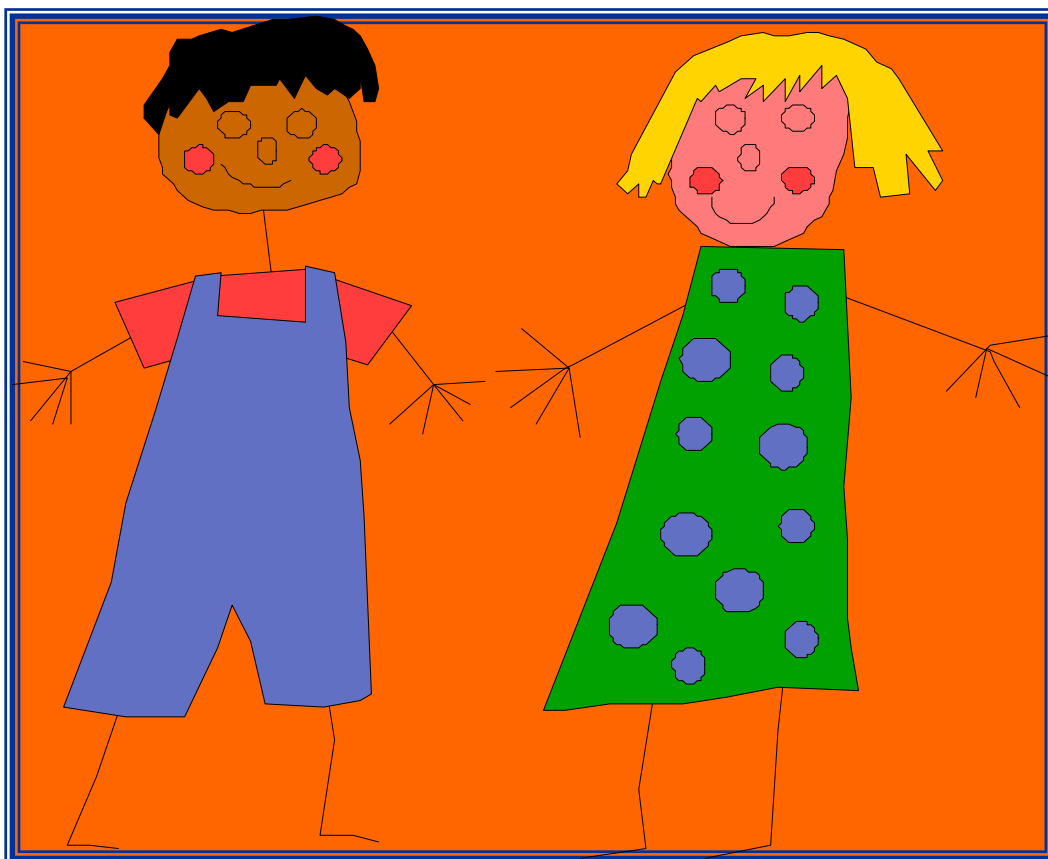


The FAST Manual

Food Assessment in Schools Tool

How to run a FAST data collection



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This document is designed to act as a manual for lay observers and team leaders involved in the administration of FAST. It gives background information and administrative instruction for data collection.

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1. Introduction

1.1 National School's Fruit Scheme

The Government has introduced a National Schools Fruit Scheme (NSFS) in which, by 2004, all infant school children will be entitled to a free piece of fruit each school day, as part of a national campaign to improve the diet of children. The NSFS has been piloted in schools throughout England over the past two years. The Department of Health has funded research to develop a method of assessing children's diet, aged between 3 and 7 years old, to measure the impact of the NSFS on diets of children.

For further information see www.doh.gov.uk/schoolfruitscheme , literature is available from The Department of Health, PO Box 777, London SE1 6XH.

1.2 FAST Diary

The Human Nutrition Research Centre at University of Newcastle upon Tyne developed, tested and produced a food diary specifically designed for children aged three to seven years old. Children in this age group cannot reliably record their own intake therefore parents, carers and project 'observers' must do this for them.

