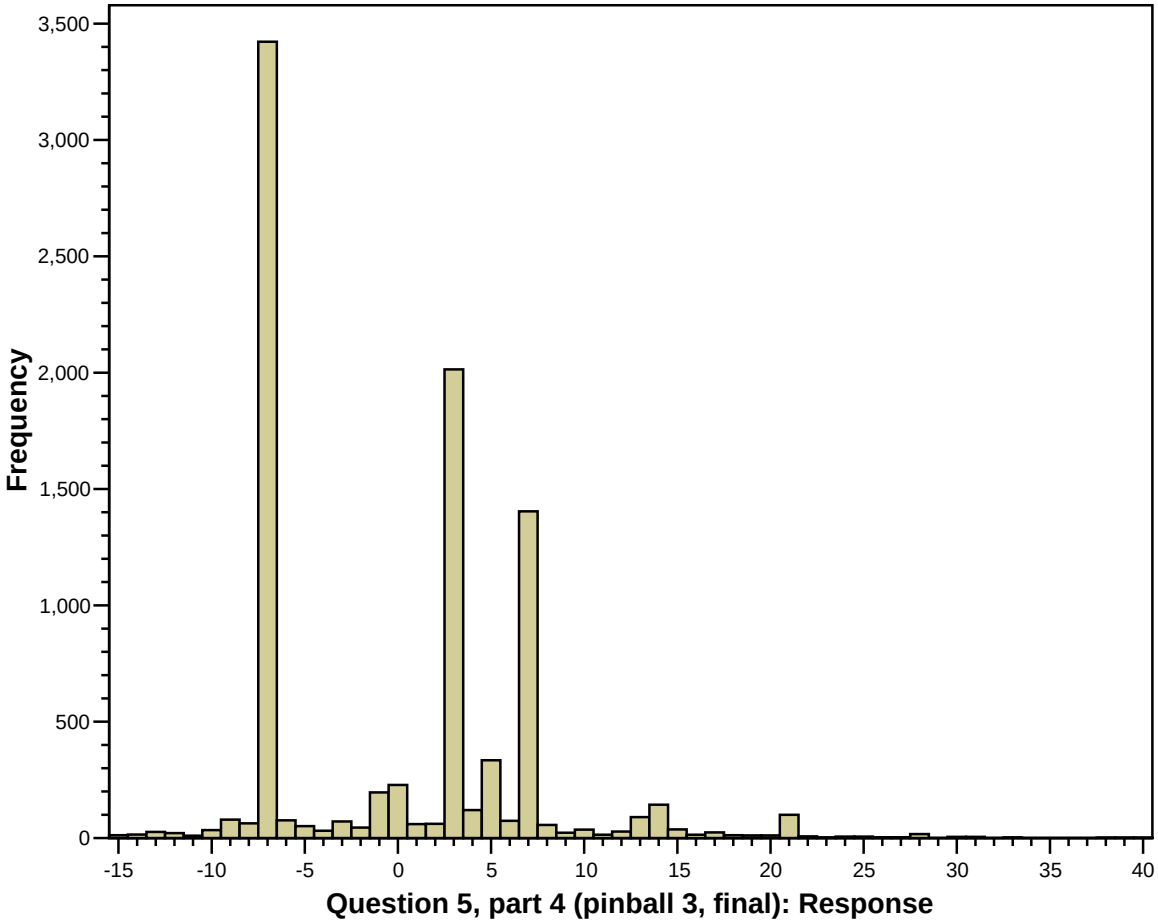
sh100 Question 5, part 4 (pinball 3, final) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3422	33.1	33.1	33.1
	2 No	6931	66.9	66.9	100.0
	Total	10353	100.0	100.0	

sh102 Question 5, part 4 (pinball 3, final) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9157	88.4	88.4	88.4
	2 No	1196	11.6	11.6	100.0
	Total	10353	100.0	100.0	

sh101 Question 5, part 4 (pinball 3, final): Response



plus the following missing values and outliers <-15 or >40:

sh101 Question 5, part 4 (pinball 3, final): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-97	1	.1	5.3	5.3
	-67	1	.1	5.3	10.5
	-28	1	.1	5.3	15.8
	-19	1	.1	5.3	21.1
	-17	3	.2	15.8	36.8
	-16	4	.3	21.1	57.9
	41	1	.1	5.3	63.2
	42	2	.2	10.5	73.7
	44	1	.1	5.3	78.9
	47	1	.1	5.3	84.2
	51	1	.1	5.3	89.5
	54	1	.1	5.3	94.7
	84	1	.1	5.3	100.0
	Total	19	1.5	100.0	
Missing	-106 Question 5 omitted	132	10.6		
	-105 Part 4 omitted	1064	85.3		
	-102 Other response	11	.9		
	-101 Sign only stated	22	1.8		
	Total	1229	98.5		
Total		1248	100.0		

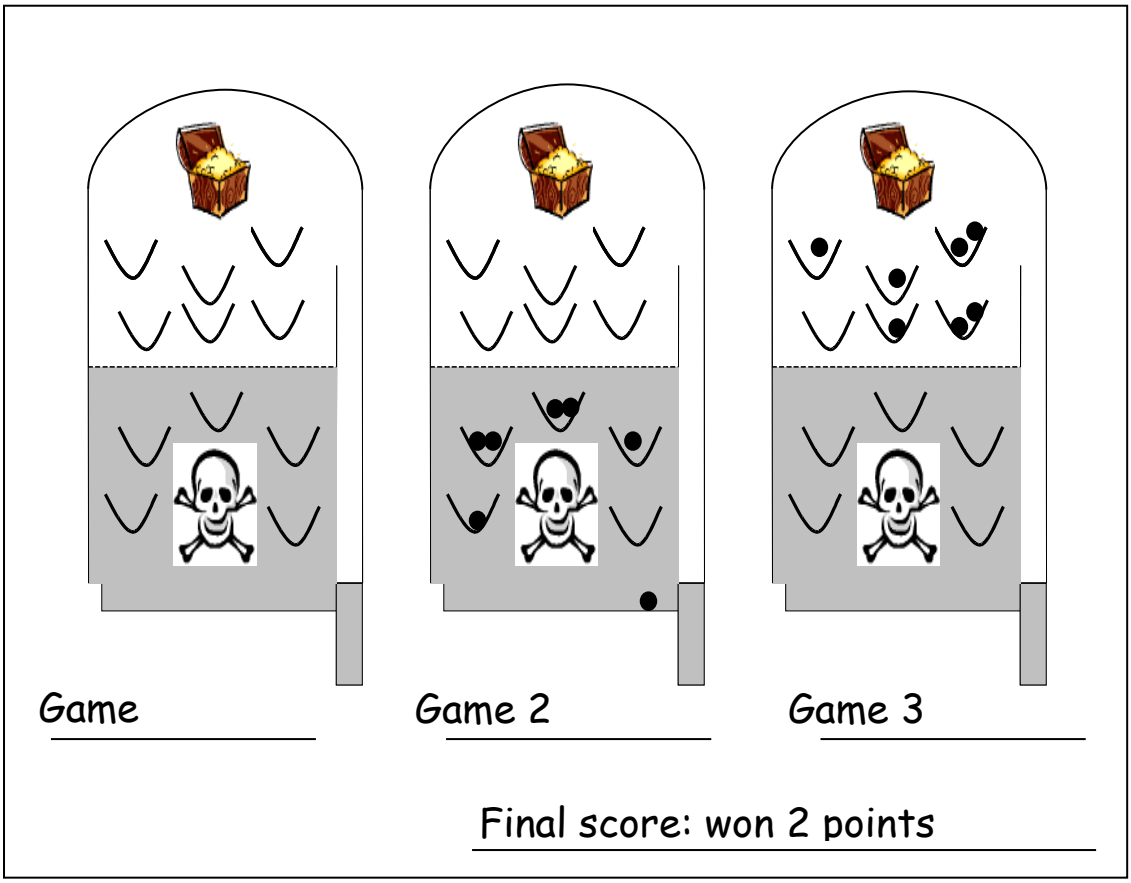
sh103 Question 5, part 4 (pinball 3, final): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	228	2.2	2.5	2.5
	1	256	2.5	2.8	5.3
	2	106	1.0	1.2	6.5
	3	2085	20.1	22.9	29.3
	4	151	1.5	1.7	31.0
	5	385	3.7	4.2	35.2
	6	150	1.4	1.6	36.8
	7	4826	46.6	52.9	89.7
	8	119	1.1	1.3	91.0
	9	102	1.0	1.1	92.2
	10	70	.7	.8	92.9
	11	24	.2	.3	93.2
	12	49	.5	.5	93.7
	13	116	1.1	1.3	95.0
	14	158	1.5	1.7	96.7
	15	49	.5	.5	97.3
	16	18	.2	.2	97.5
	17	27	.3	.3	97.8
	18	12	.1	.1	97.9
	19	12	.1	.1	98.0
	20	11	.1	.1	98.1
	21	100	1.0	1.1	99.2
	22	7	.1	.1	99.3
	23	2	.0	.0	99.3
	24	6	.1	.1	99.4
	25	6	.1	.1	99.5
	26	3	.0	.0	99.5
	27	3	.0	.0	99.5
	28	18	.2	.2	99.7
	30	5	.0	.1	99.8
	31	5	.0	.1	99.8
	33	2	.0	.0	99.9
	38	1	.0	.0	99.9
	39	1	.0	.0	99.9
	40	1	.0	.0	99.9
	41	1	.0	.0	99.9
	42	2	.0	.0	99.9
	44	1	.0	.0	99.9
	47	1	.0	.0	99.9
	51	1	.0	.0	100.0
	54	1	.0	.0	100.0
	67	1	.0	.0	100.0
	84	1	.0	.0	100.0
	97	1	.0	.0	100.0
	Total	9124	88.1	100.0	
Missing	-6 Question 5 omitted	132	1.3		
	-5 Part 4 omitted	1064	10.3		
	-2 > 99	11	.1		
	-1 Sign only stated	22	.2		
	Total	1229	11.9		
Total		10353	100.0		

sh104 Question 5, part 4 (pinball 3, final): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	170	1.6	3.9	3.9
	2 Lost	4187	40.4	96.1	100.0
	Total	4357	42.1	100.0	
Missing	-6 Question 5 omitted	132	1.3		
	-5 Part 4 omitted	1064	10.3		
	-1 Score only stated	4800	46.4		
	Total	5996	57.9		
Total		10353	100.0		

PAGE 7 OF THE TEACHER'S BOOKLET



Andrew also played 3 games. He can't remember what happened in the first game.

What was his score for Game 2? Write your answer on the line for Game 2.

What was his score for Game 3? Write your answer on the line for Game 3.

He wrote down his final score counting all three games. It was a winning score of 2 points. What happened in the first game? Write his score for Game 1 on the line.

[Editing: The numerical components of the responses recorded on the coding sheet are presented as SH113, SH123 and SH133 for game 2, game 3 and game 1 respectively, with XX recoded to -2 and blanks to -1. Note that the games are arranged in the order in which the child was instructed to answer. The sign components of the responses recorded on the coding sheet are presented as SH114, SH124 and SH134 for game 2, game 3 and game 1 respectively, with W recoded to 1, L to 2 and blanks to -1. If all six variables were omitted then they were set to -6 and if both variables for any of the three parts were omitted the relevant variables were set to -5.

A single variable for the response to game 2 was calculated as SH111 by multiplying SH113 by -1 if SH114 = 2. (It is therefore assumed that an absence of a sign indicates a positive score.) Missing values of -6, -5, -2 and -1 were copied across as -106, -105, -102 and -101 respectively. Single variables for the responses to game 3 and game 1 were calculated as SH121 and SH131 in a similar manner.

An indicator of whether the child got the score correct for game 2 was derived as SH110 by recoding (-6 = 1)(else = 2) in SH111. Similarly, indicators of whether the child got the score correct in game 3 and game 1 were derived as SH120 and SH130 by recoding (7 = 1)(else = 2) in SH121 and (1 = 1)(else = 2) in SH131. Indicators of whether the child attempted each part of the question were derived as SH112, SH122 and SH132 by recoding (-106, -105 = 2)(else = 1) in SH111, SH121 and SH131.]

sh110 Question 6, part 1 (pinball 4, game 2) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	5766	55.7	55.7	55.7
	2 No	4587	44.3	44.3	100.0
	Total	10353	100.0	100.0	

sh111 Question 6, part 1 (pinball 4, game 2): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-97	1	.0	.0	.0
	-24	2	.0	.0	.0
	-18	1	.0	.0	.0
	-16	1	.0	.0	.1
	-12	2	.0	.0	.1
	-11	1	.0	.0	.1
	-9	5	.0	.1	.1
	-8	14	.1	.1	.3
	-7	473	4.6	4.8	5.1
	-6	5766	55.7	58.4	63.5
	-5	73	.7	.7	64.2
	-4	12	.1	.1	64.4
	-3	13	.1	.1	64.5
	-2	36	.3	.4	64.8
	-1	26	.3	.3	65.1
	0	2851	27.5	28.9	94.0
	1	111	1.1	1.1	95.1
	2	43	.4	.4	95.6
	3	17	.2	.2	95.7
	4	13	.1	.1	95.9
	5	41	.4	.4	96.3
	6	285	2.8	2.9	99.2
	7	61	.6	.6	99.8
	8	6	.1	.1	99.8
	9	3	.0	.0	99.9
	10	3	.0	.0	99.9
	11	1	.0	.0	99.9
	13	1	.0	.0	99.9
	20	2	.0	.0	99.9
	21	1	.0	.0	100.0
	22	1	.0	.0	100.0
	28	1	.0	.0	100.0
	80	1	.0	.0	100.0
	90	1	.0	.0	100.0
	Total	9869	95.3	100.0	
Missing	-106 Question 6 omitted	263	2.5		
	-105 Part 1 omitted	178	1.7		
	-102 Other response	2	.0		
	-101 Sign only stated	41	.4		
	Total	484	4.7		
Total		10353	100.0		

sh112 Question 6, part 1 (pinball 4, game 2) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9912	95.7	95.7	95.7
	2 No	441	4.3	4.3	100.0
	Total	10353	100.0	100.0	

sh113 Question 6, part 1 (pinball 4, game 2): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	2851	27.5	28.9	28.9
	1	137	1.3	1.4	30.3
	2	79	.8	.8	31.1
	3	30	.3	.3	31.4
	4	25	.2	.3	31.6
	5	114	1.1	1.2	32.8
	6	6051	58.4	61.3	94.1
	7	534	5.2	5.4	99.5
	8	20	.2	.2	99.7
	9	8	.1	.1	99.8
	10	3	.0	.0	99.8
	11	2	.0	.0	99.8
	12	2	.0	.0	99.9
	13	1	.0	.0	99.9
	16	1	.0	.0	99.9
	18	1	.0	.0	99.9
	20	2	.0	.0	99.9
	21	1	.0	.0	99.9
	22	1	.0	.0	99.9
	24	2	.0	.0	100.0
	28	1	.0	.0	100.0
	80	1	.0	.0	100.0
	90	1	.0	.0	100.0
	97	1	.0	.0	100.0
	Total	9869	95.3	100.0	
Missing	-6 Question 6 omitted	263	2.5		
	-5 Part 1 omitted	178	1.7		
	-2 > 99	2	.0		
	-1 Sign only stated	41	.4		
	Total	484	4.7		
Total		10353	100.0		

sh114 Question 6, part 1 (pinball 4, game 2): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	43	.4	.7	.7
	2 Lost	6523	63.0	99.3	100.0
	Total	6566	63.4	100.0	
Missing	-6 Question 5 omitted	263	2.5		
	-5 Part 1 omitted	178	1.7		
	-1 Score only stated	3346	32.3		
	Total	3787	36.6		
Total		10353	100.0		

sh120 Question 6, part 2 (pinball 4, game 3) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9054	87.5	87.5	87.5
	2 No	1299	12.5	12.5	100.0
	Total	10353	100.0	100.0	

sh122 Question 6, part 2 (pinball 4, game 3) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9926	95.9	95.9	95.9
	2 No	427	4.1	4.1	100.0
	Total	10353	100.0	100.0	

sh121 Question 6, part 2 (pinball 4, game 3): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-28	2	.0	.0	.0
	-7	69	.7	.7	.7
	-6	2	.0	.0	.7
	-5	3	.0	.0	.8
	-4	3	.0	.0	.8
	-3	2	.0	.0	.8
	-2	4	.0	.0	.9
	-1	3	.0	.0	.9
	0	65	.6	.7	1.5
	1	165	1.6	1.7	3.2
	2	91	.9	.9	4.1
	3	111	1.1	1.1	5.2
	4	23	.2	.2	5.5
	5	40	.4	.4	5.9
	6	35	.3	.4	6.2
	7	9054	87.5	91.4	97.6
	8	19	.2	.2	97.8
	9	7	.1	.1	97.9
	10	3	.0	.0	97.9
	11	1	.0	.0	97.9
	12	16	.2	.2	98.1
	13	3	.0	.0	98.1
	14	11	.1	.1	98.2
	15	1	.0	.0	98.2
	16	4	.0	.0	98.3
	18	4	.0	.0	98.3
	20	3	.0	.0	98.3
	21	1	.0	.0	98.3
	23	1	.0	.0	98.4
	24	4	.0	.0	98.4
	26	1	.0	.0	98.4
	28	138	1.3	1.4	99.8
	31	1	.0	.0	99.8
	32	5	.0	.1	99.9
	34	2	.0	.0	99.9
	35	2	.0	.0	99.9
	37	1	.0	.0	99.9
	40	2	.0	.0	99.9
	57	1	.0	.0	99.9
	67	6	.1	.1	100.0
	Total	9909	95.7	100.0	
Missing	-106 Question 6 omitted	263	2.5		
	-105 Part 2 omitted	164	1.6		
	-102 Other response	1	.0		
	-101 Sign only stated	16	.2		
	Total	444	4.3		
Total		10353	100.0		

sh123 Question 6, part 2 (pinball 4, game 3): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	65	.6	.7	.7
	1	168	1.6	1.7	2.4
	2	95	.9	1.0	3.3
	3	113	1.1	1.1	4.5
	4	26	.3	.3	4.7
	5	43	.4	.4	5.1
	6	37	.4	.4	5.5
	7	9123	88.1	92.1	97.6
	8	19	.2	.2	97.8
	9	7	.1	.1	97.9
	10	3	.0	.0	97.9
	11	1	.0	.0	97.9
	12	16	.2	.2	98.1
	13	3	.0	.0	98.1
	14	11	.1	.1	98.2
	15	1	.0	.0	98.2
	16	4	.0	.0	98.2
	18	4	.0	.0	98.3
	20	3	.0	.0	98.3
	21	1	.0	.0	98.3
	23	1	.0	.0	98.3
	24	4	.0	.0	98.4
	26	1	.0	.0	98.4
	28	140	1.4	1.4	99.8
	31	1	.0	.0	99.8
	32	5	.0	.1	99.9
	34	2	.0	.0	99.9
	35	2	.0	.0	99.9
	37	1	.0	.0	99.9
	40	2	.0	.0	99.9
	57	1	.0	.0	99.9
	67	6	.1	.1	100.0
	Total	9909	95.7	100.0	
Missing	-6 Question 6 omitted	263	2.5		
	-5 Part 2 omitted	164	1.6		
	-2 > 99	1	.0		
	-1 Sign only stated	16	.2		
	Total	444	4.3		
Total		10353	100.0		

sh124 Question 6, part 2 (pinball 4, game 3): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	1961	18.9	95.5	95.5
	2 Lost	93	.9	4.5	100.0
	Total	2054	19.8	100.0	
Missing	-6 Question 5 omitted	263	2.5		
	-5 Part 2 omitted	164	1.6		
	-1 Score only stated	7872	76.0		
	Total	8299	80.2		
Total		10353	100.0		

sh130 Question 6, part 3 (pinball 4, game 1) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	4585	44.3	44.3	44.3
	2 No	5768	55.7	55.7	100.0
	Total	10353	100.0	100.0	

sh132 Question 6, part 3 (pinball 4, game 1) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	8323	80.4	80.4	80.4
	2 No	2030	19.6	19.6	100.0
	Total	10353	100.0	100.0	

sh131 Question 6, part 3 (pinball 4, game 1): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-30	1	.0	.0	.0
	-27	1	.0	.0	.0
	-24	2	.0	.0	.0
	-22	2	.0	.0	.1
	-20	30	.3	.4	.4
	-19	2	.0	.0	.5
	-18	2	.0	.0	.5
	-17	3	.0	.0	.5
	-15	2	.0	.0	.5
	-14	2	.0	.0	.6
	-13	4	.0	.0	.6
	-12	2	.0	.0	.6
	-11	12	.1	.1	.8
	-9	1	.0	.0	.8
	-8	5	.0	.1	.9
	-7	71	.7	.9	1.7
	-6	49	.5	.6	2.3
	-5	469	4.5	5.7	8.0
	-4	43	.4	.5	8.5
	-3	41	.4	.5	9.0
	-2	23	.2	.3	9.3
	-1	118	1.1	1.4	10.7
	0	1251	12.1	15.1	25.8
	1	4585	44.3	55.4	81.2
	2	808	7.8	9.8	90.9
	3	181	1.7	2.2	93.1
	4	82	.8	1.0	94.1
	5	271	2.6	3.3	97.4
	6	35	.3	.4	97.8
	7	94	.9	1.1	98.9
	8	14	.1	.2	99.1
	9	26	.3	.3	99.4
	10	8	.1	.1	99.5
	11	11	.1	.1	99.6
	12	10	.1	.1	99.7
	13	4	.0	.0	99.8
	15	5	.0	.1	99.9
	16	1	.0	.0	99.9
	18	1	.0	.0	99.9
	19	2	.0	.0	99.9
	20	5	.0	.1	100.0
	22	1	.0	.0	100.0
	31	2	.0	.0	100.0
	Total	8282	80.0	100.0	
Missing	-106 Question 6 omitted	263	2.5		
	-105 Part 3 omitted	1767	17.1		
	-102 Other response	3	.0		
	-101 Sign only stated	38	.4		
	Total	2071	20.0		
Total		10353	100.0		

