How to be a researcher box

Aim

1. 'How to be a researcher' sheet, asks students to be researchers and collect data such as hair colour. A simple program is provided for entering data and creating pie charts.

2. Sample food diaries - showing how detailed dietary data are collected. Diaries can be filled in and show complexities of collecting dietary data (portion size, recipes, household measures).

3. Pairs Game
   - To pair up the areas large observational studies might want to study with the ways in which they can be measured. E.g. Cholesterol and blood test
   - to learn about the different areas of health that can be studied in large groups of people
   - to learn about how we measure different aspects of health and lifestyle
   - to learn about why we take these measurements
   - extension: to discuss difficulties with measuring these things accurately

Numbers

Children: All 3 activities could be done with a class of students

Staff/helpers: 1-2

What is needed?

Borrowed materials

- How to be a researcher sheets master sheet for copying (double-sided A4, black and white)
- Spare copies of sheets, which can be used by the students (as available)
- Paper measuring tapes (as available)
- Memory stick holding program for creating pie charts or go online to (TBC).

- Pairs game – 16 A4 laminated cards with pegs and loops for hanging– 8 ‘areas we want to measure’ cards and 8 ‘how we measure them cards’
- Pairs game - brief instructions for display (A3)
Food diaries (hard copies) – for each student (notify EPIC beforehand regarding the number needed – A5 booklets)

Self-sourced

- PC Computer
- Pens
- Clipboards may be useful
- Extra measuring tapes if needed
- Poster board for hanging cards (desirable if being used in a group)
- Drawing pins to hang cards
- Cornflakes and bowls (optional)...

Step-by-step instructions

How you can be an EPIC researcher:

1. Before starting the activity go to www (TBC) and enter password (contact ... to obtain password). This will enable access to a web form (like the paper copy of the form) where data can be entered from each activity sheet.
2. Distribute the activity sheets to the group members/students, either individually or in small groups. Give each person/group a tape measure, a pen and a clipboard (optional).
3. Ask each group/person to measure and observe in order to fill in the form about themselves or someone else. They need to collect the following information: Hair colour, Ear length, Eye colour, Finger length and Foot length.
4. Once the data have been collected on the sheet, they can be entered on the web form. The pie chart can be viewed at multiple points during data entry to demonstrate proportions and describe the class make-up.

Extension Activities:

Ask students to enter data onto a program such as Microsoft Excel and to create a variety of diagrams/graphs to describe the characteristics of the class.

Look at the difference between categorical variables such as hair and eye colour and continuous variables such as finger and ear length.

Investigate the difference in these variables between different age groups.

Ask students to come up with a new measure to add to the collection e.g. age.
Pairs Game:

1. One card of each pair will be velcroed to the poster board and so will be fixed. Hanging down from each of these will be a peg.
2. Peg the other halves to the wrong card so all cards are displayed or if time is short or it is the best way to get people working together, hand the pile to a person or group who are playing.
3. Ask the participants to start matching them up correctly by moving around (or attaching) the bottom cards.

The correct pairings are:

Waist to hip ratio / Tape measure
Cholesterol / Blood Test
What people eat / food diary
Sleep / Self report in questionnaires
Eyesight / Snellen Chart
Height / Stadiometer
Weight / scales
Blood pressure / Sphygmomanometer

Food diary

Introduction

The diary presented here formed the primary dietary assessment tool in the EPIC-Norfolk study. It is a 7-day Diet Diary (7dDD), issued as A5, 50-page booklets. Participants in this study were asked to record everything that they ate for seven days (preferably 7 consecutive days covering weekdays and weekend days). The pages for each day have eight sections, seven meal occasions for recording food and drinks taken from before breakfast to last thing and even during the night, and a checklist and section for recording additional snacks and other information, such as recipes. A detailed instruction on how to quantify (17 colour photos are provided) and describe foods is given on the first couple of pages in the 7dDD. How you might like to use the food diary with your group or class.

Measurement

Ask people to describe a meal they have had – examine different perceptions of portion size – what might be small for some people might be medium for others. Difficulties of describing accurately – bowl, glass, spoon – what size?
Show some plastic bowls of cornflakes and ask the children to estimate in grams how much is in each bowl. Then do the same using the photo guide in the front of the diary. See whether and by how much estimates vary.

Ask people to fill in x days of the food diary at home and bring it in.

Results

- Ask people to look at what they have eaten over the week. Ask for observations. Ask how it felt to fill in the diary? Did anyone forget? Did anyone feel like they shouldn’t put down a chocolate biscuit or feel like they have changed their diet? This information could be used to talk about bias/measurement error.

- More advanced: Ask students to calculate (part of) a recorded day with a nutrient of their choice using an online food composition table.

UK:

USA:
http://ndb.nal.usda.gov/ndb/

More countries can be found at: http://www.fao.org/infoods/infoods/tables-and-databases/en/

- Other elements can be included while recording diet - What influences people’s diets?
  - Availability of food
  - Social circumstances (number of people present at meal)
  - How you feel
  - Use of screen equipment during meal (TV, PC, phone)
  - Illness
  - Religion
  - Amount of physical activity done on a day

Diet is not just nutrition, most of the time we don’t eat because of ‘hunger’, but many other elements play a role...which ones?

Clearing up

Food diaries, ‘How to be researcher’ sheets and paper tape measures can be kept.

What to return?

Please return any materials listed under ‘borrowed materials’. Please use the box/bag in which you received it. Arrange for a delivery date by phoning: 01223 748681
Please fill in the evaluation form provided in the activity box and put on top of the activity when returning it. Your feedback will help us to improve our activities and the library. Thank you.

**Risk assessment**

Additional risk assessment might be needed to cover local circumstances and environment. Please contact your (school) representative if in doubt.

<table>
<thead>
<tr>
<th>Number</th>
<th>Risk</th>
<th>Control element</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Laminate items are a slip hazard if dropped on the floor.</td>
<td>Any laminate articles that fall on the floor should be picked up to prevent slips. The laminated items will also have rounded edges</td>
</tr>
<tr>
<td>1</td>
<td>Trips and accidents while moving around taking measurements</td>
<td>Participants should be supervised during this activity and appropriate space provided.</td>
</tr>
<tr>
<td>2</td>
<td>Slips when shoes are removed</td>
<td>Advise participants not to move about when shoes are off/provide seats</td>
</tr>
<tr>
<td>1</td>
<td>The teacher/group leader might become aware of students with an eating disorder</td>
<td>Teacher/group leader should check school guidelines/come up with action plan in case this occurs.</td>
</tr>
<tr>
<td>2</td>
<td>Food being eaten</td>
<td>Make sure it is clear that food cannot be eaten (if for display purposes only).</td>
</tr>
</tbody>
</table>

**Photos**