The FAST (Food Assessment in Schools Tool) diary is an easy to use food diary used to record what children eat and drink over a four day period (three of which are school days). The children taking part in the study are observed, and a record kept of WHAT and WHEN they eat and drink, but NOT HOW MUCH.

Data from the National Diet and Nutrition Survey (NDNS) provides information about average portion size for each foodstuff, allowing calculation of average nutrient intake per portion consumed, per child (REF Gregory et al. 1995; Gregory and Lowe 2000¹).

¹ Gregory J and Lowe S. (2000) *National Diet and Nutrition Survey: young people aged 4 to 18 years. Volume 1: Report of the diet and nutrition survey.* The Stationery Office: London.

2. Time Plan

(See Appendix 6.1)

This overview shows the sequence of events and tasks that should be followed to ensure the smooth running of FAST data collection studies.

Each stage is detailed in section 3. The timings are calculated to allow for preparation and response time, although the timescales can be condensed if necessary, it is not recommended.

3. Selection of School and Children

3.1 Selection of schools

The schools may be selected subject to a number of criteria, clarify with your principle investigator prior to the study commencing which ones apply:

- Do they have classes from nursery to year 6 (ages 3 – 11 years)
- Do they provide before and after school care
- Are they participating in the National School Fruit Scheme

Once your schools have been selected, send a letter of introduction to the head teacher (see Appendix 6.2) and arrange a follow up meeting to explain further and discuss any questions. At the meeting:

- emphasise that there will be only minimal disruption to the school generally and none at all to teaching
- highlight the potential benefits
- discuss a convenient date to come into the school and run the project (these should avoid: SATS week, half-term and any non-standard school day e.g. special festival days)
- decide which classes in a year group will participate (this will depend on how many participants are required)
- offer to take assembly to explain the research to the children
- go through the letters that will be sent to the parents via the children
- offer contact with other schools that have taken part in the study already (contact HNRC for details)

3.2 Incentives

To maximise the numbers of children participating, the children and schools can be offered an incentive. The following options are possible subject to funds available:

To Children

Each child taking part receives a pencil and a 'certificate of completion' (see Appendix 6.3).

During the study, the FAST diary plastic wallets and stickers serve as positive reinforcement for taking part as these are highly prized by their possessors.

To School

The school will be given a book token to the value of £1 per child participating in the study.

It should be pointed out that the study generally raises 'food awareness' within the school with the possibility of project/topic work being built around it. The results can be made available as grouped data to the school.

All the information collected should remain confidential.

3.3 Selection of children

The school office will hold class lists. Send letters of explanation and invitation to join the study (see Appendix 6.4) and a parental consent form (see Appendix 6.5) to all children in participating classes. A child cannot participate without receipt of a **signed** consent form.

Where possible, talk to the teachers of classes involved in the study as their perception and enthusiasm for the study can greatly affect the consent response rates from the children, (pester power of the children on their parents to take part) if the concept has been sold to them positively.

4. Administrative procedures

4.1 Recruitment and Training and payment of 'observers'

A letter to parents [and grand parents] (see Appendix 6.6) sent with the introduction letter and consent form, offered the opportunity to collect data as a paid 'Parental Observer'. The letter outlines what is involved with a return slip to fill in if interested.

Aim to recruit at least one parental observer per class participating in the study.

A training day lasting approximately 4 hours (including a visit to the study school to acquaint themselves with the lunchtime procedure) will explain fully what is required from the parents prior to data collection in school. For suggested agenda see Appendix 6.7.

A number of reporters are needed to record what the children eat throughout the school day. Most are needed from morning break until after lunch with varying cover required from breakfast clubs through to after school clubs.

The rate of pay for the observers in the developmental stages was £6.70 per hour (including TAX & NI) plus any claimable expenses incurred, for both the training day and the three days spent in school. A timesheet is provided to record the hours worked by each observer.

If possible each reporter should bring their own mobile phone (they will be reimbursed for calls made) or be provided with the use of one, and the numbers circulated to ensure everyone is able to contact each other for reasons of personal security and communication of information.