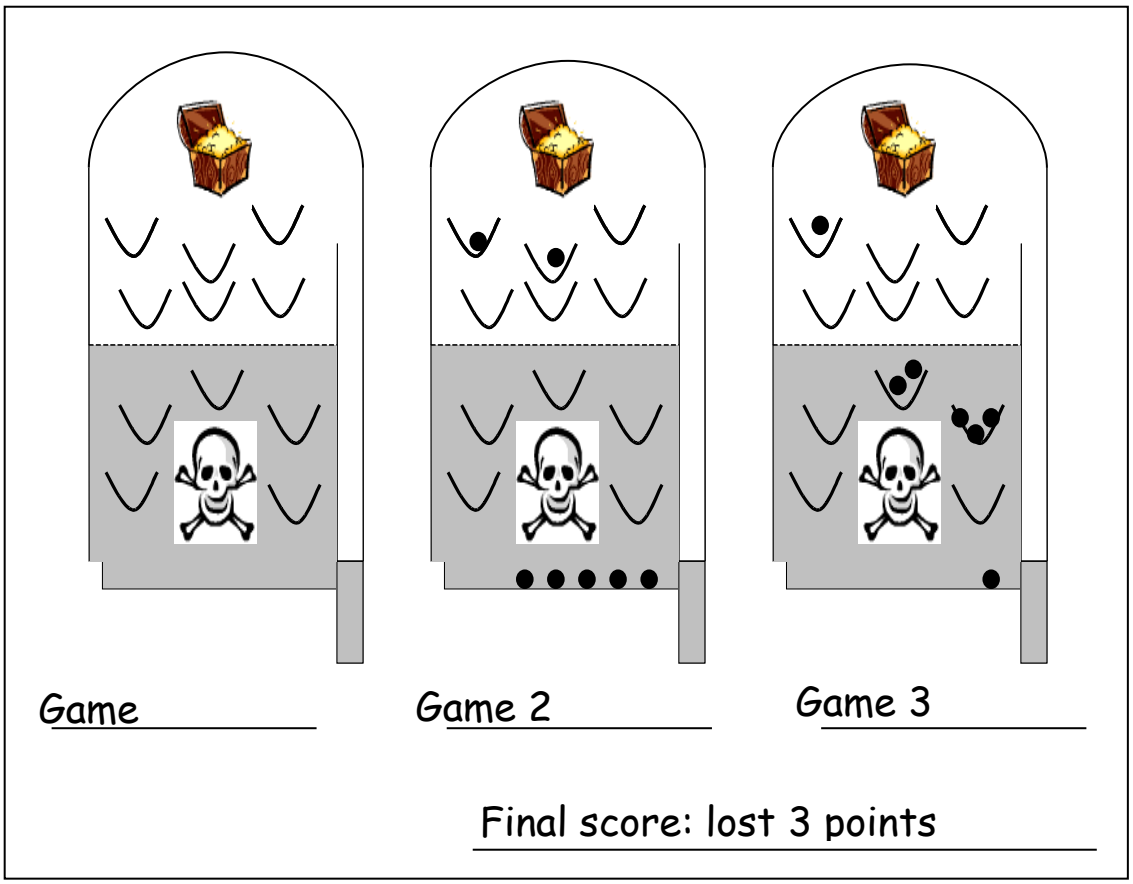
sh133 Question 6, part 3 (pinball 4, game 1): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1251	12.1	15.1	15.1
	1	4703	45.4	56.8	71.9
	2	831	8.0	10.0	81.9
	3	222	2.1	2.7	84.6
	4	125	1.2	1.5	86.1
	5	740	7.1	8.9	95.0
	6	84	.8	1.0	96.1
	7	165	1.6	2.0	98.1
	8	19	.2	.2	98.3
	9	27	.3	.3	98.6
	10	8	.1	.1	98.7
	11	23	.2	.3	99.0
	12	12	.1	.1	99.1
	13	8	.1	.1	99.2
	14	2	.0	.0	99.3
	15	7	.1	.1	99.3
	16	1	.0	.0	99.3
	17	3	.0	.0	99.4
	18	3	.0	.0	99.4
	19	4	.0	.0	99.5
	20	35	.3	.4	99.9
	22	3	.0	.0	99.9
	24	2	.0	.0	100.0
	27	1	.0	.0	100.0
	30	1	.0	.0	100.0
	31	2	.0	.0	100.0
	Total	8282	80.0	100.0	
Missing	-6 Question 6 omitted	263	2.5		
	-5 Part 3 omitted	1767	17.1		
	-2 > 99	3	.0		
	-1 Sign only stated	38	.4		
	Total	2071	20.0		
Total		10353	100.0		

sh134 Question 6, part 3 (pinball 4, game 1): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	1378	13.3	59.7	59.7
	2 Lost	929	9.0	40.3	100.0
	Total	2307	22.3	100.0	
Missing	-6 Question 5 omitted	263	2.5		
	-5 Part 3 omitted	1767	17.1		
	-1 Score only stated	6016	58.1		
	Total	8046	77.7		
Total		10353	100.0		

PAGE 8 OF THE TEACHER'S BOOKLET



Sandra played 3 games. She can't remember what happened in the first game.

What was her score for Game 2? Write your answer on the line for Game 2.

What was her score for Game 3? Write your answer on the line for Game 3.

She wrote down her final score counting all three games. It was a losing score of 3 points. What happened in the first game? Write her score for Game 1 on the line.

[Editing: The numerical components of the responses recorded on the coding sheet are presented as SH143, SH153 and SH163 for game 2, game 3 and game 1 respectively, with XX recoded to -2 and blanks to -1. Note that the games are arranged in the order in which the child was instructed to answer. The sign components of the responses recorded on the coding sheet are presented as SH144, SH154 and SH164 for game 2, game 3 and game 1 respectively, with W recoded to 1, L to 2 and blanks to -1. If all six variables were omitted then they were set to -6 and if both variables for any of the three parts were omitted the relevant variables were set to -5.

A single variable for the response to game 2 was calculated as SH141 by multiplying SH143 by -1 if SH144 = 2. (It is therefore assumed that an absence of a sign indicates a positive score.) Missing values of -6, -5, -2 and -1 were copied across as -106, -105, -102 and -101 respectively. Single variables for the responses to game 3 and game 1 were calculated as SH151 and SH161 in a similar manner.

An indicator of whether the child got the score correct for game 2 was derived as SH140 by recoding (2 = 1)(else = 2) in SH141. Similarly, indicators of whether the child got the score correct in game 3 and game 1 were derived as SH150 and SH160 by recoding (-4 = 1)(else = 2) in SH151 and (-1 = 1)(else = 2) in SH161. Indicators of whether the child attempted each part of the question were derived as SH142, SH152 and SH162 by recoding (-106, -105 = 2)(else = 1) in SH141, SH151 and SH161.]

sh140 Question 7, part 1 (pinball 5, game 2) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	8896	85.9	85.9	85.9
	2 No	1457	14.1	14.1	100.0
	Total	10353	100.0	100.0	

sh141 Question 7, part 1 (pinball 5, game 2): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-93	1	.0	.0	.0
	-40	1	.0	.0	.0
	-12	1	.0	.0	.0
	-11	1	.0	.0	.0
	-8	5	.0	.1	.1
	-7	12	.1	.1	.2
	-6	6	.1	.1	.3
	-5	72	.7	.7	1.0
	-4	9	.1	.1	1.1
	-3	142	1.4	1.4	2.5
	-2	85	.8	.9	3.4
	-1	6	.1	.1	3.5
	0	230	2.2	2.3	5.8
	1	47	.5	.5	6.3
	2	8896	85.9	90.3	96.5
	3	46	.4	.5	97.0
	4	30	.3	.3	97.3
	5	37	.4	.4	97.7
	6	8	.1	.1	97.8
	7	41	.4	.4	98.2
	8	164	1.6	1.7	99.8
	9	3	.0	.0	99.9
	10	2	.0	.0	99.9
	12	3	.0	.0	99.9
	13	1	.0	.0	99.9
	15	1	.0	.0	99.9
	18	1	.0	.0	100.0
	22	1	.0	.0	100.0
	27	1	.0	.0	100.0
	28	1	.0	.0	100.0
	31	1	.0	.0	100.0
	Total	9855	95.2	100.0	
Missing	-106 Question 7 omitted	356	3.4		
	-105 Part 1 omitted	127	1.2		
	-102 Other response	1	.0		
	-101 Sign only stated	14	.1		
	Total	498	4.8		
Total		10353	100.0		

sh142 Question 7, part 1 (pinball 5, game 2) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9870	95.3	95.3	95.3
	2 No	483	4.7	4.7	100.0
	Total	10353	100.0	100.0	

sh143 Question 7, part 1 (pinball 5, game 2): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	230	2.2	2.3	2.3
	1	53	.5	.5	2.9
	2	8981	86.7	91.1	94.0
	3	188	1.8	1.9	95.9
	4	39	.4	.4	96.3
	5	109	1.1	1.1	97.4
	6	14	.1	.1	97.6
	7	53	.5	.5	98.1
	8	169	1.6	1.7	99.8
	9	3	.0	.0	99.8
	10	2	.0	.0	99.9
	11	1	.0	.0	99.9
	12	4	.0	.0	99.9
	13	1	.0	.0	99.9
	15	1	.0	.0	99.9
	18	1	.0	.0	99.9
	22	1	.0	.0	99.9
	27	1	.0	.0	100.0
	28	1	.0	.0	100.0
	31	1	.0	.0	100.0
	40	1	.0	.0	100.0
	93	1	.0	.0	100.0
	Total	9855	95.2	100.0	
Missing	-6 Question 7 omitted	356	3.4		
	-5 Part 1 omitted	127	1.2		
	-2 > 99	1	.0		
	-1 Sign only stated	14	.1		
	Total	498	4.8		
Total		10353	100.0		

sh144 Question 7, part 1 (pinball 5, game 2): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	1820	17.6	83.7	83.7
	2 Lost	355	3.4	16.3	100.0
	Total	2175	21.0	100.0	
Missing	-6 Question 5 omitted	356	3.4		
	-5 Part 1 omitted	127	1.2		
	-1 Score only stated	7695	74.3		
	Total	8178	79.0		
Total		10353	100.0		

sh150 Question 7, part 2 (pinball 5, game 3) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	4697	45.4	45.4	45.4
	2 No	5656	54.6	54.6	100.0
	Total	10353	100.0	100.0	

sh151 Question 7, part 2 (pinball 5, game 3): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-94	1	.0	.0	.0
	-20	1	.0	.0	.0
	-16	1	.0	.0	.0
	-13	1	.0	.0	.0
	-9	1	.0	.0	.1
	-8	1	.0	.0	.1
	-7	33	.3	.3	.4
	-6	175	1.7	1.8	2.2
	-5	652	6.3	6.8	9.0
	-4	4697	45.4	48.9	57.9
	-3	122	1.2	1.3	59.2
	-2	56	.5	.6	59.8
	-1	163	1.6	1.7	61.5
	0	1271	12.3	13.2	74.7
	1	1943	18.8	20.2	94.9
	2	45	.4	.5	95.4
	3	35	.3	.4	95.8
	4	156	1.5	1.6	97.4
	5	72	.7	.7	98.2
	6	110	1.1	1.1	99.3
	7	38	.4	.4	99.7
	8	8	.1	.1	99.8
	9	4	.0	.0	99.8
	10	6	.1	.1	99.9
	11	2	.0	.0	99.9
	22	2	.0	.0	99.9
	30	1	.0	.0	99.9
	31	2	.0	.0	100.0
	40	1	.0	.0	100.0
	60	2	.0	.0	100.0
	67	1	.0	.0	100.0
	Total	9603	92.8	100.0	
Missing	-106 Question 7 omitted	356	3.4		
	-105 Part 2 omitted	370	3.6		
	-102 Other response	3	.0		
	-101 Sign only stated	21	.2		
	Total	750	7.2		
Total		10353	100.0		

sh152 Question 7, part 2 (pinball 5, game 3) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9627	93.0	93.0	93.0
	2 No	726	7.0	7.0	100.0
	Total	10353	100.0	100.0	

sh153 Question 7, part 2 (pinball 5, game 3): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1271	12.3	13.2	13.2
	1	2106	20.3	21.9	35.2
	2	101	1.0	1.1	36.2
	3	157	1.5	1.6	37.9
	4	4853	46.9	50.5	88.4
	5	724	7.0	7.5	95.9
	6	285	2.8	3.0	98.9
	7	71	.7	.7	99.6
	8	9	.1	.1	99.7
	9	5	.0	.1	99.8
	10	6	.1	.1	99.8
	11	2	.0	.0	99.9
	13	1	.0	.0	99.9
	16	1	.0	.0	99.9
	20	1	.0	.0	99.9
	22	2	.0	.0	99.9
	30	1	.0	.0	99.9
	31	2	.0	.0	99.9
	40	1	.0	.0	100.0
	60	2	.0	.0	100.0
	67	1	.0	.0	100.0
	94	1	.0	.0	100.0
	Total	9603	92.8	100.0	
Missing	-6 Question 7 omitted	356	3.4		
	-5 Part 2 omitted	370	3.6		
	-2 > 99	3	.0		
	-1 Sign only stated	21	.2		
	Total	750	7.2		
Total		10353	100.0		

sh154 Question 7, part 2 (pinball 5, game 3): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	246	2.4	4.0	4.0
	2 Lost	5944	57.4	96.0	100.0
	Total	6190	59.8	100.0	
Missing	-6 Question 5 omitted	356	3.4		
	-5 Part 2 omitted	370	3.6		
	-1 Score only stated	3437	33.2		
	Total	4163	40.2		
Total		10353	100.0		

sh160 Question 7, part 3 (pinball 5, game 1) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2855	27.6	27.6	27.6
	2 No	7498	72.4	72.4	100.0
	Total	10353	100.0	100.0	

sh161 Question 7, part 3 (pinball 5, game 1): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-83	1	.0	.0	.0
	-33	1	.0	.0	.0
	-21	1	.0	.0	.0
	-16	2	.0	.0	.1
	-15	1	.0	.0	.1
	-14	1	.0	.0	.1
	-13	1	.0	.0	.1
	-12	2	.0	.0	.1
	-10	22	.2	.3	.4
	-9	16	.2	.2	.6
	-8	5	.0	.1	.7
	-7	114	1.1	1.4	2.1
	-6	113	1.1	1.4	3.5
	-5	155	1.5	1.9	5.4
	-4	94	.9	1.2	6.5
	-3	310	3.0	3.8	10.3
	-2	130	1.3	1.6	11.9
	-1	2855	27.6	35.2	47.1
	0	1527	14.7	18.8	66.0
	1	1131	10.9	13.9	79.9
	2	199	1.9	2.5	82.3
	3	334	3.2	4.1	86.5
	4	300	2.9	3.7	90.2
	5	535	5.2	6.6	96.8
	6	132	1.3	1.6	98.4
	7	77	.7	.9	99.3
	8	15	.1	.2	99.5
	9	5	.0	.1	99.6
	10	13	.1	.2	99.7
	11	9	.1	.1	99.9
	12	2	.0	.0	99.9
	13	3	.0	.0	99.9
	15	1	.0	.0	99.9
	16	2	.0	.0	100.0
	17	1	.0	.0	100.0
	19	2	.0	.0	100.0
	90	1	.0	.0	100.0
	Total	8113	78.4	100.0	
Missing	-106 Question 7 omitted	356	3.4		
	-105 Part 3 omitted	1844	17.8		
	-102 Other response	1	.0		
	-101 Sign only stated	39	.4		
	Total	2240	21.6		
Total		10353	100.0		

sh162 Question 7, part 3 (pinball 5, game 1) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	8153	78.8	78.8	78.8
	2 No	2200	21.2	21.2	100.0
	Total	10353	100.0	100.0	

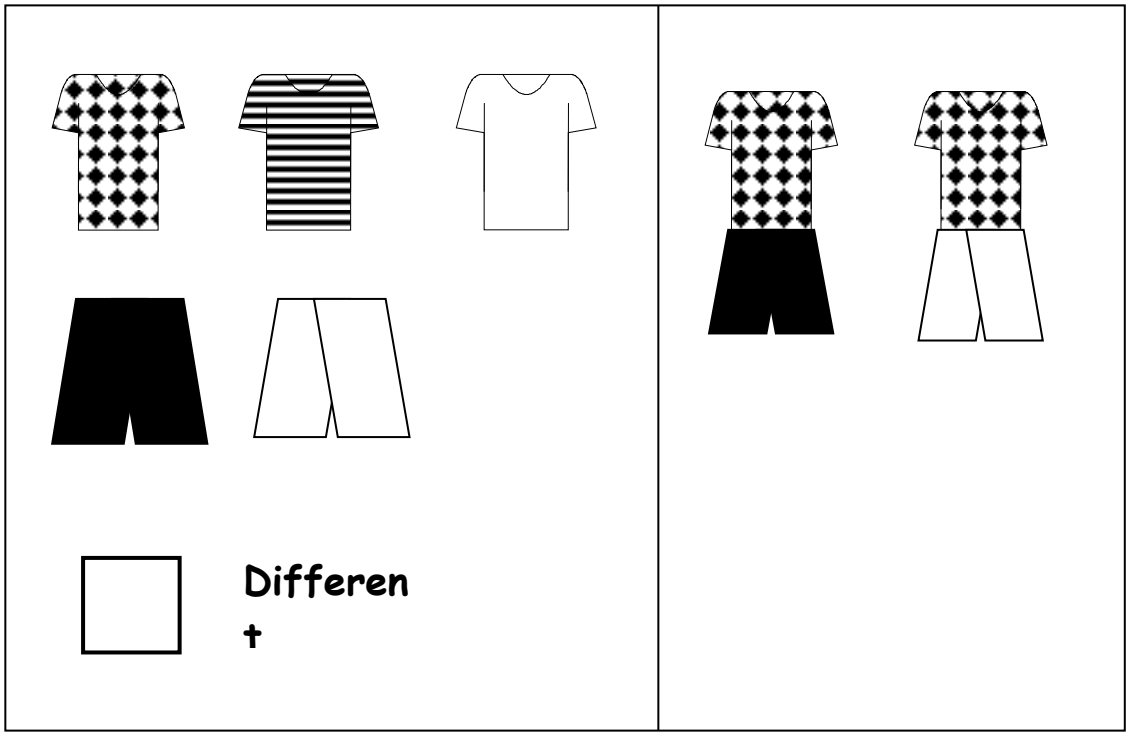
sh163 Question 7, part 3 (pinball 5, game 1): Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1527	14.7	18.8	18.8
	1	3986	38.5	49.1	68.0
	2	329	3.2	4.1	72.0
	3	644	6.2	7.9	79.9
	4	394	3.8	4.9	84.8
	5	690	6.7	8.5	93.3
	6	245	2.4	3.0	96.3
	7	191	1.8	2.4	98.7
	8	20	.2	.2	98.9
	9	21	.2	.3	99.2
	10	35	.3	.4	99.6
	11	9	.1	.1	99.7
	12	4	.0	.0	99.8
	13	4	.0	.0	99.8
	14	1	.0	.0	99.8
	15	2	.0	.0	99.9
	16	4	.0	.0	99.9
	17	1	.0	.0	99.9
	19	2	.0	.0	100.0
	21	1	.0	.0	100.0
	33	1	.0	.0	100.0
	83	1	.0	.0	100.0
	90	1	.0	.0	100.0
	Total	8113	78.4	100.0	
Missing	-6 Question 7 omitted	356	3.4		
	-5 Part 3 omitted	1844	17.8		
	-2 > 99	1	.0		
	-1 Sign only stated	39	.4		
	Total	2240	21.6		
Total		10353	100.0		

sh164 Question 7, part 3 (pinball 5, game 1): Sign

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Won	405	3.9	9.4	9.4
	2 Lost	3904	37.7	90.6	100.0
	Total	4309	41.6	100.0	
Missing	-6 Question 5 omitted	356	3.4		
	-5 Part 3 omitted	1844	17.8		
	-1 Score only stated	3844	37.1		
	Total	6044	58.4		
Total		10353	100.0		

PAGE 9 OF THE TEACHER'S BOOKLET



Rebecca has three different shirts and two different pairs of shorts. You can see them on the left side of the page. She can combine the shirts with shorts and wear different outfits. You can see on the right side of the page how she can wear the same shirt with the two shorts and have different looking outfits.

If she changes her shirts and shorts around to make different outfits, how many different outfits can she make?

[Editing: The response recorded on the coding sheet is presented as SH171, with XX recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SH170 by recoding (6 = 1)(else = 2) in SH171. An indicator of whether the child attempted the question was derived as SH172 by recoding (-6 = 2)(else = 1) in SH171.]

sh170 Question 8 (# outfits) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	8684	83.9	83.9	83.9
	2 No	1669	16.1	16.1	100.0
	Total	10353	100.0	100.0	

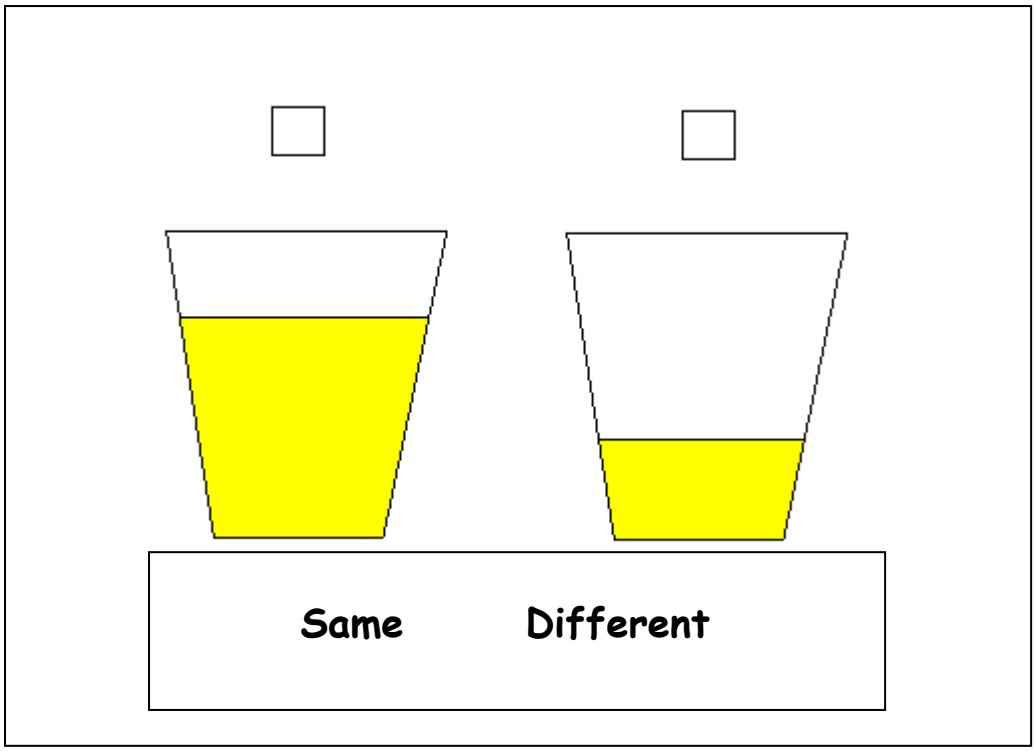
sh171 Question 8 (# outfits): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	12	.1	.1	.1
	1	10	.1	.1	.2
	2	126	1.2	1.2	1.4
	3	123	1.2	1.2	2.6
	4	353	3.4	3.4	6.1
	5	206	2.0	2.0	8.1
	6	8684	83.9	84.6	92.6
	7	69	.7	.7	93.3
	8	177	1.7	1.7	95.0
	9	103	1.0	1.0	96.0
	10	102	1.0	1.0	97.0
	11	13	.1	.1	97.2
	12	229	2.2	2.2	99.4
	13	2	.0	.0	99.4
	14	12	.1	.1	99.5
	15	7	.1	.1	99.6
	16	11	.1	.1	99.7
	17	2	.0	.0	99.7
	18	7	.1	.1	99.8
	19	1	.0	.0	99.8
	20	8	.1	.1	99.9
	22	1	.0	.0	99.9
	23	2	.0	.0	99.9
	25	1	.0	.0	99.9
	36	3	.0	.0	99.9
	40	2	.0	.0	100.0
	66	1	.0	.0	100.0
	86	1	.0	.0	100.0
	96	2	.0	.0	100.0
	Total	10270	99.2	100.0	
Missing	-6 Question 8 omitted	81	.8		
	-2 Other response	2	.0		
	Total	83	.8		
Total		10353	100.0		

sh172 Question 8 (# outfits) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10272	99.2	99.2	99.2
	2 No	81	.8	.8	100.0
	Total	10353	100.0	100.0	

PAGE 10 OF THE TEACHER'S BOOKLET



Lemon juice doesn't come with sugar.

One glass has more lemon juice and the other has less lemon juice.

Suppose you mix one lump of sugar in each glass. Then you stir it very well [show with gestures the separate stirring of each glass]. Is the lemon juice in one glass going to taste just like the lemon juice in the other glass or are they going to taste different?

Circle 'same or 'different'.

If you circled different, tick the lemon juice that you think will be sweeter.

[Editing: The response recorded on the coding sheet for part 1 of the question (whether the lemon juice in two glasses tastes the same or different) is presented as SH181, with S recoded to 1, D to 2 and blanks to -5. The response recorded on the coding sheet for part 2 of the question (which lemon juice tastes sweeter) is presented as SH191, with L recoded to 1, R to 2 and blanks to -5. If both variables were omitted then they were set to -6. If the response to part 1 was S then SH191 was set to -2.

An indicator of whether the child got the correct answer for part 1 was derived as SH180 by recoding (2 = 1)(else = 2) in SH181. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SH190 by recoding (2 = 1)(else = 2) in SH191. Indicators of whether the child attempted each part of the question were derived as SH182 and SH192 by recoding (-6, -5 = 2)(else = 1) in SH181 and (-6, -5, -2 = 2)(else = 1) in SH191.]

sh180 Question 9, part 1 (lemon juice, taste) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9116	88.1	88.1	88.1
	2 No	1237	11.9	11.9	100.0
	Total	10353	100.0	100.0	

sh181 Question 9, part 1 (lemon juice, taste): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Same	1067	10.3	10.5	10.5
	2 Different	9116	88.1	89.5	100.0
	Total	10183	98.4	100.0	
Missing	-6 Question 9 omitted	80	.8		
	-5 Part 1 omitted	90	.9		
	Total	170	1.6		
Total		10353	100.0		

sh182 Question 9, part 1 (lemon juice, taste) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10183	98.4	98.4	98.4
	2 No	170	1.6	1.6	100.0
	Total	10353	100.0	100.0	

sh190 Question 9, part 2 (lemon juice, sweeter glass) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	7093	68.5	68.5	68.5
	2 No	3260	31.5	31.5	100.0
	Total	10353	100.0	100.0	

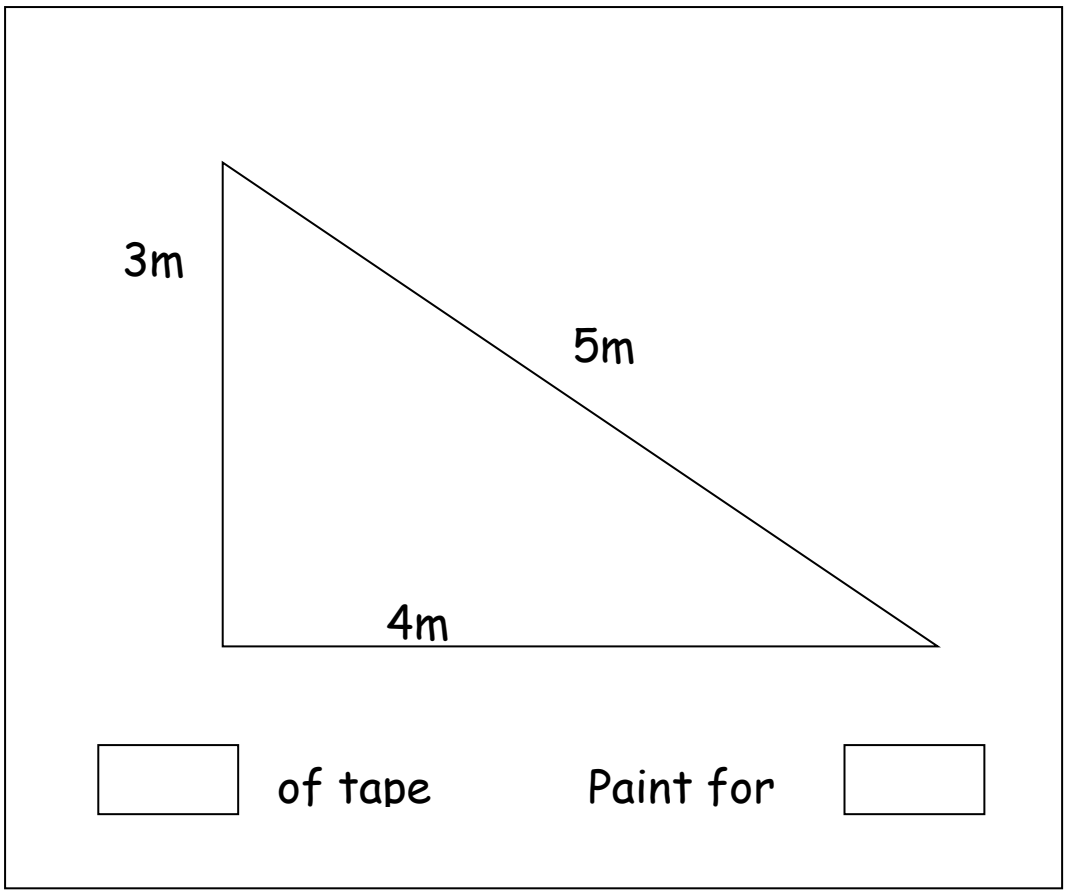
sh191 Question 9, part 2 (lemon juice, sweeter glass): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Left	1434	13.9	16.8	16.8
	2 Right	7093	68.5	83.2	100.0
	Total	8527	82.4	100.0	
Missing	-6 Question 8 omitted	80	.8		
	-5 Part 2 omitted	679	6.6		
	-2 Answered 'same' in part 1	1067	10.3		
	Total	1826	17.6		
Total		10353	100.0		

sh192 Question 9, part 2 (lemon juice, sweeter glass) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	8527	82.4	82.4	82.4
	2 No	1826	17.6	17.6	100.0
	Total	10353	100.0	100.0	

PAGE 11 OF THE TEACHER'S BOOKLET



Washington's room is in the loft. The wall at the end of the room is like a triangle. He wants to decorate it and paint only that wall in dark green.

He will need to buy tape to put around the edges of the wall so he does not paint the ceiling, the floor or the other wall. How much tape does he need? Write your answer in the box. Don't forget to put the unit of measurement.

He also needs to buy enough paint to cover the wall. His father told him to work out the area he is going to paint so he can know how much paint he needs. Write the area in the box on the right – don't forget the unit of measurement.

[Editing: The numerical components of the responses recorded on the coding sheet are presented as SH203 and SH213 for part 1 (length to tape) and part 2 (area to paint) respectively, with XX recoded to -2 and blanks to -1. The indicator for correct units components of the responses recorded on the coding sheet are presented as SH204 and SH214 for part 1 and part 2 respectively, with Y recoded to 1, N to 2 and blanks to -1. If all four variables were omitted then they were set to -6 and if both variables for either of the two parts were omitted the relevant variables were set to -5. Any remaining values of -1 in SH204 and SH214 were recoded to 3

A single variable for the response to part 1 in m was calculated as SH201 by setting it equal to SH203 if SH204 = 1 and to -3 if SH204 = 2 or 3. Missing values of -6, -5, -2 and -1 were copied across. A single variable for the response to part 2 in m^2 was calculated as SH211 in a similar manner.

An indicator of whether the child got the correct answer for part 1 was derived as SH200 by recoding (12 = 1)(else = 2) in SH201. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SH210 by recoding (6 = 1)(else = 2) in SH211. Indicators of whether the child attempted each part of the question were derived as SH202 and SH212 by recoding (-6, -5 = 2)(else = 1) in SH201 and SH211.]

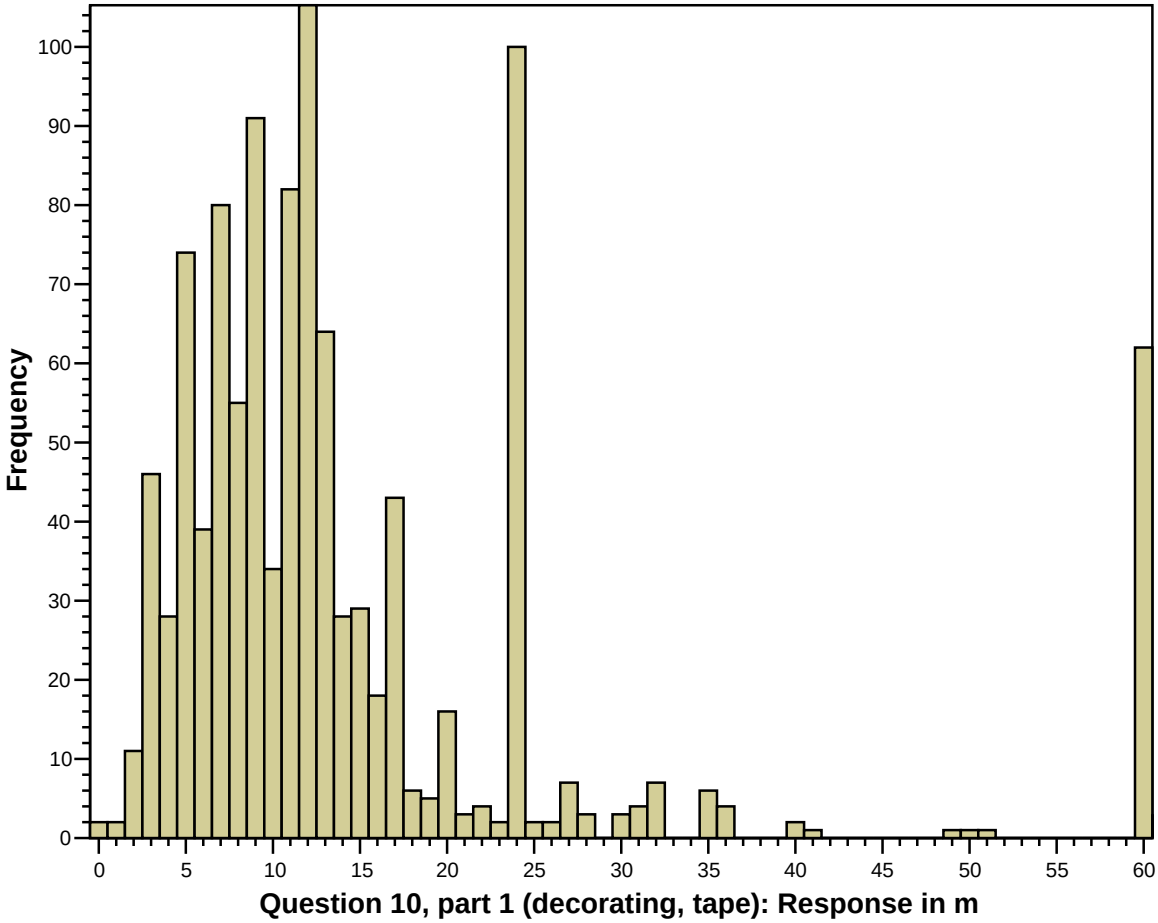
sh200 Question 10, part 1 (decorating, tape) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	7842	75.7	75.7	75.7
	2 No	2511	24.3	24.3	100.0
	Total	10353	100.0	100.0	

sh202 Question 10, part 1 (decorating, tape) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10129	97.8	97.8	97.8
	2 No	224	2.2	2.2	100.0
	Total	10353	100.0	100.0	

sh201 Question 10, part 1 (decorating, tape): Response in m

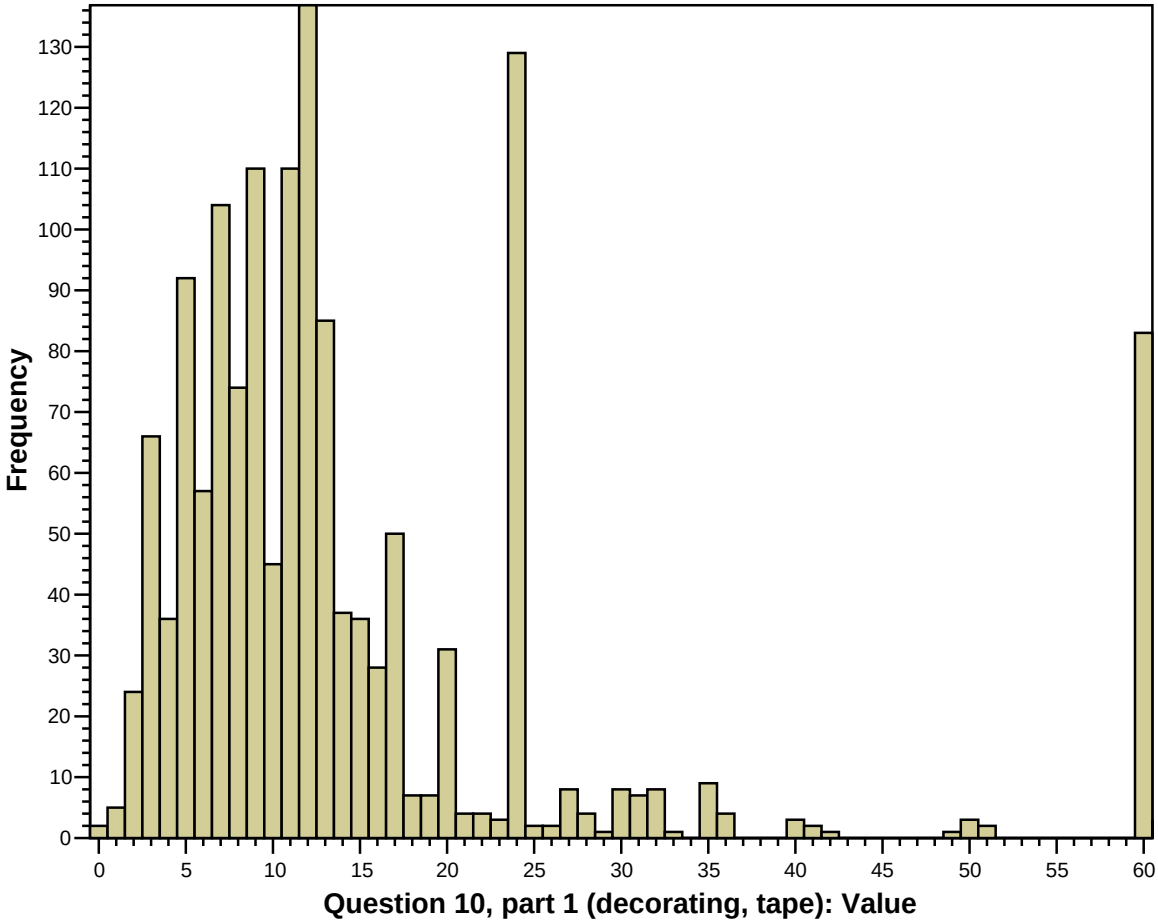


where the frequency of value 12 is 7,842 and plus the following missing values and outliers >60:

sh201 Question 10, part 1 (decorating, tape): Response in m

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	65	1	.1	10.0	10.0
	69	3	.2	30.0	40.0
	70	1	.1	10.0	50.0
	72	1	.1	10.0	60.0
	90	3	.2	30.0	90.0
	92	1	.1	10.0	100.0
	Total	10	.6	100.0	
Missing	-6 Question 10 omitted	181	11.7		
	-5 Part 1 omitted	43	2.8		
	-3 Correct unit not stated	1283	83.1		
	-2 Other response	24	1.6		
	-1 Unit only stated	2	.1		
	Total	1533	99.4		
Total		1543	100.0		

sh203 Question 10, part 1 (decorating, tape): Value



where the frequency of value 12 is 8,767 and plus the following missing values and outliers >60:

sh203 Question 10, part 1 (decorating, tape): Value

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	65	1	.3	7.1	7.1
	69	3	1.0	21.4	28.6
	70	2	.7	14.3	42.9
	72	1	.3	7.1	50.0
	80	1	.3	7.1	57.1
	90	3	1.0	21.4	78.6
	92	1	.3	7.1	85.7
	94	1	.3	7.1	92.9
	99	1	.3	7.1	100.0
	Total	14	4.8	100.0	
Missing	-6 Question 10 omitted	181	62.2		
	-5 Part 1 omitted	43	14.8		
	-2 Other response	50	17.2		
	-1 Unit only stated	3	1.0		
	Total	277	95.2		
Total		291	100.0		

sh204 Question 10, part 1 (decorating, tape): Unit stated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, correct	8846	85.4	87.3	87.3
	2 Yes, incorrect	667	6.4	6.6	93.9
	3 No	616	5.9	6.1	100.0
	Total	10129	97.8	100.0	
Missing	-6 Question 10 omitted	181	1.7		
	-5 Part 1 omitted	43	.4		
	Total	224	2.2		
Total		10353	100.0		