4.2 Documentation (on enclosed disc)

All documentation is provided on the disc enclosed. This should be personalised for the school to be studied and the required number printed off.

4.3 FAST Diaries

An example of the fast diary can be found in Appendix 6.8. The diary is A5 size, brightly coloured with a bold design to appeal to children. It is kept in a bright plastic wallet, in one of four colours, to protect it, make the diary easy to locate and to make it attractive to children. Each diary should be personalised with the child's name and class, front and back. Stickers with the FAST logo have been printed (see Appendix 6.9) in four bright colours with a space left on which to write the child's name. A name sticker is placed at the top of the wallet. Stickers and wallets are allocated by colour to denote class/year group. For example all reception children may have yellow stickers, but if there is more than one class in reception then each class is given a different wallet colour to ease identification.

It is important that the children eat and drink as they usually do, with no changes being made to their diet because they are being watched,

emphasising that there are no right and wrong answers – no judgement will be made.

Diaries, wallets and stickers can be obtained via the Human Nutrition Research Centre, using the contact details at the front of this document.

Diary introduction

The first page of the diary explains to the parent the aims of our study and how the diary is structured. The next page shows how to fill in the diary over the four day study, followed by four pages for data collection, one for each day.

It is important to emphasise that observers must record a food even if only one bite/one sip taken

Data collection pages; DAY 1, 2, 3 and 4

Each page is divided into six timeslots to cover the child's day, these correspond approximately to: - breakfast, morning snack, lunch, afternoon snack, tea and supper.

Table 1

Timeslot	Period	Number of listed foods
1	6:00 – 9:00 a.m.	23
2	9:01 – 11:00 a.m.	24
3	11:01 a.m.- 2 p.m.	46
4	2:01 – 4:00 p.m.	23
5	4:01 – 7:00 p.m.	42
6	7:01 – 11:00 p.m.	32

Within each timeslot there are lists of some the most frequently eaten foods, these were determined by looking at research carries out nationally by the National Diet and Nutrition Survey (Gregory et al. 1995², Gregory and Lowe 2000). The lists vary in length depending on the time of day. Some foods within the lists are grouped, such as 'savoury snack' is used to encompass all crisps, potato shaped snacks, Monster Munch, Cheesey Wotsits etc. Any foods eaten that are not on the list are to be recorded on the far right of the page in the section named 'other'.

The last page has a section where parents can write any comment or suggestions followed by a 'thank you' for their time and for taking part.

² Gregory JR, Collins DL, Davies PSW, Hughes JM, Clarke, PC. (1995) *National Diet and Nutrition Survey: children aged 1½ to 4½ years. Volume 1: Report of the diet and nutrition survey.* HMSO (London, 1995).

4.4 Data Collection

These stages should be followed to enable reliable data to be collected.

4.4.1 BEFORE data collection starts

- Draw up class registers of participating children; see Appendix 6.10, noting whether they will be in before or after school clubs and whether they will eat school meals or packed lunch
- Put name/class on diaries
- Select sticker colour for school year and wallet colour for class group
- Insert a flier, see Appendix 6.11, reminding parents to start recording what the children eat and drink from waking the following morning.
- Write out name badges in the relevant colour for all children.
- Where possible find one central point within the school that can act as a base camp for the team, such as a common room or parent room.
- Prepare certificates of completion
- Notify the out of hours care providers of the project dates and tell them that observers will be watching the children
- Purchase book tokens
- Get a copy of the week's lunch menu and produce a list of abbreviations for any item not listed in the lunch timeslot see Appendix 6.12 for examples. This will speed the recording of school meal items.

4.4.2 Prepare a box to take into school with you containing:

- Class register of participating children
- Menu abbreviation list
- Spare diary pages for DAY 1, 2 and 3
- Forgotten diary reminder slips
- Observer time sheets
- Observer expense claim forms
- Spare diaries
- Spare wallets
- FAST sticker
- Non FAST stickers (to pacify distressed children)
- Sheet reminding parents to fill diary in on Saturday and return it to school on Monday
- Menu abbreviation sheet
- Clipboards
- Paper clips
- Pens
- A file for 'collected data'
- Telephone contact list of all observers and team leader with copies for all the team

4.4.3 DAY 1

Before school starts

- Observers must be at the before school club as it opens (the number of observers needed will depend on how many participate children are using this facility – check your register). Collect diaries from

parent/carer as they drop the child off, verifying that anything consumed that morning has been recorded in the diary.

At the start of the school day

- Fill in start time on time sheets
- Assign observers to each participating class and draw up a rota to cover lunch time observation as school dinner and packed lunches may be consumed in different locations
- Place name sticker on child's shirt/jumper that they will wear through the day (coats and jumpers may be discarded leaving children unidentified).
- If a FAST diary has been forgotten a spare diary page must be completed (see Appendix 6.13). Write the date, child's name and class at the top of the page and name a 'forgotten dairy reminder slip' (see Appendix 6.14), to be sent home with the child that night explaining that this information will be transcribed into the diary tomorrow and the parents are to fill in the diary as normal that evening.
- Liaise with dinner staff to find what time the children will be served lunch and notify the observers
- As soon as the school day starts one observer must be positioned at each participating classroom ready to sticker the children and collect their diaries before they start the day's routine or start moving around the school for different activities, so as not to interrupt.
- Liaise with each class teacher to determine if or when fruit or food will be served or eaten within the class, or milk distributed and make a note of the time stated (this may change on a daily basis)
- Observers then return to the team room
- Check diary returns against central register
- Complete spare diary pages
- Name diary reminder slips for the children who have forgotten their diaries
- Open all diaries to DAY 1 and write the child's name, date and packed lunch/school meal at the top of the page
- Use a paper clip to hold the diaries open at DAY 1 as this eases the handling of the diaries by the observers.

Before morning break

- Return to the classrooms 5 minutes prior to the stated time for food and drink distribution with the FAST diaries and spare diary pages.
- If the food and drink is being eaten in the classroom position the observer so that all the children participating in the study can be seen (for large classes more than one observer may be needed)
- Tick the relevant box on the diary in timeslot 2, ONLY when the child has taken a bite/swallowed the food/drink. (there is no need to wait to see if the food/drink is finished BUT the observer should wait until the food or drink that has been refused by a child has been removed, in case they change their mind). If the food is not listed, or if the child drinks water, record this in the 'other' column
- Observers return to team room

- Divide the diaries and spare pages into packed lunch and school dinner groups and distribute to the observers according to the lunch cover rota
- Distribute school lunch abbreviation lists to observers

Lunch time

- Position observers as unobtrusively as possible within the lunch hall
- As the children come into the hall (usually in class/year groups) identify participating children as soon as possible ensuring that there are no children that can't be found (if any can't be located notify the team leader immediately – stickers may have been removed so spares may be needed)
- Ensure children with packed lunch and those with school dinners can be watched by the appropriate number of observers (the proportional split will vary from school to school)
- Watch the children closely. When they eat a food that is listed tick that item in timeslot 3, if the item is not listed write it in full or its abbreviated form in the 'others' column.

After lunch

- Return to the team room
- Clarify with teaching staff whether anything is allowed to be eaten or drunk in the afternoon. If it is, provide cover for these classrooms.
- Once eating and drinking has finished for the day, put the diaries in their wallets and return them, along with named 'forgotten diary reminder' sheets to the class teacher, to send home with the children.
- Children attending after school clubs should take their diaries with them
- Observers must cover after school clubs (when participating children are attending) to record consumption
- All FAST name stickers must be removed from the children before they leave school for security reasons (non FAST stickers offered to pacify distressed children)
- Note parental observers finishing time on time sheet

4.4.4 DAY 2

- Repeated the processes for DAY 1
- Check for the return of diaries that were forgotten by the children on DAY 1. If they have come into school transcribe the information from the 'forgotten diary spare page' into the FAST diary. Score through the sheet and store it in the collected data file