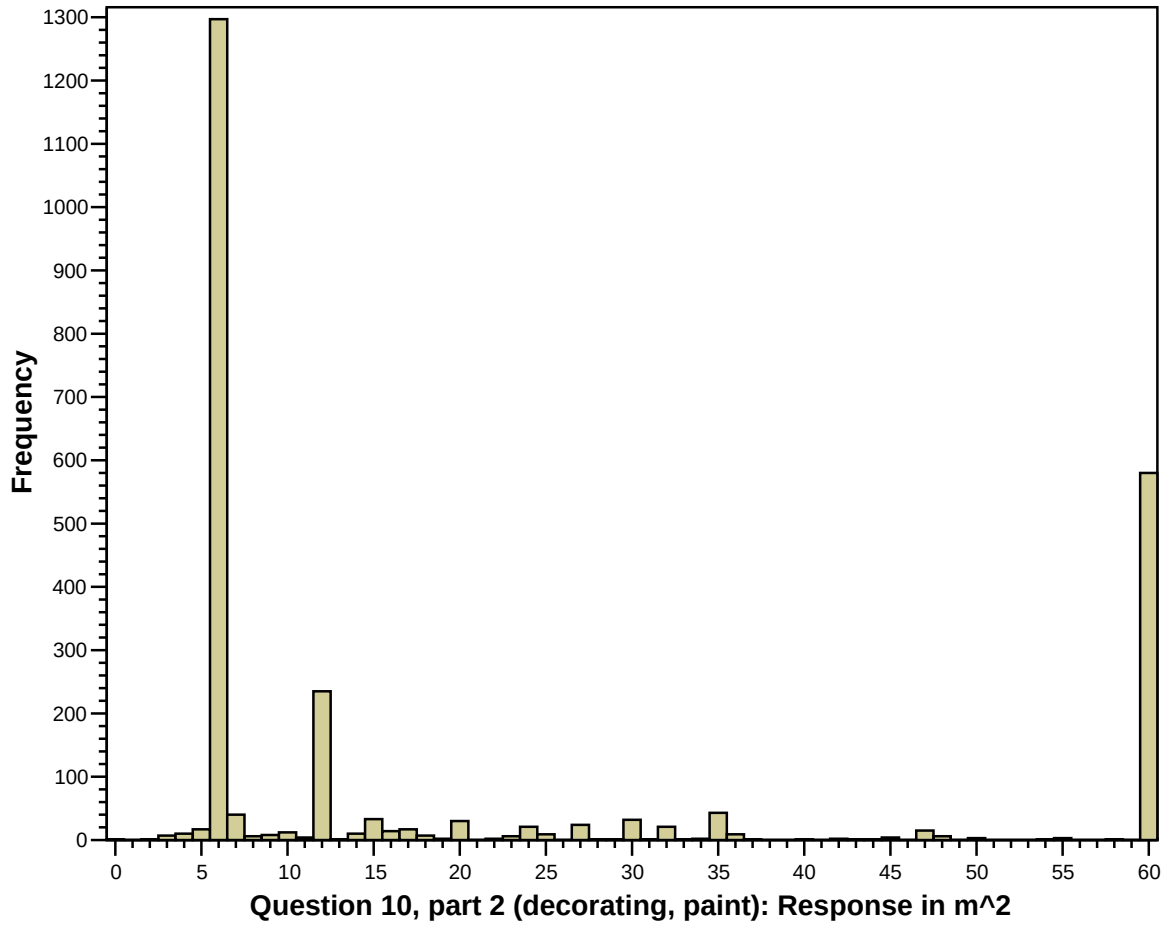
sh210 Question 10, part 2 (decorating, paint) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1297	12.5	12.5	12.5
	2 No	9056	87.5	87.5	100.0
	Total	10353	100.0	100.0	

sh212 Question 10, part 2 (decorating, paint) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9058	87.5	87.5	87.5
	2 No	1295	12.5	12.5	100.0
	Total	10353	100.0	100.0	

sh211 Question 10, part 2 (decorating, paint): Response in m^2

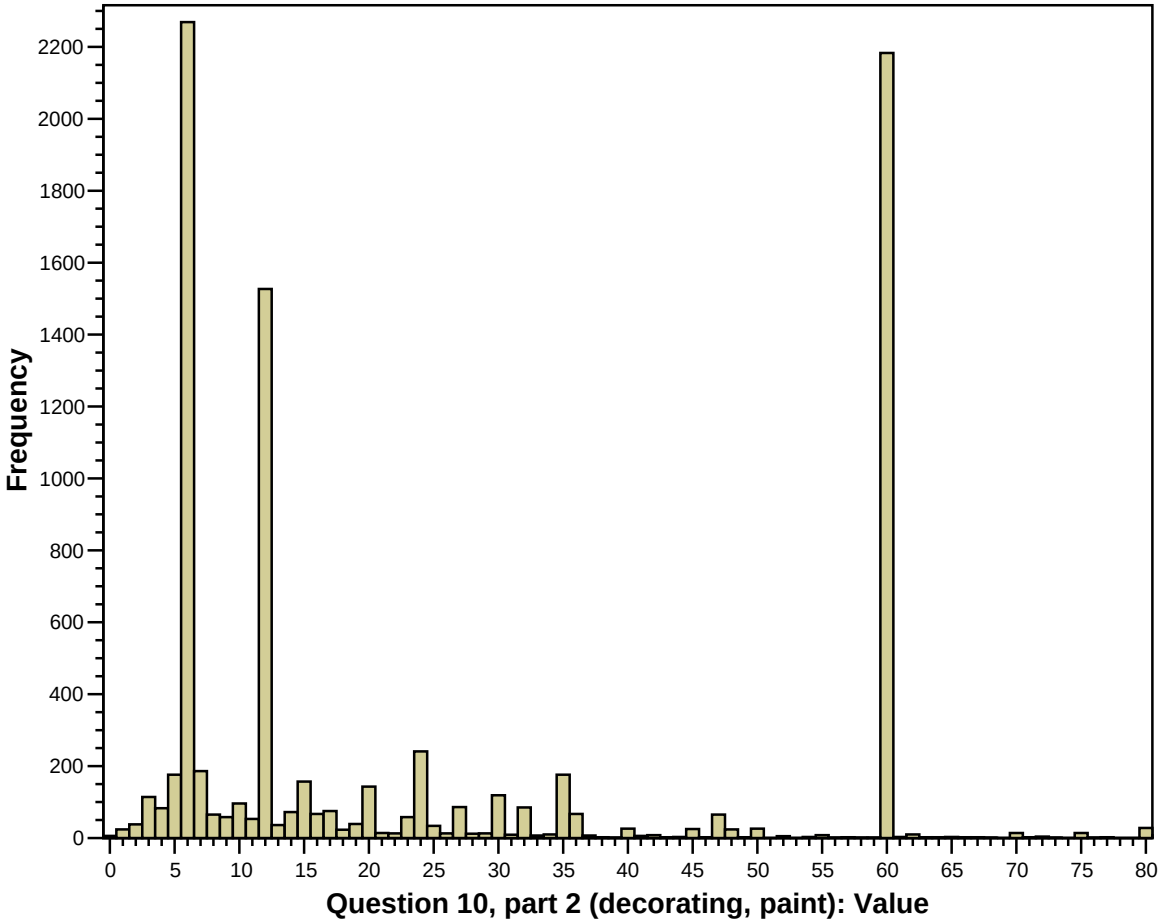


plus the following missing values and outliers >60:

sh211 Question 10, part 2 (decorating, paint): Response in m^2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	70	1	.0	8.3	8.3
	71	1	.0	8.3	16.7
	73	1	.0	8.3	25.0
	75	2	.0	16.7	41.7
	80	4	.1	33.3	75.0
	86	1	.0	8.3	83.3
	90	1	.0	8.3	91.7
	96	1	.0	8.3	100.0
	Total	12	.2	100.0	
Missing	-6 Question 10 omitted	181	2.3		
	-5 Part 2 omitted	1114	14.3		
	-3 Correct unit not stated	6463	82.8		
	-2 Other response	29	.4		
	-1 Unit only stated	10	.1		
	Total	7797	99.8		
Total		7809	100.0		

sh213 Question 10, part 2 (decorating, paint): Value



plus the following missing values and outliers >80:

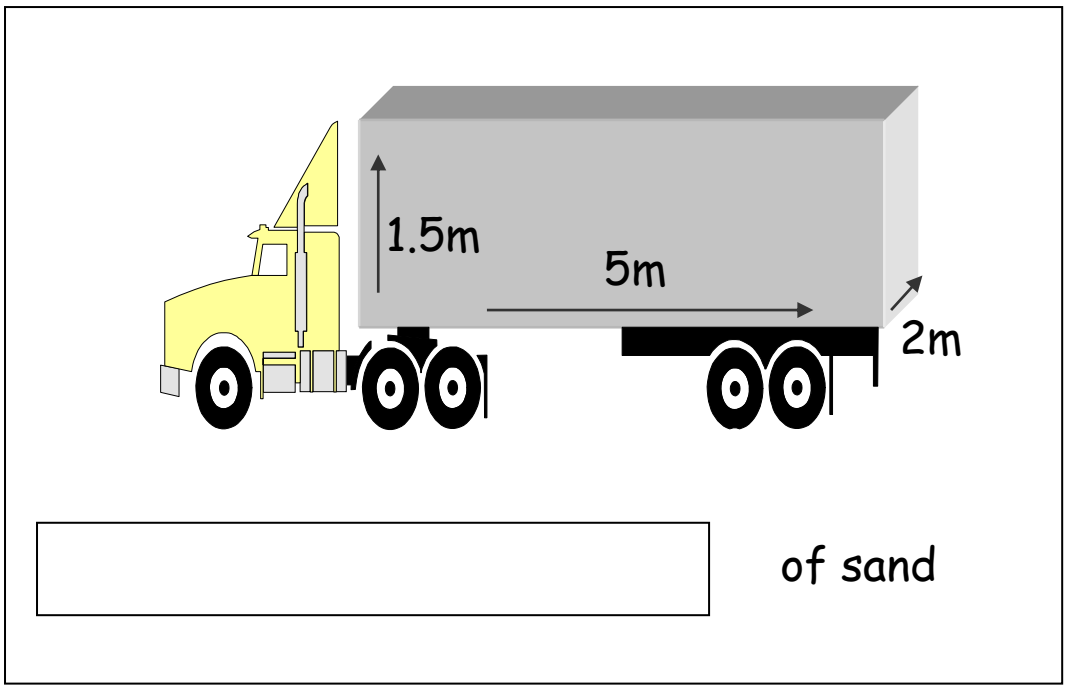
sh213 Question 10, part 2 (decorating, paint): Value

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	81	2	.1	8.3	8.3
	84	1	.1	4.2	12.5
	85	2	.1	8.3	20.8
	86	1	.1	4.2	25.0
	90	11	.7	45.8	70.8
	91	1	.1	4.2	75.0
	92	1	.1	4.2	79.2
	94	2	.1	8.3	87.5
	95	2	.1	8.3	95.8
	96	1	.1	4.2	100.0
	Total	24	1.5	100.0	
Missing	-6 Question 10 omitted	181	11.3		
	-5 Part 2 omitted	1114	69.8		
	-2 Other response	246	15.4		
	-1 Unit only stated	30	1.9		
	Total	1571	98.5		
Total		1595	100.0		

sh214 Question 10, part 2 (decorating, paint): Unit stated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, correct	2595	25.1	28.6	28.6
	2 Yes, incorrect	5069	49.0	56.0	84.6
	3 No	1394	13.5	15.4	100.0
	Total	9058	87.5	100.0	
Missing	-6 Question 10 omitted	181	1.7		
	-5 Part 2 omitted	1114	10.8		
	Total	1295	12.5		
Total		10353	100.0		

PAGE 12 OF THE TEACHER'S BOOKLET



Ryan's father drives a lorry and carries building materials. In the picture you can see the size of the trailer where he puts the materials. Today the trailer is filled with sand all the way to the top.

What volume of sand is he carrying? Write your answer in the box including the unit of measurement.

[Editing: The numerical component of the response recorded on the coding sheet is presented as SH223, with XXX recoded to -2 and blanks to -1. The indicator for correct units component of the response recorded on the coding sheet is presented as SH224, with Y recoded to 1, N to 2 and blanks to -1. If both variables were omitted then they were set to -6, otherwise values of -1 in SH224 were recoded to 3.

A single variable for the response in m^3 was calculated as SH221 by setting it equal to SH223 if SH224 = 1 and to -3 if SH224 = 2 or 3. Missing values of -6, -2 and -1 were copied across. An indicator of whether the child got the correct answer was derived as SH220 by recoding (15 = 1)(else = 2) in SH221. An indicator of whether the child attempted the question was derived as SH222 by recoding (-6 = 2)(else = 1) in SH221.]

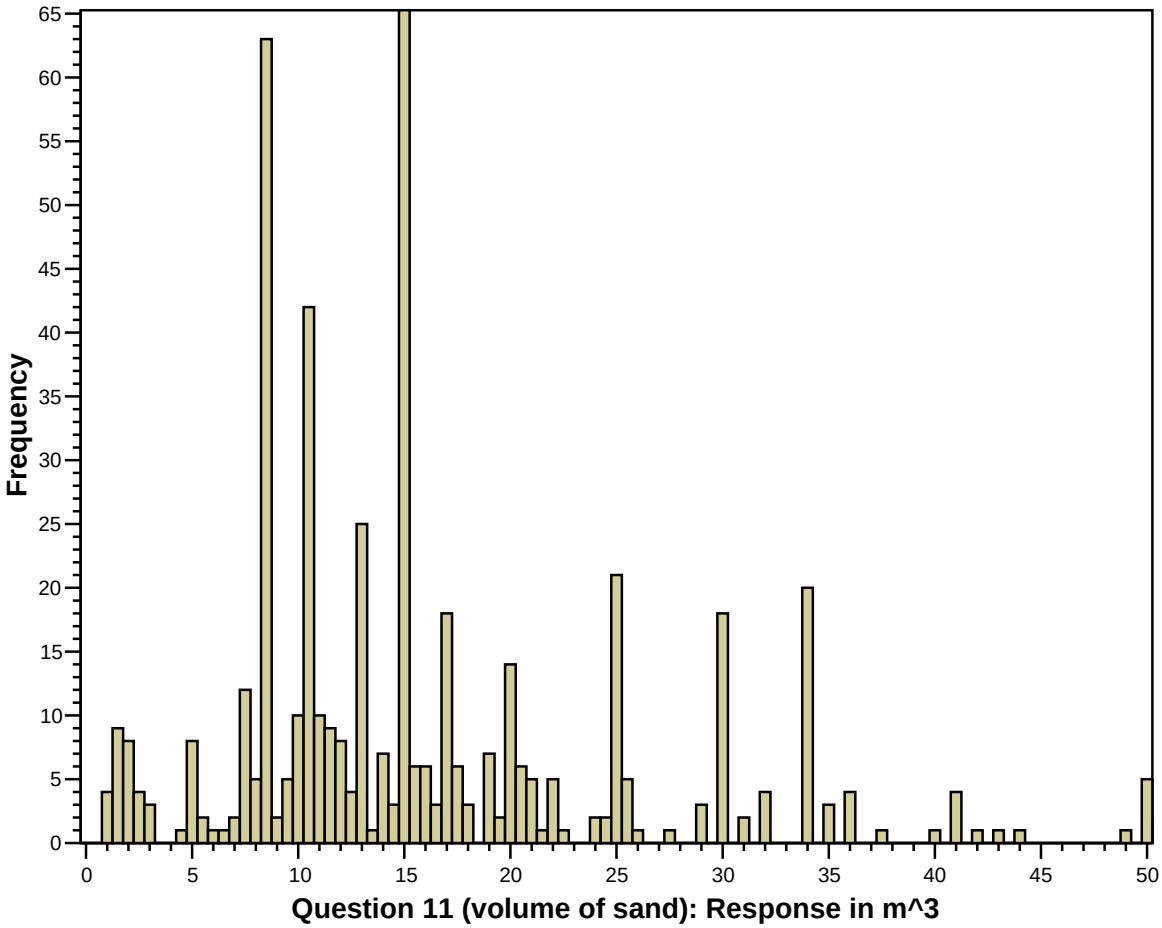
sh220 Question 11 (volume of sand) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1090	10.5	10.5	10.5
	2 No	9263	89.5	89.5	100.0
	Total	10353	100.0	100.0	

sh222 Question 11 (volume of sand) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9025	87.2	87.2	87.2
	2 No	1328	12.8	12.8	100.0
	Total	10353	100.0	100.0	

sh221 Question 11 (volume of sand): Response in m^3

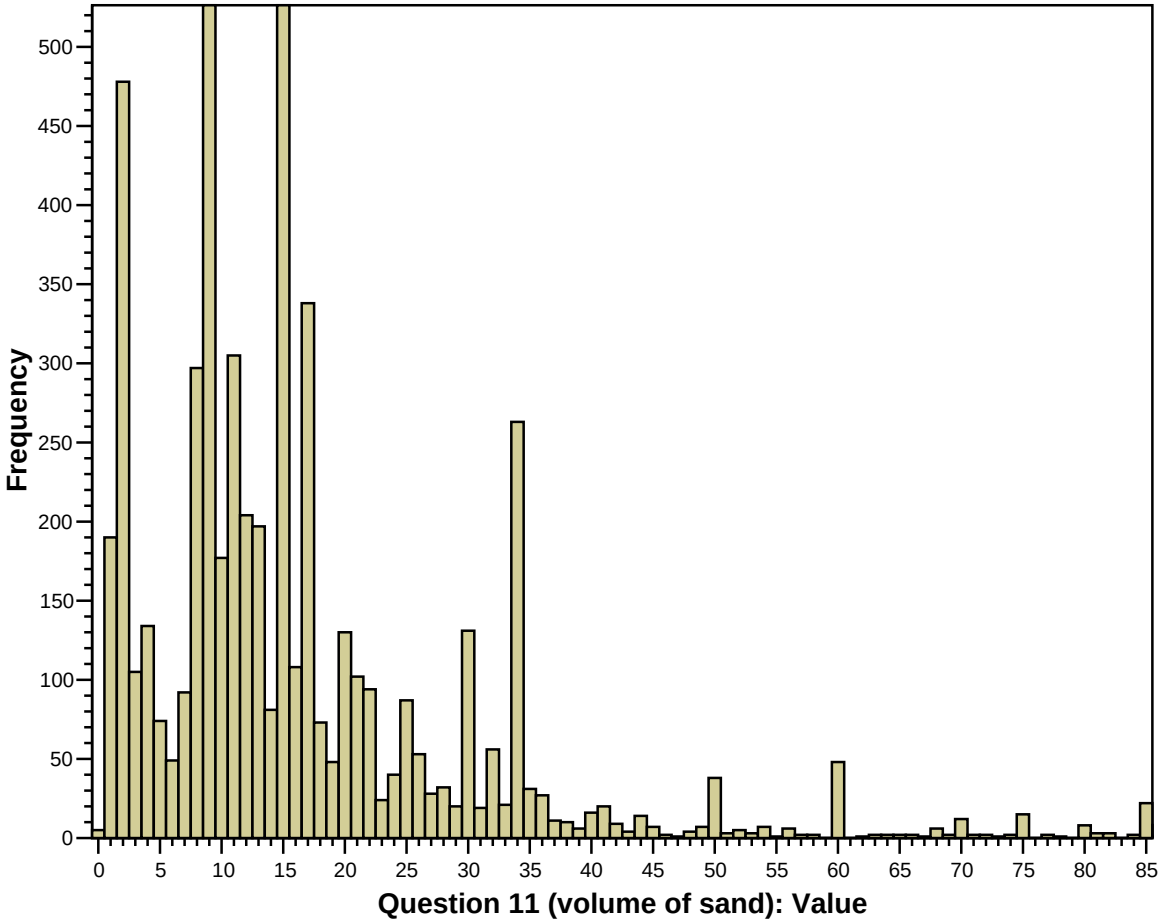


where the frequency for the bin [14.75, 15.25) is 1,093 and plus the following missing values and outliers >50:

sh221 Question 11 (volume of sand): Response in m^3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	60.0	2	.0	33.3	33.3
	70.0	1	.0	16.7	50.0
	80.0	1	.0	16.7	66.7
	82.0	1	.0	16.7	83.3
	85.0	1	.0	16.7	100.0
	Total	6	.1	100.0	
Missing	-6.0 Question 11 omitted	1328	15.0		
	-3.0 Correct unit not stated	7444	84.3		
	-2.0 Other response	44	.5		
	-1.0 Unit only stated	5	.1		
	Total	8821	99.9		
Total		8827	100.0		

sh223 Question 11 (volume of sand): Value



where the frequencies for the bins [8.5, 9.5) and [14.5, 15.5) are 1,411 and 2,807 respectively and plus the following missing values and outliers >85:

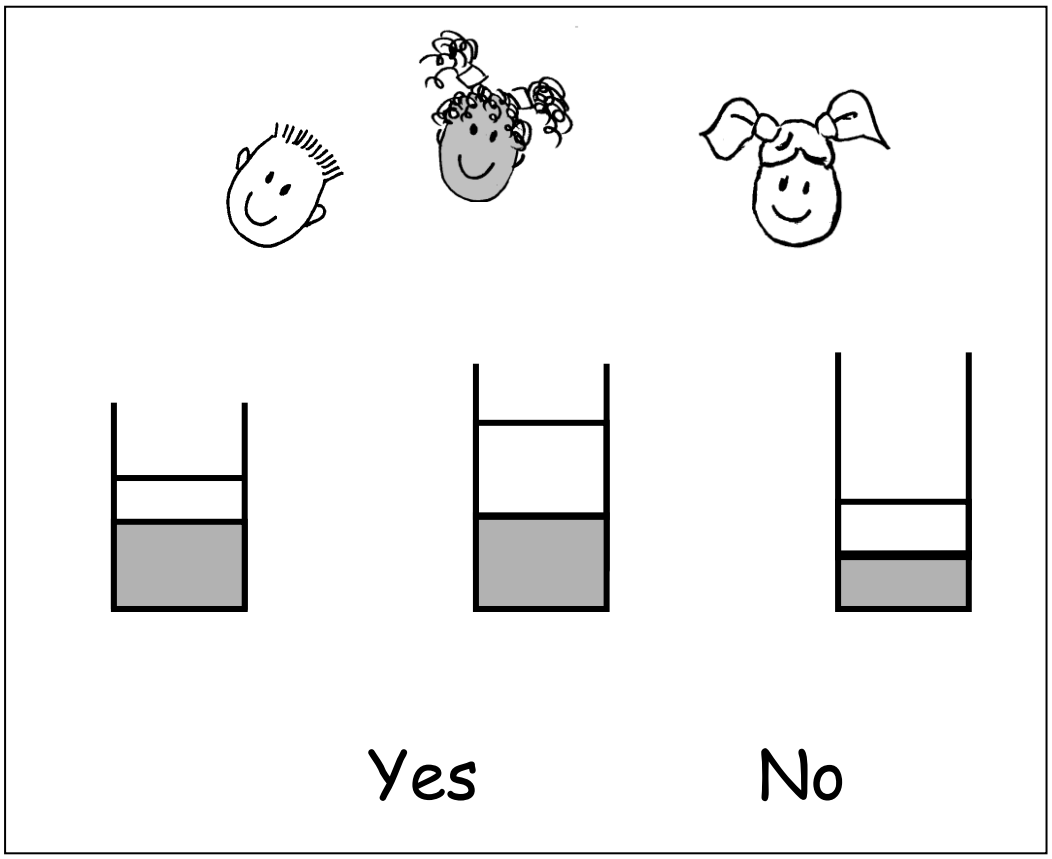
sh223 Question 11 (volume of sand): Value

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	86.0	1	.1	7.1	7.1
	88.0	9	.5	64.3	71.4
	90.0	2	.1	14.3	85.7
	90.5	1	.1	7.1	92.9
	95.5	1	.1	7.1	100.0
	Total	14	.8	100.0	
Missing	-6.0 Question 11 omitted	1328	78.0		
	-2.0 Other response	333	19.6		
	-1.0 Unit only stated	28	1.6		
	Total	1689	99.2		
Total		1703	100.0		

sh224 Question 11 (volume of sand): Unit stated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, correct	1581	15.3	17.5	17.5
	2 Yes, incorrect	6121	59.1	67.8	85.3
	3 No	1323	12.8	14.7	100.0
	Total	9025	87.2	100.0	
Missing	-6 Question 11 omitted	1328	12.8		
Total		10353	100.0		

PAGE 13 OF THE TEACHER'S BOOKLET



Three children are making orange squash
(if the children don't understand this, try saying that the children are making a brand name drink like Ribena).

In the picture the orange squash is grey and the water is white. The children then stir their drinks.

Will the drink in two of the glasses taste the same?
Circle 'yes' or 'no'.

If you answered yes, tick the glasses that you think have squash with the same taste.

[Editing: The response recorded on the coding sheet for part 1 of the question (whether the drinks in two of the glasses will taste the same) is presented as SH231, with Y recoded to 1, N to 2 and blanks to -5. The response recorded on the coding sheet for part 2 of the question (which two glasses taste the same) is presented as SH241, with L, M, LM, R, LR, MR recoded to 1 to 6 respectively and blanks to -5. If both variables were omitted then they were set to -6. If the response to part 1 was N then SH241 was set to -2.

An indicator of whether the child got the correct answer for part 1 was derived as SH230 by recoding (1 = 1)(else = 2) in SH231. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SH240 by recoding (6 = 1)(else = 2) in SH241. Indicators of whether the child attempted each part of the question were derived as SH232 and SH242 by recoding (-6, -5 = 2)(else = 1) in SH231 and (-6, -5, -2 = 2)(else = 1) in SH241.]

sh230 Question 12, part 1 (orange squash 1, taste) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	5057	48.8	48.8	48.8
	2 No	5296	51.2	51.2	100.0
	Total	10353	100.0	100.0	

sh231 Question 12, part 1 (orange squash 1, taste): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	5057	48.8	49.4	49.4
	2 No	5177	50.0	50.6	100.0
	Total	10234	98.9	100.0	
Missing	-6 Question 12 omitted	104	1.0		
	-5 Part 1 omitted	15	.1		
	Total	119	1.1		
Total		10353	100.0		

sh232 Question 12, part 1 (orange squash 1, taste) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10234	98.9	98.9	98.9
	2 No	119	1.1	1.1	100.0
	Total	10353	100.0	100.0	

sh240 Question 12, part 2 (orange squash 1, glasses with same taste) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	3512	33.9	33.9	33.9
	2 No	6841	66.1	66.1	100.0
	Total	10353	100.0	100.0	

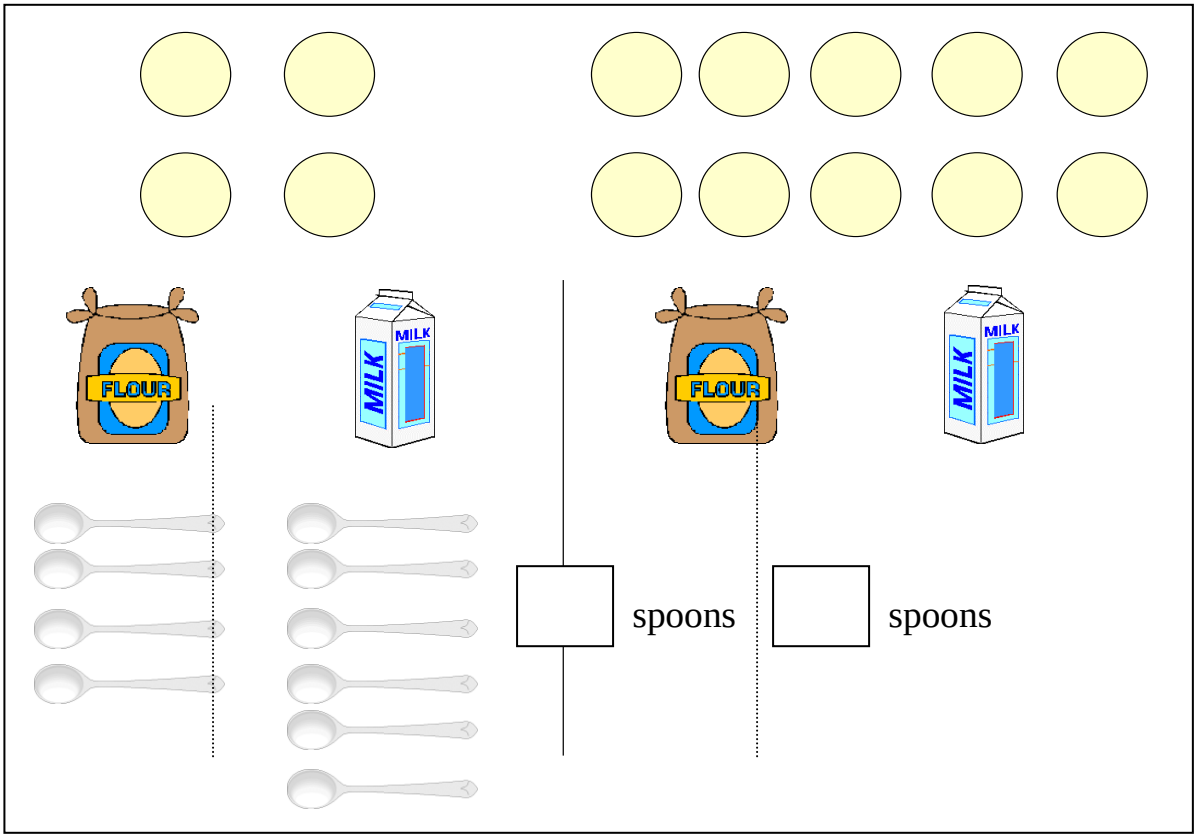
sh241 Question 12, part 2 (orange squash 1, glasses with same taste): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Glass 1	15	.1	.3	.3
	2 Glass 2	31	.3	.6	1.0
	3 Glasses 1 & 2	614	5.9	12.7	13.7
	4 Glass 3	19	.2	.4	14.1
	5 Glasses 1 & 3	636	6.1	13.2	27.2
	6 Glasses 2 & 3	3512	33.9	72.8	100.0
	Total	4827	46.6	100.0	
Missing	-6 Question 12 omitted	104	1.0		
	-5 Part 2 omitted	245	2.4		
	-2 Answered 'no' in part 1	5177	50.0		
	Total	5526	53.4		
Total		10353	100.0		

sh242 Question 12, part 2 (orange squash 1, glasses with same taste) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	4827	46.6	46.6	46.6
	2 No	5526	53.4	53.4	100.0
	Total	10353	100.0	100.0	

PAGE 14 OF THE TEACHER'S BOOKLET



When you make pancakes if you use too much flour the mixture gets too thick. If you use too much milk the mixture gets too thin.

To make 4 good pancakes, you need to mix 4 spoons of flour with 6 spoons of milk.
If you want to make 10 good pancakes, how much flour do you need? Write the number of spoons.

How much milk do you need for 10 good pancakes? Write the number of spoons.

[Editing: The responses recorded on the coding sheet for part 1 (flour) and part 2 (milk) are presented as SH251 and SH261 respectively, with XX recoded to -2 and blanks to -5. If both variables were omitted then they were set to -6.

An indicator of whether the child got the answer correct for part 1 was derived as SH250 by recoding (10 = 1)(else = 2) in SH251. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SH260 by recoding (15 = 1)(else = 2) in SH261. Indicators of whether the child attempted each part of the question were derived as SH252 and SH262 by recoding (-6, -5 = 2)(else = 1) in SH251 and SH261.]

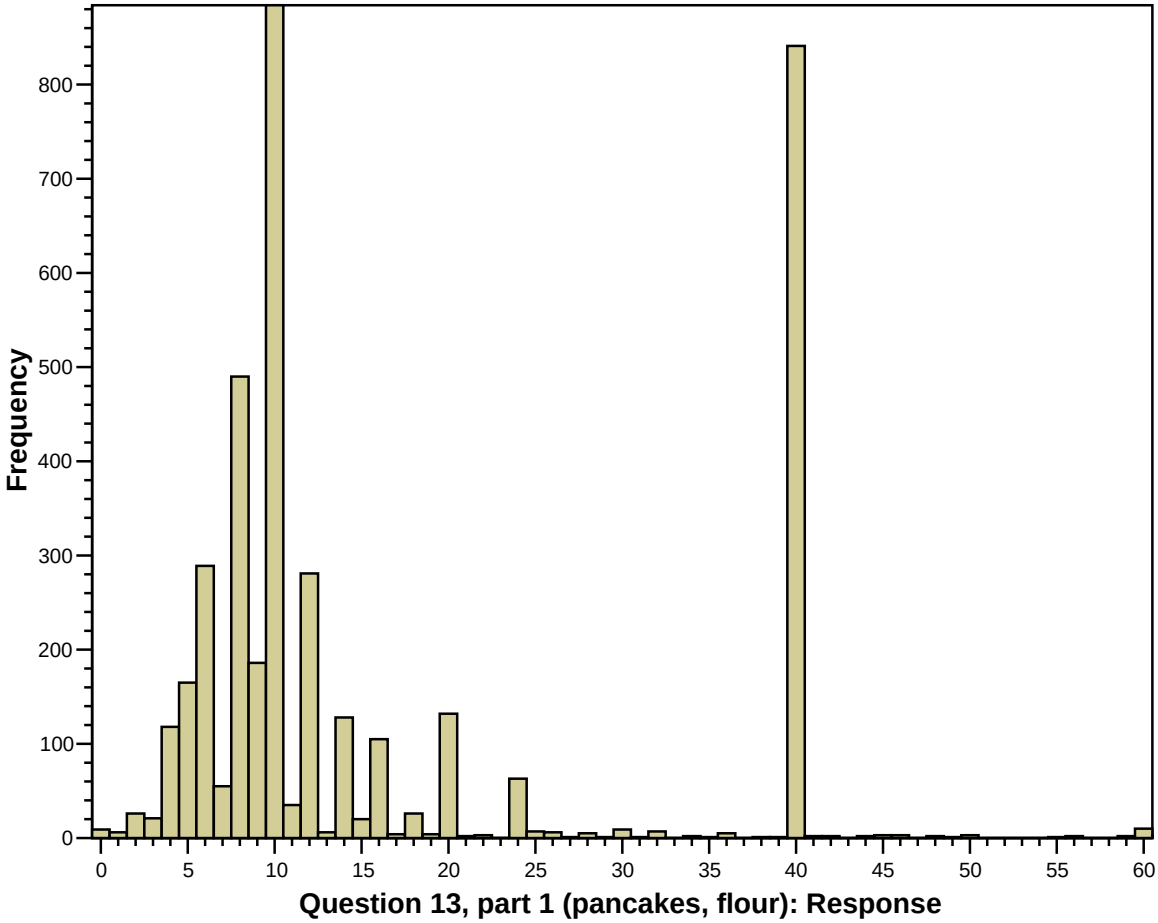
sh250 Question 13, part 1 (pancakes, flour) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	6889	66.5	66.5	66.5
	2 No	3464	33.5	33.5	100.0
	Total	10353	100.0	100.0	

sh252 Question 13, part 1 (pancakes, flour) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10067	97.2	97.2	97.2
	2 No	286	2.8	2.8	100.0
	Total	10353	100.0	100.0	

sh251 Question 13, part 1 (pancakes, flour): Response



where the frequency of value 10 is 6,889 and plus the following missing values and outliers >60:

sh251 Question 13, part 1 (pancakes, flour): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	65	1	.3	9.1	9.1
	70	3	.8	27.3	36.4
	80	4	1.1	36.4	72.7
	81	1	.3	9.1	81.8
	85	1	.3	9.1	90.9
	96	1	.3	9.1	100.0
	Total	11	3.0	100.0	
Missing	-6 Question 13 omitted	272	73.7		
	-5 Part 1 omitted	14	3.8		
	-2 Other response	72	19.5		
	Total	358	97.0		
Total		369	100.0		