4.4.5 DAY 3

- Repeat the processes for DAY 2
- When preparing the diaries to be returned to the children at the end of the day, put reminder sheet (see Appendix 6.15) into the wallets along with the FAST diaries reminding parents to complete DAY 4 on Saturday and return the diary to school on Monday.
- Thank the staff for their help and patience, and remind them that you will be back on Monday to collect the completed diaries

- Liaise with school office/head teacher to determine a convenient time to collect the completed diaries on Monday, and the outstanding diaries on Wednesday

4.4.6 DAY 4

- Data is recorded at home

4.4.7 Data retrieval

- Return to school to collect the FAST Diaries on the Monday following the study
- If funded, give book tokens, pens and certificates perhaps at an assembly presentation ceremony
- Send completed diaries to (to be confirmed)

4.4.8 Problems encountered previously and solutions devised

Initial plans were made for data collection without the benefit of practical experience. Once the trial had been completed a number of process changes were required, these are listed below to give a complete understanding of how and why certain instructions are given. It was found that each school had its own operation systems and rules, and only once a school has been visited can the project be tailor made to fit in with the school day.

It was originally planned to have one reporter assigned to each class/year group throughout the three school days of the study; however, this had to be re-evaluated during the test study period. This was because:

- The children, especially in the older classes, ate much more quickly than one reporter could record what they consumed.
- The children from each class could be spread quite widely throughout the dining hall.
- The nursery class split and went to two locations to have their milk and fruit during the day.
- Children were given fruit as they went into the playground for break, running off in all directions.

To overcome these potential problems, the group of reporters restructured to work as a team rather than individuals watching only 'their' children.

- During lunch time the intake of children to the dining hall was done in strict class group order, this allowed all the reporters to focus on only one class of children at a time, each reporter recording the consumption of only one table of children. By the time the youngest children had finished eating the older ones were just starting.
- In the nursery two options were tried to accurately record what the children ate.
 - a) An extra reporter was recruited to cover milk and fruit time in the morning and afternoon.

b) With the teacher's co-operation, the serving of milk and fruit to the two groups was staggered to allow the reporter to move from one group to the other.

- The reporters assigned to the older classes needed to follow children into the playground where the fruit was dispensed. The children themselves proved willing helpers, bringing their friends to the reporters, often instructing them to "Tell Miss if you ate your banana!".

4.5 Measurement of height and body weight (optional)

Calculation of dietary intake from FAST does not require body weight however body weights are useful in assessing the validity of the dietary data collected.

Collection of body weight, and sex and age of each child will enable an estimate of energy requirement to be calculated (ref Schofield et al). This estimate of energy requirement can be compared with the energy intake recorded by FAST. Collection of height and body weight will allow body mass index (BMI) to be calculated, which can be compared with national standards (ref Chinn and Rona 2001³) to assess level of obesity and overweight in a given population. A protocol for the measurement of body weight and height is given in Appendix 6.16.

5. Feedback from previous studies

5.1 Parental Observers

Observers' feedback was on the whole very positive. One observer commented that the training had prepared her well. Another felt that the work was not difficult, especially as the observers were able to work together as a team. One teacher was seen as 'stand-offish', which was slightly uncomfortable for her classroom's assigned observer. One observer said she had needed all the information she was given in order to handle questions asked by parents and teachers.

5.2 School teaching staff

The classroom teachers, teaching assistants, and the deputy head, when asked, responded uniformly that the impact on them and on their class-time had been non-existent or negligible. The attitude of the whole school was very relaxed and welcoming. As thanks to the staff we gave them a tin of biscuits and punnets of strawberries at the conclusion of the study.

The individual classroom teachers had a great deal of flexibility in terms of preparation, timing, and distribution of the fruit in the classroom (e.g. morning plus afternoon, peeled or unpeeled, cut or whole). All of these may influence fruit consumption by the children. Also, such flexibility makes effective communication between teachers and observers imperative for the success of evaluation using the FAST diary.

³ Chinn S and Rona RJ. Department of Public Health Sciences. (2001) *Primary care. Prevalence and trends in overweight and obesity in three cross sectional studies of British children, 1974- 94.* BMJ 2001.