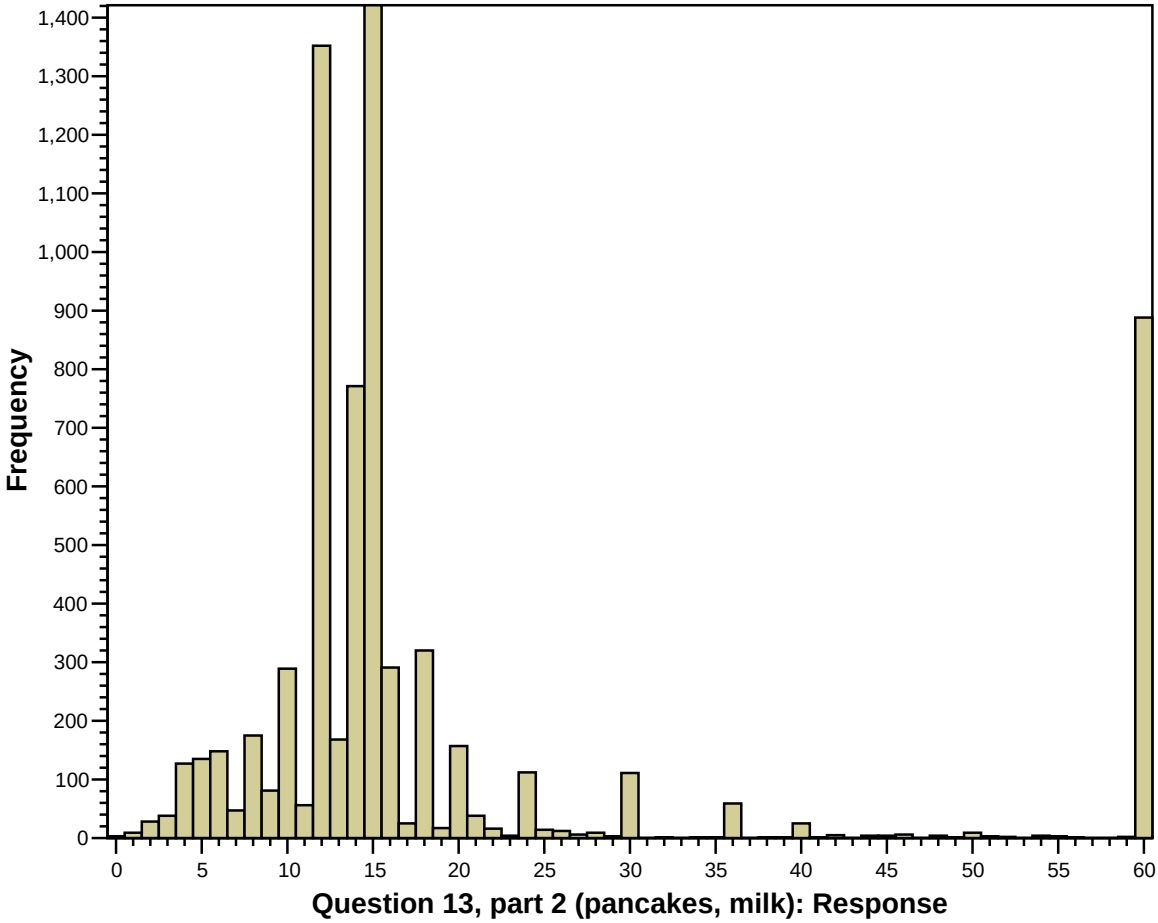
sh260 Question 13, part 2 (pancakes, milk) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	4124	39.8	39.8	39.8
	2 No	6229	60.2	60.2	100.0
	Total	10353	100.0	100.0	

sh262 Question 13, part 2 (pancakes, milk) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9845	95.1	95.1	95.1
	2 No	508	4.9	4.9	100.0
	Total	10353	100.0	100.0	

sh261 Question 13, part 2 (pancakes, milk): Response

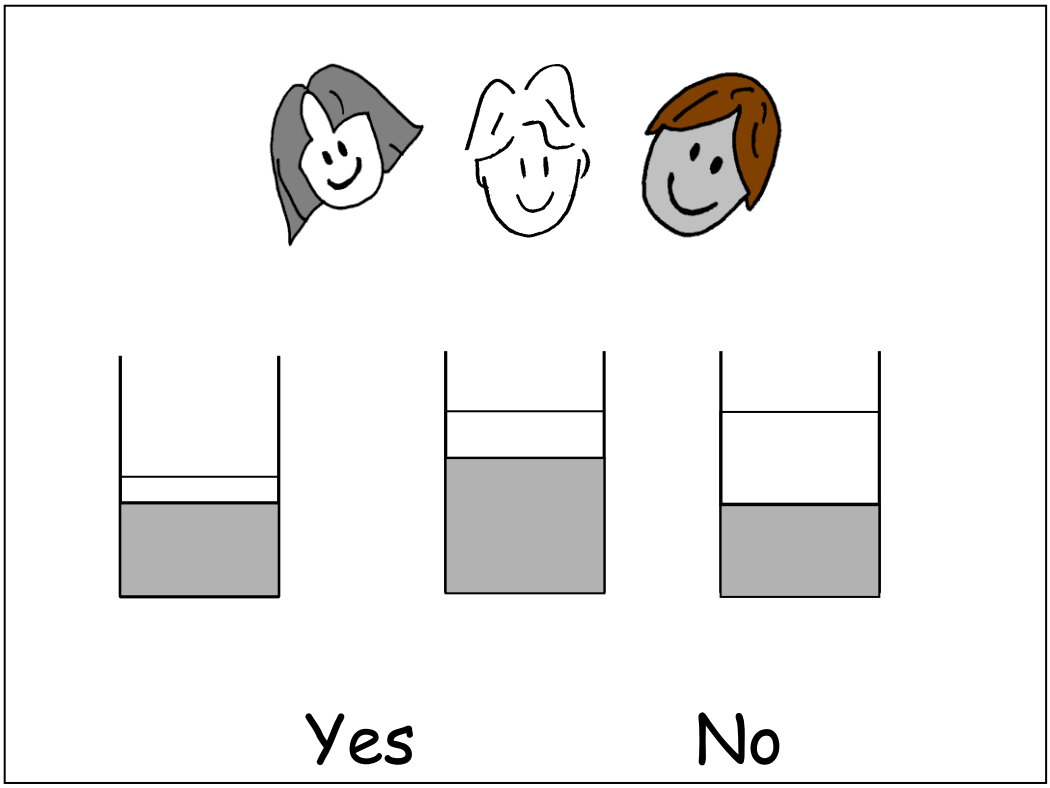


where the frequency of value 15 is 4,124 and plus the following missing values and outliers >60:

sh261 Question 13, part 2 (pancakes, milk): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	61	2	.3	7.4	7.4
	63	1	.2	3.7	11.1
	64	1	.2	3.7	14.8
	65	1	.2	3.7	18.5
	66	4	.6	14.8	33.3
	70	5	.8	18.5	51.9
	72	2	.3	7.4	59.3
	75	1	.2	3.7	63.0
	80	4	.6	14.8	77.8
	84	1	.2	3.7	81.5
	89	1	.2	3.7	85.2
	90	1	.2	3.7	88.9
	94	2	.3	7.4	96.3
	99	1	.2	3.7	100.0
	Total	27	4.2	100.0	
Missing	-6 Question 13 omitted	272	42.4		
	-5 Part 2 omitted	236	36.8		
	-2 Other response	106	16.5		
	Total	614	95.8		
Total		641	100.0		

PAGE 15 OF THE TEACHER'S BOOKLET



Three children are making orange squash
(if the children don't understand this, try saying that the children are making a brand name drink like Ribena.)

In the picture the orange squash is grey and the water is white. The children then stir their drinks.

Will the drink in two of the glasses taste the same? Circle 'yes' or 'no'.

If you answered yes, tick the glasses that you think have squash with the same taste.

[Editing: The response recorded on the coding sheet for part 1 of the question (whether the drinks in two of the glasses will taste the same) is presented as SH271, with Y recoded to 1, N to 2 and blanks to -5. The response recorded on the coding sheet for part 2 of the question (which two glasses taste the same) is presented as SH281, with L, M, LM, R, LR, MR recoded to 1 to 6 respectively and blanks to -5. If both variables were omitted then they were set to -6. If the response to part 1 was N then SH281 was set to -2.

An indicator of whether the child got the correct answer for part 1 was derived as SH270 by recoding (1 = 1)(else = 2) in SH271. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SH280 by recoding (3 = 1)(else = 2) in SH281. Indicators of whether the child attempted each part of the question were derived as SH272 and SH282 by recoding (-6, -5 = 2)(else = 1) in SH271 and (-6, -5, -2 = 2)(else = 1) in SH281.]

sh270 Question 14, part 1 (orange squash 2, taste) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2509	24.2	24.2	24.2
	2 No	7844	75.8	75.8	100.0
	Total	10353	100.0	100.0	

sh271 Question 14, part 1 (orange squash 2, taste): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2509	24.2	24.6	24.6
	2 No	7698	74.4	75.4	100.0
	Total	10207	98.6	100.0	
Missing	-6 Question 14 omitted	137	1.3		
	-5 Part 1 omitted	9	.1		
	Total	146	1.4		
Total		10353	100.0		

sh272 Question 14, part 1 (orange squash 2, taste) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10207	98.6	98.6	98.6
	2 No	146	1.4	1.4	100.0
	Total	10353	100.0	100.0	

sh280 Question 14, part 2 (orange squash 2, glasses with same taste) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1266	12.2	12.2	12.2
	2 No	9087	87.8	87.8	100.0
	Total	10353	100.0	100.0	

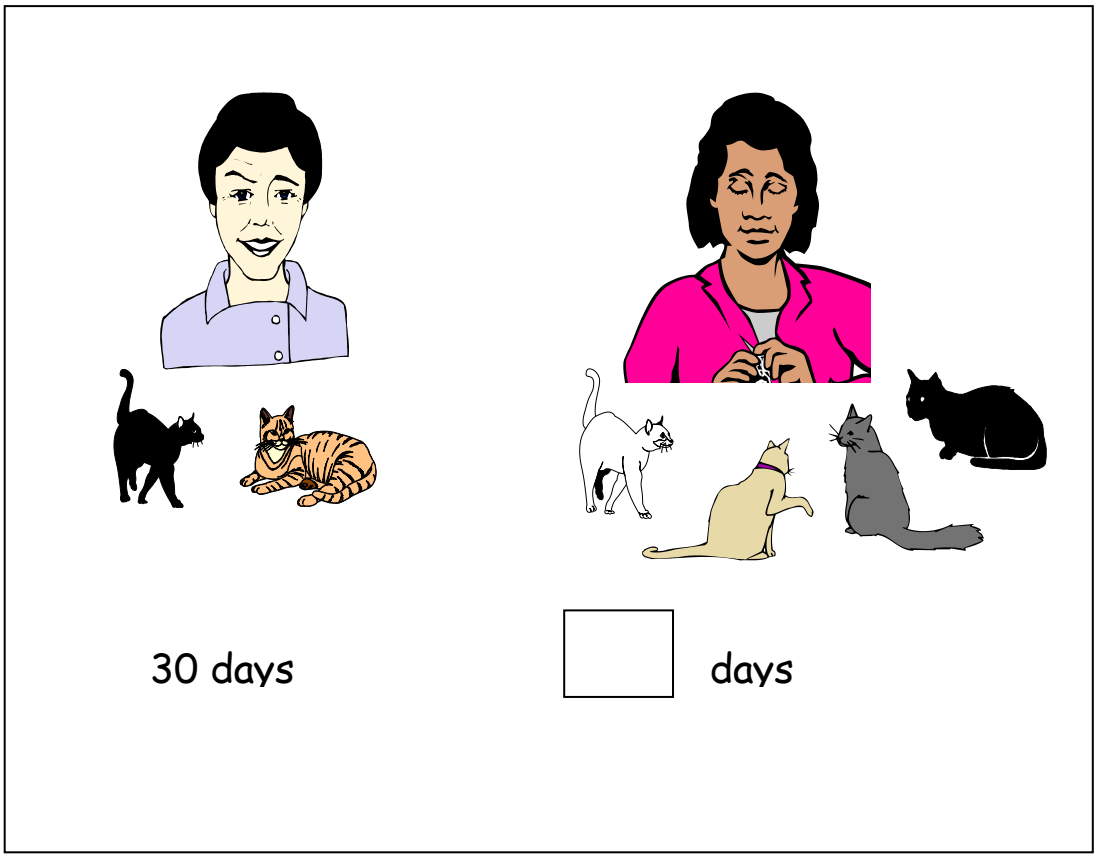
sh281 Question 14, part 2 (orange squash 2, glasses with same taste): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Glass 1	7	.1	.3	.3
	2 Glass 2	11	.1	.5	.8
	3 Glasses 1 & 2	1266	12.2	53.2	53.9
	4 Glass 3	21	.2	.9	54.8
	5 Glasses 1 & 3	421	4.1	17.7	72.5
	6 Glasses 2 & 3	655	6.3	27.5	100.0
	Total	2381	23.0	100.0	
Missing	-6 Question 14 omitted	137	1.3		
	-5 Part 2 omitted	137	1.3		
	-2 Answered 'no' in part 1	7698	74.4		
	Total	7972	77.0		
Total		10353	100.0		

sh282 Question 14, part 2 (orange squash 2, glasses with same taste) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2381	23.0	23.0	23.0
	2 No	7972	77.0	77.0	100.0
	Total	10353	100.0	100.0	

PAGE 16 OF THE TEACHER'S BOOKLET



Mrs Green has two cats. Mrs Patel has four cats. All the cats eat the same amount each day. The two women went out together to buy cat food. They bought the same amount of cat food.

Mrs Green said that the food she bought is enough for her cats to eat for 30 days. How long do you think the food Mrs Patel bought will last?

[Editing: The response recorded on the coding sheet is presented as SH291, with XX recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SH290 by recoding (15 = 1)(else = 2) in SH291. An indicator of whether the child attempted the question was derived as SH292 by recoding (-6 = 2)(else = 1) in SH291.]

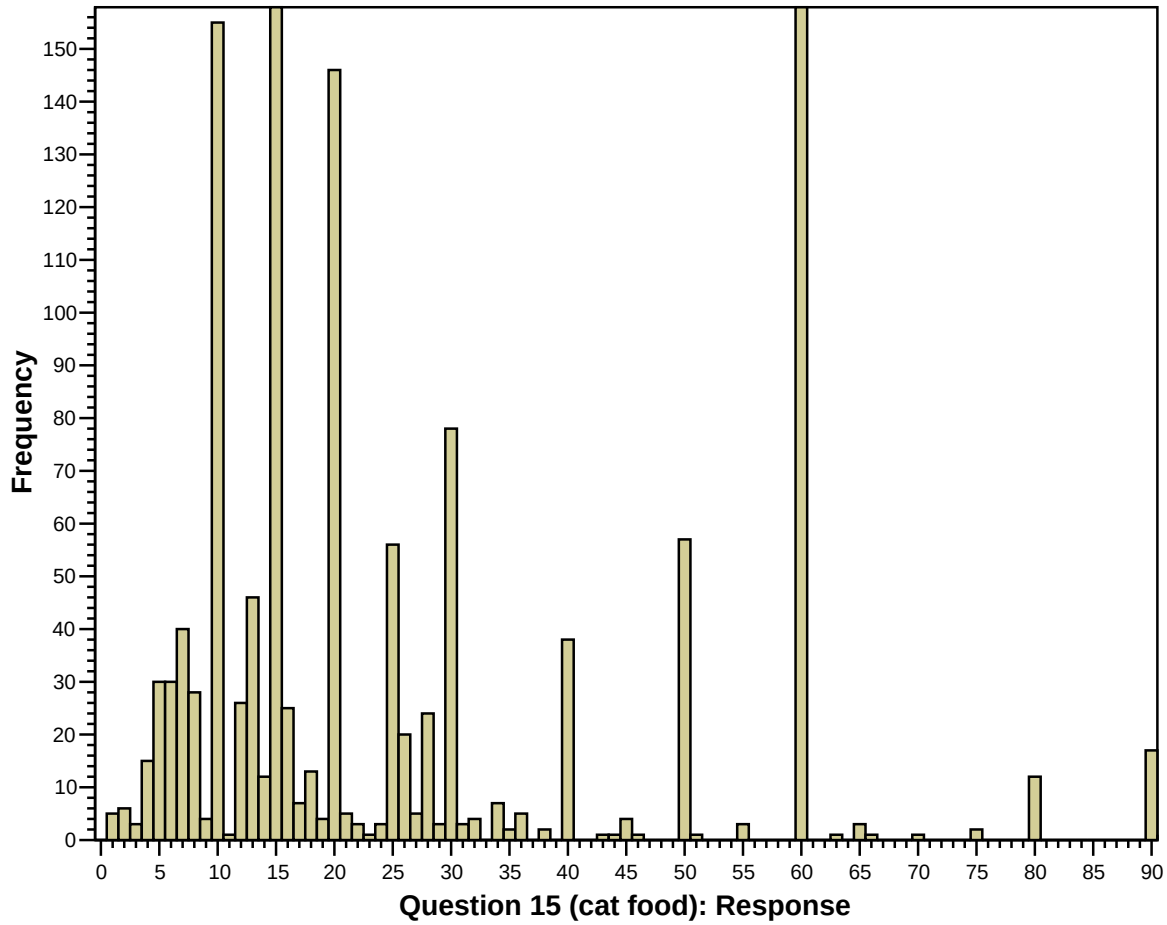
sh290 Question 15 (cat food) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	8124	78.5	78.5	78.5
	2 No	2229	21.5	21.5	100.0
	Total	10353	100.0	100.0	

sh292 Question 15 (cat food) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10193	98.5	98.5	98.5
	2 No	160	1.5	1.5	100.0
	Total	10353	100.0	100.0	

sh291 Question 15 (cat food): Response

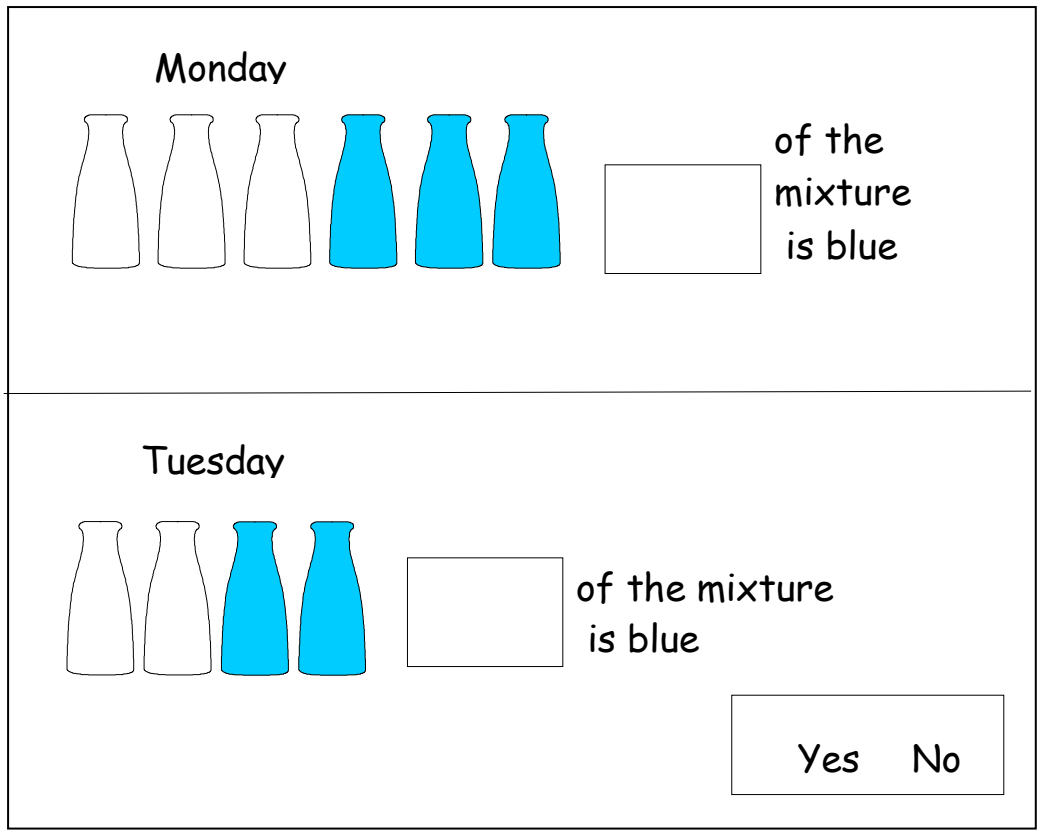


where the frequencies of values 15 and 60 are 8,124 and 1,010 respectively and plus the following missing values and outliers >90:

sh291 Question 15 (cat food): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	99	1	.4	100.0	100.0
Missing	-6 Question 15 omitted	160	61.8		
	-2 Other response	98	37.8		
	Total	258	99.6		
Total		259	100.0		

PAGE 17 OF THE TEACHER'S BOOKLET



Imagine you are mixing paint.

On Monday you mix 3 bottles of white and 3 of blue (appears grey in the picture).

On Tuesday you mix 2 bottles of white and 2 of blue.

Will the colour of the mixed paint look the same on Monday as Tuesday?

Circle 'yes' or 'no' in the box at the bottom of the picture.

Let's look at Monday. What fraction of the paint is blue on Monday?

Write your answer in the box.

Let's look at Tuesday. What fraction of the paint is blue on Tuesday?

Write your answer in the box.

[Editing: The response recorded on the coding sheet for part 1 of the question (whether the colour of the paint mixed on Monday is the same as that mixed on Tuesday) is presented as SH301, with Y recoded to 1, N to 2 and blanks to -5. The responses recorded on the coding sheet for parts 2 and 3 of the question (the fractions of the paint that are blue on Monday and Tuesday respectively) are presented as SH311 and SH321, with X recoded to -2 and blanks to -5. If all three variables were omitted then they were set to -6.