5.3 School dinner staff

Dinner ladies and cooks were obliging and helpful. They assisted in pointing out 'tagged' children and provided advance copies of school dinner menus. Informal chat with several dinner ladies suggested that the presence of the observation team was viewed with amusement rather than dismay. We did not record or notice any disturbance to the school dinner or packed lunch system incurred by the completion of the diaries.

5.4 Parents

On the diaries

No parent had any complaints about filling in the diary; all regarded it as simple, 'not a hassle', 'clear' and 'fine'. A number of parents expressed pleasure at learning what their children ate at school: "I've also learned more about what [she] eats at school...next time she tells me she doesn't like pasta in sauce, or fish cakes, I'll know she's telling me fibs." Several parents commented that while completing the diaries they paid more attention to their child's diet and to his or her fruit and vegetable consumption. One mother was prompted to take her daughter shopping with her Friday night in order to choose her own fruit.

On the school fruit scheme

Parents were quite passionate about the fruit scheme. All parents who talked to us wanted to make clear how pleased they were with the NSFS. One mother pointed out that when fruit is distributed at school it is the only thing 'on offer' so her son eats it, while at home he would probably select biscuits or crisps instead. One mother writes: "I think that providing the children with fruit in school is excellent. My child has started to eat a wider range of fruits because of this. However, the most important reason, in my opinion, for encouraging children to have fruit is that they have something to eat between breakfast and school lunch. I think that this is far too long a time for young children to go without food."

5.5 Children

At school, the children enjoyed the process of helping the observers complete their own and their friends' diaries. This seems to be the case at home as well. One boy dictated a note to his parents: "I enjoyed doing this book!" Many children produced delightful drawings of their 'favourite food' in the space set aside in the diary for that purpose (an example is shown on the back cover of this document). The children took the presence of the observers in their stride; during the school dinners, observers were treated as auxiliary dinner ladies and were often asked to open difficult packaging, cut up food, or help with spills.

6. Appendices

All forms are supplied on disc to be personalised and printed, diaries and stickers should be obtained from the HNRC.

Appendix 6.1 Project time plan

Appendix 6.2 Letter of Introduction to Head teacher

Appendix 6.3 Certificate of completion

Appendix 6.4 Letter of introduction and invitation to take part in the study to parents

Appendix 6.5 Parental consent form

Appendix 6.6 Letter to recruit parents as 'observers'

Appendix 6.7 Training session agenda

Appendix 6.8 FAST Diary

Appendix 6.9 FAST Stickers

Appendix 6.10 Class register

Appendix 6.11 Reminder to start filling in diary

Appendix 6.12 Lunch abbreviation list

Appendix 6.13 Spare diary pages (photocopied from FAST diary)

Appendix 6.14 Forgotten diary reminder slip

**Appendix 6.15 Reminder to fill in diary on Saturday and return
it to school on Monday**

Appendix 6.16 Protocol for the measurement of body weight and height

Heavy outerwear and shoes were removed, as was anything visibly bulky in pockets. One person performed the measurements and another recorded them.

For stature measurement, Soehnle stadiometers were used to measure the height of the children to the nearest cm above 100cm, and to the nearest 0.1cm below 100cm. Children were asked to stand relaxed with arms by their sides, palms in, eyes forward, focused on an object or picture in front of them, while the observer used gentle pressure on the mandibular angle to align the child's head in the Frankfurt plane while the stadiometer was operated. An incorporated spirit level ensured correct placement of the device. Once the measurement had registered, the stadiometer was re-set and a duplicate measure taken. For the youngest children, placing a sheet of paper with the outline of two feet on the floor helped to get them into the correct position.

For weight measurement a Tanita or Soehnle bathroom scale on a level unyielding surface was used. Once the scale had been zeroed, the child was asked to step on the scale and remain still until the weight registered. After the child stepped down the scale was re-zeroed, and a duplicate measurement was taken. Care was taken that children were not touching anything. Measurements were accurate to the nearest 0.1 kg.

Sausage Mash Potato
Peas and Carrots