Indicators of whether the child got the correct answer for each part were derived as SH300, SH310 and SH320 by recoding (1 = 1)(else = 2) in SH301, SH311 and SH321. Indicators of whether the child attempted each part of the question were derived as SH302, SH312 and SH322 by recoding (-6, -5 = 2)(else = 1) in SH301, SH311 and SH321.]

sh300 Question 16, part 1 (mixing paint, same colour) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	7048	68.1	68.1	68.1
	2 No	3305	31.9	31.9	100.0
	Total	10353	100.0	100.0	

sh301 Question 16, part 1 (mixing paint, same colour): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	7048	68.1	69.6	69.6
	2 No	3080	29.7	30.4	100.0
	Total	10128	97.8	100.0	
Missing	-6 Question 16 omitted	141	1.4		
	-5 Part 1 omitted	84	.8		
	Total	225	2.2		
Total		10353	100.0		

sh302 Question 16, part 1 (mixing paint, same colour) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10128	97.8	97.8	97.8
	2 No	225	2.2	2.2	100.0
	Total	10353	100.0	100.0	

sh310 Question 16, part 2 (mixing paint, Monday) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	7293	70.4	70.4	70.4
	2 No	3060	29.6	29.6	100.0
	Total	10353	100.0	100.0	

sh311 Question 16, part 2 (mixing paint, Monday): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 50% or 1/2	7293	70.4	81.5	81.5
	2 3/6, 2/4 etc.	1651	15.9	18.5	100.0
	Total	8944	86.4	100.0	
Missing	-6 Question 16 omitted	141	1.4		
	-5 Part 2 omitted	316	3.1		
	-2 Other response	952	9.2		
	Total	1409	13.6		
Total		10353	100.0		

sh312 Question 16, part 2 (mixing paint, Monday) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9896	95.6	95.6	95.6
	2 No	457	4.4	4.4	100.0
	Total	10353	100.0	100.0	

sh320 Question 16, part 3 (mixing paint, Tuesday) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	7422	71.7	71.7	71.7
	2 No	2931	28.3	28.3	100.0
	Total	10353	100.0	100.0	

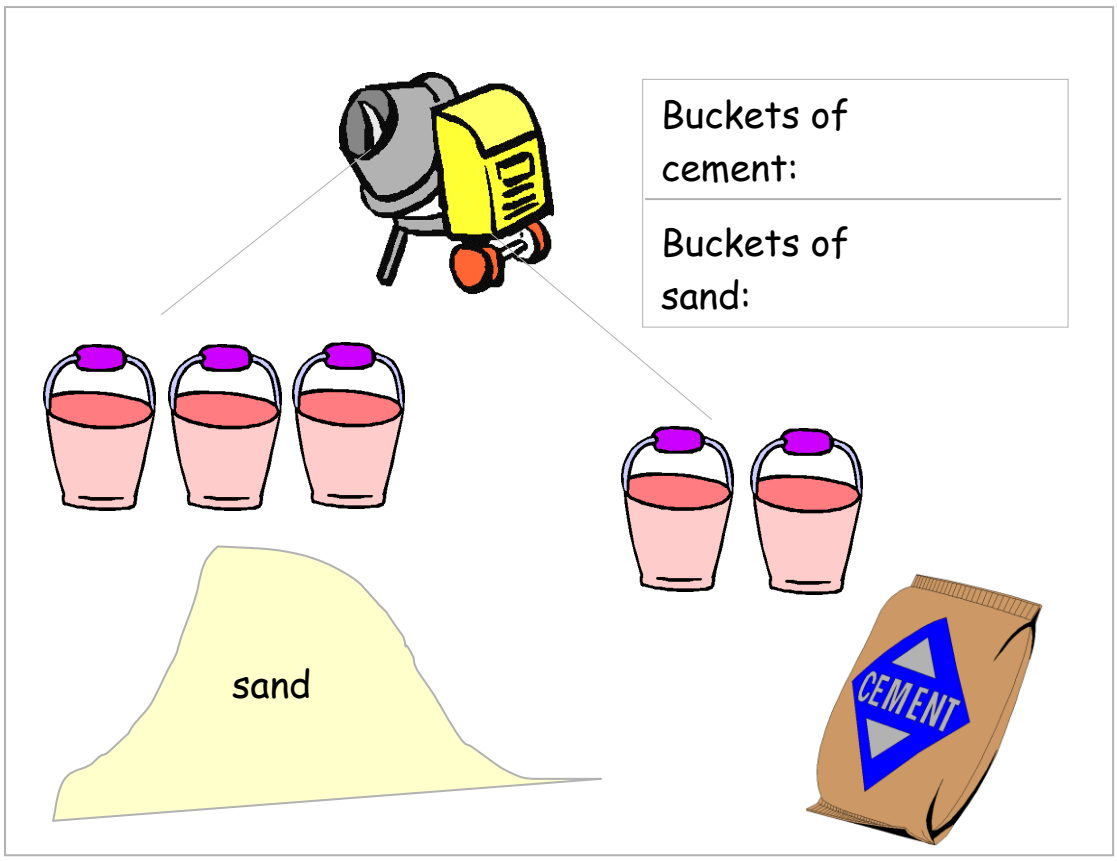
sh321 Question 16, part 3 (mixing paint, Tuesday): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 50% or 1/2	7422	71.7	82.5	82.5
	2 3/6, 2/4 etc.	1578	15.2	17.5	100.0
	Total	9000	86.9	100.0	
Missing	-6 Question 16 omitted	141	1.4		
	-5 Part 3 omitted	404	3.9		
	-2 Other response	808	7.8		
	Total	1353	13.1		
Total		10353	100.0		

sh322 Question 16, part 3 (mixing paint, Tuesday) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9808	94.7	94.7	94.7
	2 No	545	5.3	5.3	100.0
	Total	10353	100.0	100.0	

PAGE 18 OF THE TEACHER'S BOOKLET



To make concrete you mix sand and cement.

If you put too much cement it gets too hard. And with too much sand it crumbles.

To make 5 buckets of concrete you have to mix 3 buckets of sand for every 2 buckets of cement.

A builder needs to prepare 15 buckets of concrete.

How much sand will he use? Put the answer in the box.

How much cement will he use? Put the answer in the box.

[Editing: The responses recorded on the coding sheet for part 1 (sand) and part 2 (cement) are presented as SH331 and SH341 respectively, with XX recoded to -2 and blanks to -5. If both variables were omitted then they were set to -6.

An indicator of whether the child got the answer correct for part 1 was derived as SH330 by recoding (9 = 1)(else = 2) in SH331. Similarly, an indicator of whether the child got the correct answer for part 2 was derived as SH340 by recoding (6 = 1)(else = 2) in SH341. Indicators of whether the child attempted each part of the question were derived as SH332 and SH342 by recoding (-6, -5 = 2)(else = 1) in SH331 and SH341.]

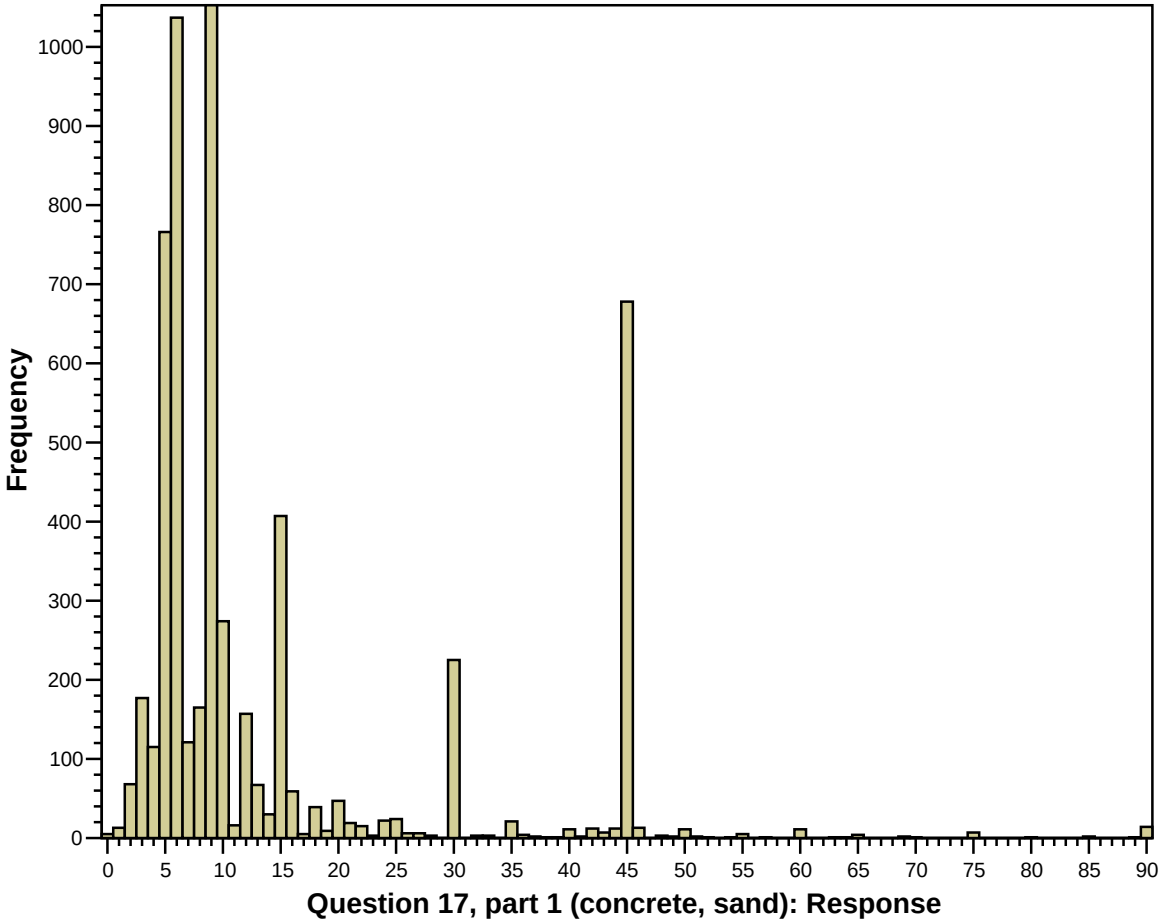
sh330 Question 17, part 1 (concrete, sand) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	4568	44.1	44.1	44.1
	2 No	5785	55.9	55.9	100.0
	Total	10353	100.0	100.0	

sh332 Question 17, part 1 (concrete, sand) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9486	91.6	91.6	91.6
	2 No	867	8.4	8.4	100.0
	Total	10353	100.0	100.0	

sh331 Question 17, part 1 (concrete, sand): Response



where the frequency of value 9 is 4,568 and plus the following missing values and outliers >90:

sh331 Question 17, part 1 (concrete, sand): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	95	1	.1	100.0	100.0
Missing	-6 Question 17 omitted	751	71.9		
	-5 Part 1 omitted	116	11.1		
	-2 Other response	176	16.9		
	Total	1043	99.9		
Total		1044	100.0		

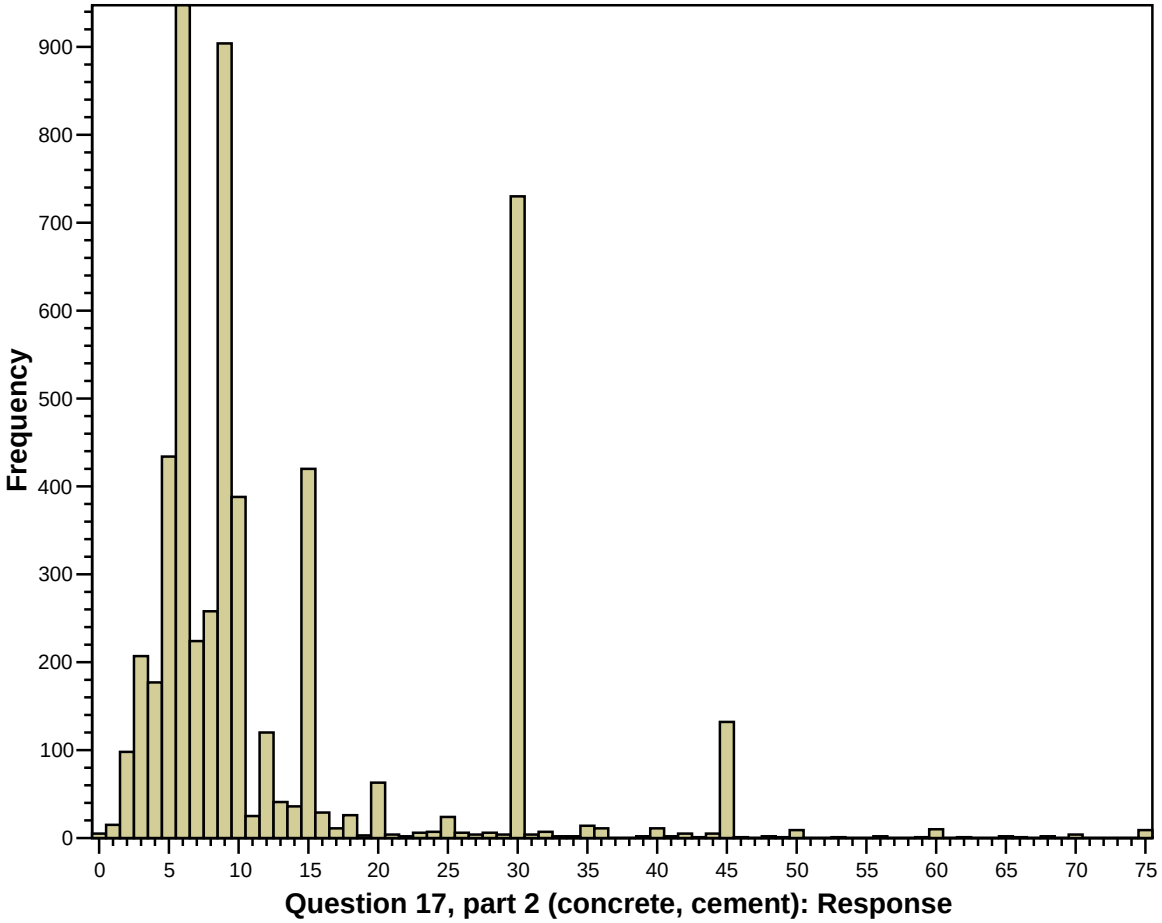
sh340 Question 17, part 2 (concrete, cement) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	4554	44.0	44.0	44.0
	2 No	5799	56.0	56.0	100.0
	Total	10353	100.0	100.0	

sh342 Question 17, part 2 (concrete, cement) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9371	90.5	90.5	90.5
	2 No	982	9.5	9.5	100.0
	Total	10353	100.0	100.0	

sh341 Question 17, part 2 (concrete, cement): Response

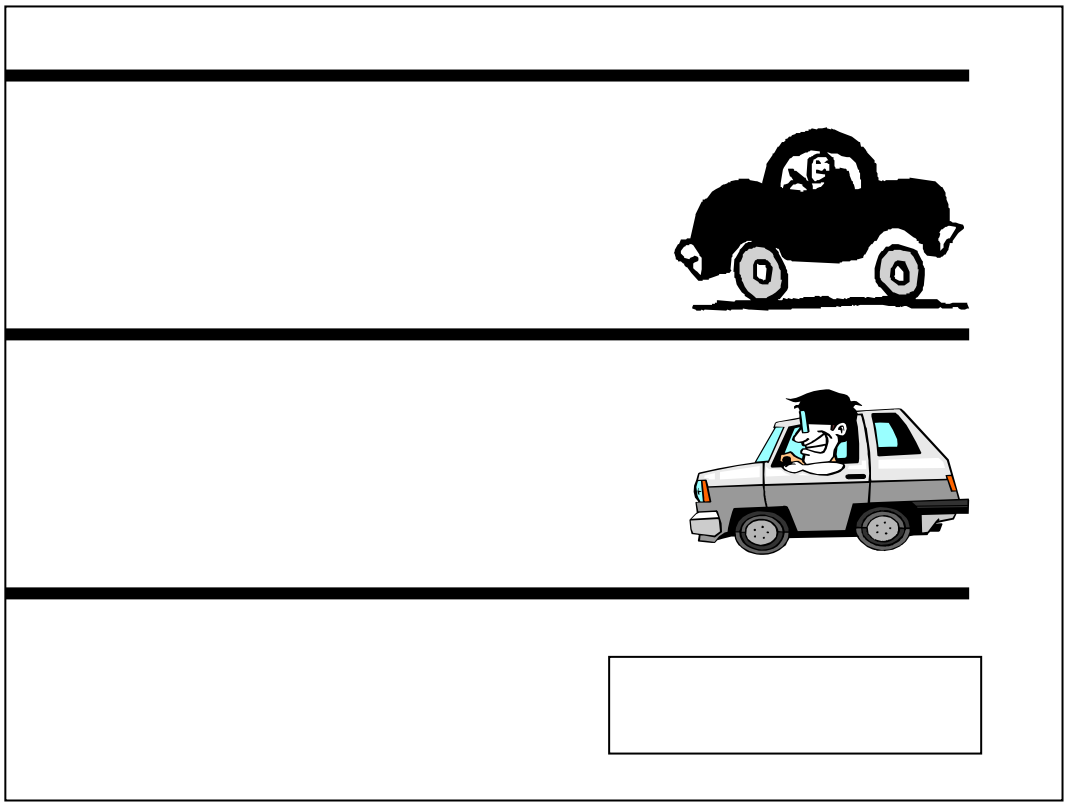


where the frequency of value 6 is 4,554 and plus the following missing values and outliers >75:

sh341 Question 17, part 2 (concrete, cement): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	80	2	.2	28.6	28.6
	86	1	.1	14.3	42.9
	90	2	.2	28.6	71.4
	96	2	.2	28.6	100.0
	Total	7	.5	100.0	
Missing	-6 Question 17 omitted	751	58.8		
	-5 Part 2 omitted	231	18.1		
	-2 Other response	289	22.6		
	Total	1271	99.5		
Total		1278	100.0		

PAGE 19 OF THE TEACHER'S BOOKLET



The two cars are travelling on the same road and going to the same place.

The black car is travelling at 50 miles per hour. It will take 3 hours for it to get to the destination.

The grey car is travelling at 75 miles per hour. How long will it take for the grey car to reach the destination? Write your answer in the box. Don't forget the unit of measurement.

[Editing: The hours component of the response recorded on the coding sheet is presented as SH353a, with X recoded to -2 and blanks to -1. The minutes component of the response recorded on the coding sheet is presented as SH353b, with XX recoded to -2 and blanks to -1. The indicator for correct units component of the response recorded on the coding sheet is presented as SH354, with Y recoded to 1, N to 2 and blanks to -1. If all three variables were omitted then they were set to -6, otherwise values of -1 in SH354 were recoded to 3.

The response in hours and minutes was calculated as SH351a and SH351b by setting them equal to SH353a and SH353b if SH354 = 1 and to -3 if SH354 = 2 or 3. Missing values of -6, -2 and -1 were copied across. An indicator of whether the child got the correct answer was derived as SH350 by setting it to 1 if SH351a = 2 and SH351b = 0 and to 2 otherwise. An indicator of whether the child attempted the question was derived as SH352 by recoding (-6 = 2)(else = 1) in SH351a.]

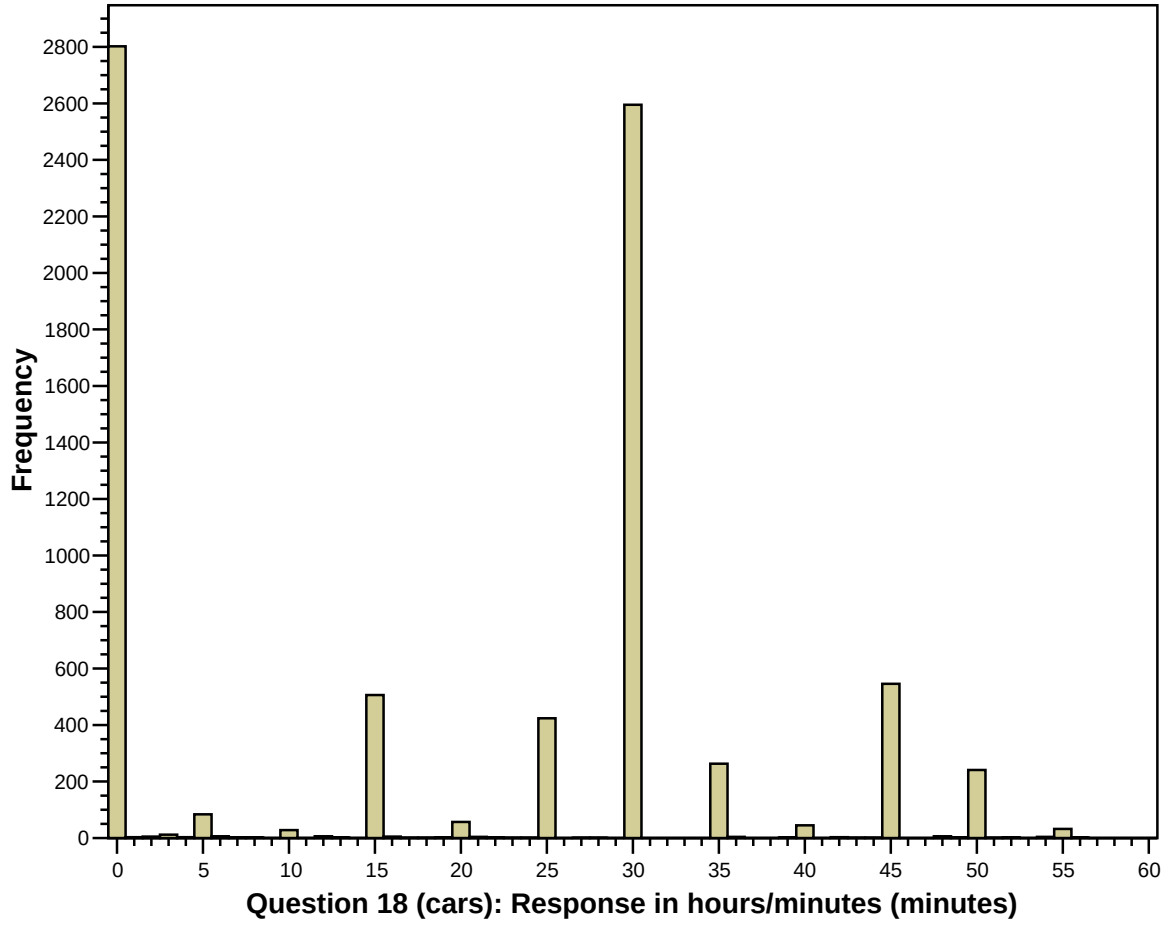
sh350 Question 18 (cars) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2242	21.7	21.7	21.7
	2 No	8111	78.3	78.3	100.0
	Total	10353	100.0	100.0	

sh351a Question 18 (cars): Response in hours/minutes (hours)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	177	1.7	2.3	2.3
	1	1890	18.3	24.5	26.8
	2	4694	45.3	60.9	87.7
	3	208	2.0	2.7	90.4
	4	528	5.1	6.8	97.2
	5	132	1.3	1.7	98.9
	6	35	.3	.5	99.4
	7	33	.3	.4	99.8
	8	4	.0	.1	99.9
	9	10	.1	.1	100.0
	Total	7711	74.5	100.0	
Missing	-6 Question 18 omitted	812	7.8		
	-3 Correct unit not stated	1610	15.6		
	-2 Other response	215	2.1		
	-1 Unit only stated	5	.0		
	Total	2642	25.5		
Total		10353	100.0		

sh351b Question 18 (cars): Response in hours/minutes (minutes)



plus the following missing values:

sh351b Question 18 (cars): Response in hours/minutes (minutes)

		Frequency	Percent
Missing	-6 Question 18 omitted	812	30.7
	-3 Correct unit not stated	1610	60.9
	-2 Other response	215	8.1
	-1 Unit only stated	5	.2
	Total	2642	100.0

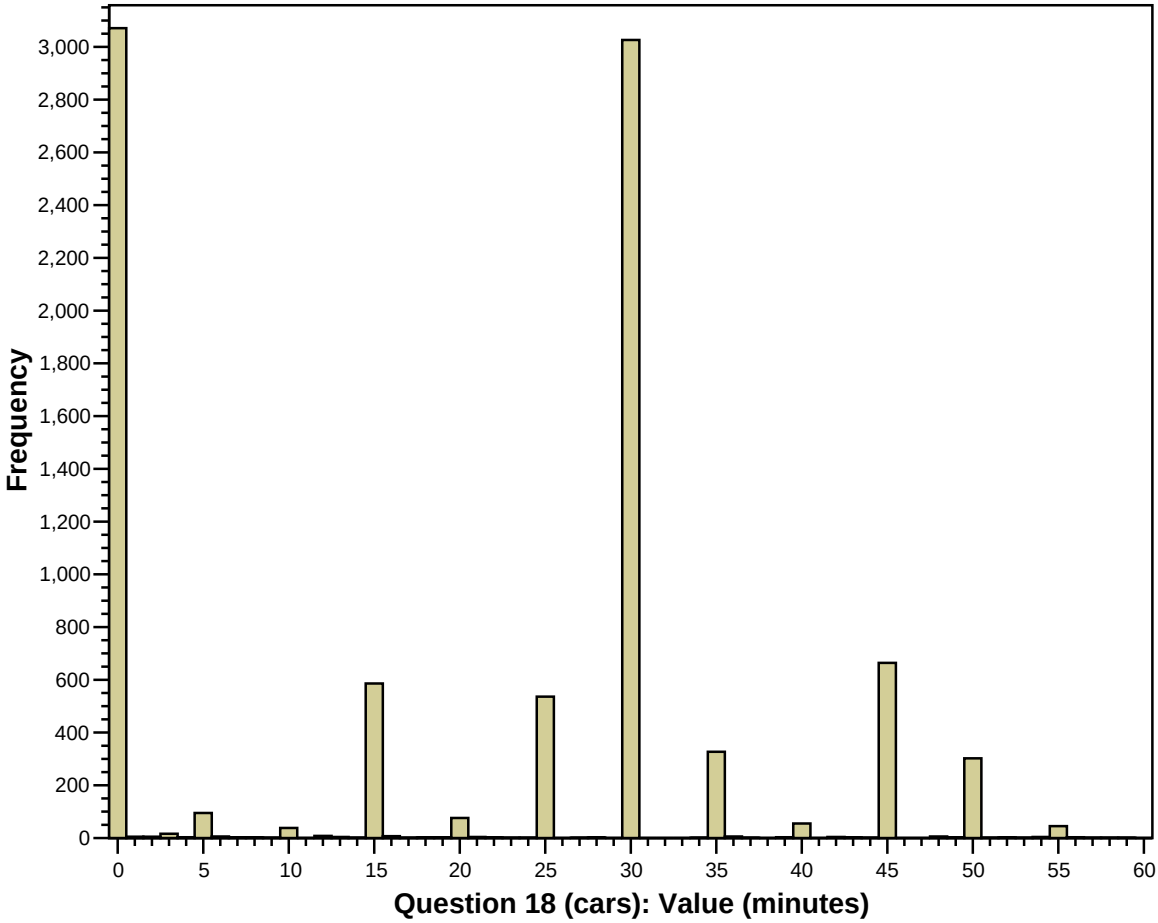
sh352 Question 18 (cars) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	9541	92.2	92.2	92.2
	2 No	812	7.8	7.8	100.0
	Total	10353	100.0	100.0	

sh353a Question 18 (cars): Value (hours)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	214	2.1	2.4	2.4
	1	2189	21.1	24.5	26.9
	2	5405	52.2	60.5	87.4
	3	256	2.5	2.9	90.2
	4	600	5.8	6.7	96.9
	5	167	1.6	1.9	98.8
	6	51	.5	.6	99.4
	7	38	.4	.4	99.8
	8	5	.0	.1	99.9
	9	12	.1	.1	100.0
	Total	8937	86.3	100.0	
Missing	-6 Question 18 omitted	812	7.8		
	-2 Other response	595	5.7		
	-1 Unit only stated	9	.1		
	Total	1416	13.7		
Total		10353	100.0		

sh353b Question 18 (cars): Value (minutes)



plus the following missing values:

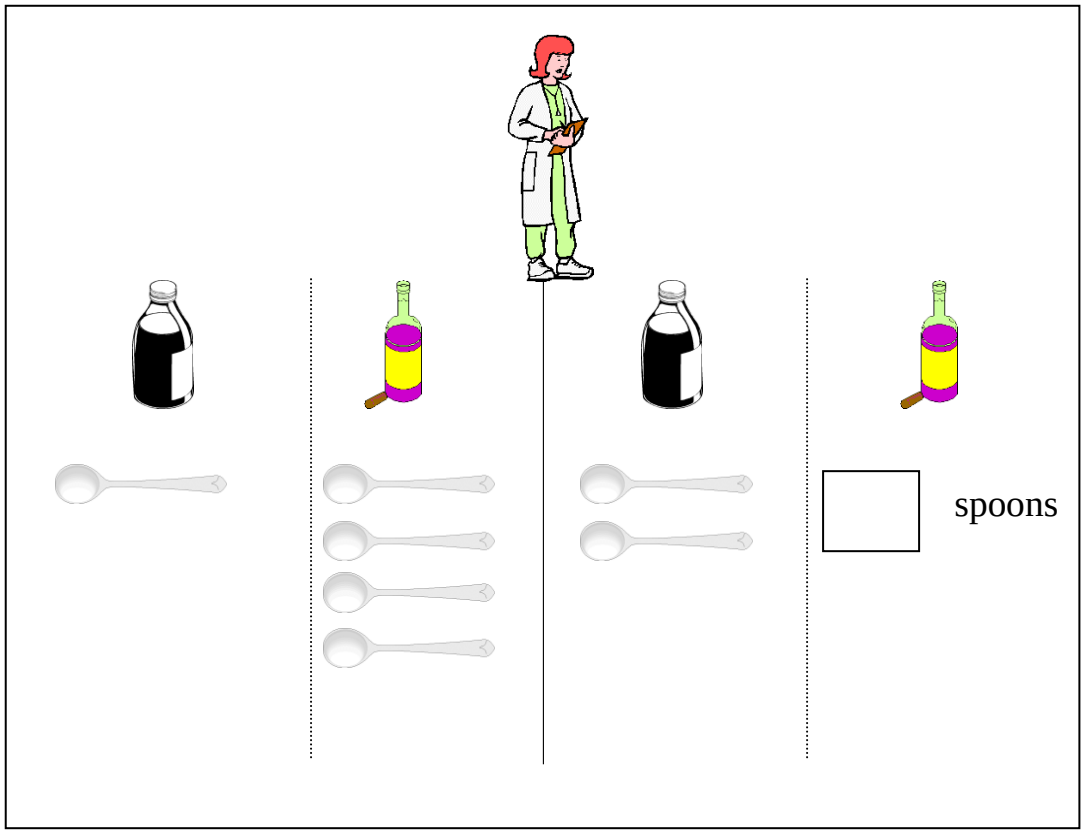
sh353b Question 18 (cars): Value (minutes)

		Frequency	Percent
Missing	-6 Question 18 omitted	812	57.3
	-2 Other response	595	42.0
	-1 Unit only stated	9	.6
	Total	1416	100.0

sh354 Question 18 (cars): Unit stated

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, correct	7931	76.6	83.1	83.1
	2 Yes, incorrect	709	6.8	7.4	90.6
	3 No	901	8.7	9.4	100.0
	Total	9541	92.2	100.0	
Missing	-6 Question 18 omitted	812	7.8		
Total		10353	100.0		

PAGE 20 OF THE TEACHER'S BOOKLET



There is a medicine that is very bitter and the chemist mixes it with syrup for the children to make it taste better.

Yesterday she mixed 1 spoon of medicine with 4 spoons of syrup.
Today she had to make more mixture and she will have to use 2 spoons of medicine.

How many spoons of syrup will she need for the mixture to taste the same as yesterday.

Write the number of spoons under the syrup bottle.

[Editing: The response recorded on the coding sheet is presented as SH361, with X recoded to -2 and blanks to -6. An indicator of whether the child got the answer correct was derived as SH360 by recoding (8 = 1)(else = 2) in SH361. An indicator of whether the child attempted the question was derived as SH362 by recoding (-6 = 2)(else = 1) in SH361.]

sh360 Question 19 (medicine) correct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	7779	75.1	75.1	75.1
	2 No	2574	24.9	24.9	100.0
	Total	10353	100.0	100.0	

sh361 Question 19 (medicine): Response

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	4	.0	.0	.0
	1	53	.5	.5	.6
	2	157	1.5	1.6	2.2
	3	361	3.5	3.6	5.8
	4	235	2.3	2.4	8.1
	5	934	9.0	9.4	17.5
	6	274	2.6	2.8	20.3
	7	126	1.2	1.3	21.6
	8	7779	75.1	78.3	99.8
	9	16	.2	.2	100.0
	Total	9939	96.0	100.0	
Missing	-6 Question 19 omitted	316	3.1		
	-2 Other response	98	.9		
	Total	414	4.0		
Total		10353	100.0		

sh362 Question 19 (medicine) attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	10037	96.9	96.9	96.9
	2 No	316	3.1	3.1	100.0
	Total	10353	100.0	100.0	

PAGE 21 OF THE TEACHER'S BOOKLET

Many thanks for you help
Please return this booklet together with those of the child(ren) to:

Professor Jean Golding
Children of the Nineties – ALSPAC
Institute of Child Health
24 Tyndall Avenue
Bristol
BS8 1BR Tel: Bristol 928 8487

Derived Variables

Number of question parts answered correctly

This was derived as SH700:

sh370 # Question parts answered correctly

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	.1	.1	.1
	1	11	.1	.1	.2
	2	21	.2	.2	.4
	3	28	.3	.3	.6
	4	66	.6	.6	1.3
	5	91	.9	.9	2.2
	6	147	1.4	1.4	3.6
	7	189	1.8	1.8	5.4
	8	254	2.5	2.5	7.9
	9	292	2.8	2.8	10.7
	10	348	3.4	3.4	14.0
	11	377	3.6	3.6	17.7
	12	387	3.7	3.7	21.4
	13	442	4.3	4.3	25.7
	14	454	4.4	4.4	30.1
	15	503	4.9	4.9	34.9
	16	469	4.5	4.5	39.5
	17	513	5.0	5.0	44.4
	18	510	4.9	4.9	49.3
	19	461	4.5	4.5	53.8
	20	442	4.3	4.3	58.1
	21	424	4.1	4.1	62.2
	22	436	4.2	4.2	66.4
	23	441	4.3	4.3	70.6
	24	456	4.4	4.4	75.0
	25	437	4.2	4.2	79.3
	26	436	4.2	4.2	83.5
	27	386	3.7	3.7	87.2
	28	363	3.5	3.5	90.7
	29	305	2.9	2.9	93.6
	30	257	2.5	2.5	96.1
	31	196	1.9	1.9	98.0
	32	113	1.1	1.1	99.1
	33	60	.6	.6	99.7
	34	23	.2	.2	99.9
	35	9	.1	.1	100.0
	Total	10353	100.0	100.0	

Number of question parts attempted

This was derived as SH371:

sh371 # Question parts attempted

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	4	.0	.0	.0
	1	2	.0	.0	.1
	3	1	.0	.0	.1
	4	3	.0	.0	.1
	5	3	.0	.0	.1
	6	1	.0	.0	.1
	7	3	.0	.0	.2
	8	4	.0	.0	.2
	9	7	.1	.1	.3
	10	2	.0	.0	.3
	11	2	.0	.0	.3
	12	5	.0	.0	.4
	13	9	.1	.1	.4
	14	11	.1	.1	.6
	15	11	.1	.1	.7
	16	12	.1	.1	.8
	17	11	.1	.1	.9
	18	13	.1	.1	1.0
	19	16	.2	.2	1.2
	20	25	.2	.2	1.4
	21	25	.2	.2	1.6
	22	41	.4	.4	2.0
	23	53	.5	.5	2.5
	24	70	.7	.7	3.2
	25	81	.8	.8	4.0
	26	124	1.2	1.2	5.2
	27	180	1.7	1.7	6.9
	28	280	2.7	2.7	9.6
	29	409	4.0	4.0	13.6
	30	634	6.1	6.1	19.7
	31	1059	10.2	10.2	30.0
	32	1796	17.3	17.3	47.3
	33	2711	26.2	26.2	73.5
	34	2155	20.8	20.8	94.3
	35	590	5.7	5.7	100.0
	Total	10353	100.0	100.0	

2003 MATHS TEST – YEAR 6

Q1-3. Transcribe numbers using 04 for 4 etc. code xx if fraction or over 99 or other

Q1. accept 9.1 as 9

Q2.

Q3.

Q4. Look at the picture of Game 1 and write down the no. of balls the child has drawn in the white, grey and in the tube areas. (No balls in a particular area = 0)

Do the same for Game 2.

Q4. White Grey Tube

Game 1. if over 9 put x

Game 2.

Q5-7. Put what the child has written, write L for lost and W for won. If the child has indicated these with a minus or plus sign, put L for minus and W for plus. Code xx for over 99.

Q5. sign no.

Game 1.

Game 2.

Game 3.

Final.

Q6. sign no.

Game 1.

Game 2.

Game 3.

Q7. sign no.

Game 1.

Game 2.

Game 3.

Q8. Code as for Q1

Q9. S = same, D = different

R = right, L = left, (Not stated = blank). If answer is indicated by a ring around one code box or one of the diagrams, count this as the answer.

Q10.

Tape [ ][ ] code as for Q1.

Metres or m. stated [ ] Y= yes, N= other given, (Not stated = blank)

Paint [ ][ ] code as for Q1.

Sq.m or m^2 stated [ ] Y= yes, N= other given, (Not stated = blank)

Q11.

Volume [ ][ ] . [ ] correct to 1 dec.place; xxx if over 99

Cu.m or m^3 stated [ ] Y= yes, N= other given, (Not stated = blank)

Q12. [ ] Y= yes, N= other given, (Not stated = blank)

[ ][ ] L = left, M = middle, R = right – e.g. put LM if left and middle ticked

Q13.

Spoons flour [ ][ ] code as for Q1.

Spoons milk [ ][ ]

Q14. [ ] Code as for Q12.

[ ][ ]

Q15. Days [ ][ ] Code as for Q1.

Q16.

Mon. [ ] 1 = 50% or ½;
2 = $^3/_6$, $^2/_4$ or equivalent fraction;
x = all other answers
(If '$^3/_6$ = ½' or similar is written, record code 1.)

Tues. [ ]

Y/N [ ] Y = yes, N = no

Q17.

Cement [ ][ ] code as for Q1.

Sand [ ][ ]

Convert answer into hr and min
If 10 hr or more or other answer given put x xx

Q18. [ ] hr [ ][ ] min [ ] correct units given (Y = yes, N = no)

Q19. [ ] If over 9 put x

NOTES ON TRANSCRIBING YEAR-6 AND YEAR-8
MATHS TESTS

Year-6 Maths Tests

The answer books are divided into SCHOOL AREAS 1-6 and 8

The same schools were trawled for year-6 children in 3 successive years: **2002, 2003, 2004**

Year-8 Maths Tests

SCHOOL AREAS as above.

Tests were administered only to the children in year 8 in **2004/5** i.e. those who had been in year 6 in 2003.

Answer sheets

To record answers:

REMEMBER! You are recording only what the child has written. In a multi-part question leave BLANK the parts where there is no answer.

I Ds (boxes at the top of page 1) :

Areas 1-6

1. Write the school I D (handwritten on the answer book) in the right-hand set of boxes
   e.g.

1	2	4	8	0	0	1

or

3	0	2	4	0	3	1

2. Write the ALSPAC link number (9 digits printed on the white label) in the left-hand set of boxes
   e.g.

6	4	4	2	3	3	1	0	2

Area 8 only

1. There is no school code: leave right-hand boxes blank

2. Write the ALSPAC link number in the left-hand set of boxes: it will usually have 9 digits as for areas 1-6, with the following addition: the number will be preceded by either 1 or (occasionally) 2 capital letters which should be written outside the boxes and to the left

e.g.

A	6	4	4	1	0	2	3	5	6

or

AA	6	4	4	5	6	7	9	8	2

Question 2

A lot of children have answered ‘15’ or “11” (because presumably they have counted the 3 in the illustration or didn’t count Imran’s)
TRANSCRIBE the 15 or 11 as stated.

BUT if the children have written “15 or 12” or “11 or 12”
TRANSCRIBE AS 12

In this last example above it will have depended on the skill of the administrator as to whether they wrongly counted in the flags illustrated, so in this case only we are giving them the benefit of the doubt if they have stated an alternative.

Questions 5-7

For the pinball game scores: leave the ‘sign’ box blank if the child has not actually written **WON** or put a **PLUS SIGN** in the answer.

Questions 6 and 7

Blank pinball machine answers:
Many children drew correct number of pinballs in the machine but did not write the number on the line.
LEAVE THE ANSWER BLANK

Question 17

Cement and sand:
Many children put the answer the wrong way round i.e. 9 buckets of sand and 6 buckets of cement
TRANSCRIBE THE ANSWERS INTO THE BOXES THEY STATED