Audits

An audit is a test or assessment that provides necessary information to guide student inquiry and action. Pre and post audits are done to give information about what needs to be done (pre), and determine if the behaviour change campaign has been successful (post).

Pre-Audit: A pre-test or assessment to give students information about whether a campaign is needed. Pre-audits establish a baseline to measure what success would mean. Audits can also give information about some of the barriers and benefits (the reasons people won't or will change their behaviour) of a campaign. This will help students choose to present information most likely to promote behaviour change during the project.

Education and Monitoring: While the campaign is going on, students may monitor how well the behaviours are changing and what still isn't working. This monitoring may give information about what to do differently to achieve greater success.

Post-Audit: This measures if the campaign has not been successful, has met the goals, or surpassed them. Additional auditing done after a period of time can show if the behaviour is lasting or has been generalized to other similar behaviours.

Mathematics: Use the statistics and probability information that you are teaching your students to record results of each project. For example, first hand and second hand data, predicting, surveys, charts, bar or line graphs, and percentages.

Example – **Energy Audit, Lighting and Lights Out**

Pre-Audit	**What does this information tell us?**	**Education and monitoring**
1. Make a chart that includes: • Room numbers, Dates, Times • Number of lights on/number of lights total 2. Students check all rooms in school. 3. Compile results in whatever graph/table form teachers are using in class. **Audits:** Home lights out Lighting and lights out for school Lights out for school (detailed)	1. Based on the number of unnecessary lights left on, is a campaign a good idea? 2. What does the information tell us about what to focus on? • Turning lights out when not needed • Using natural light from windows and skylights • Is the task lighting (lamps) being used efficient? 3. How will success be measured? (For example, reduce unnecessary lights left on by 20%) **Campaign:** Lights half off	Make changes to pre-audit chart as needed, and decide how many times to check rooms during the campaign. 1. Students check on all rooms in school. 2. Leave note/reminder. 3. Share results with school to encourage improvement. **Post-Audit** 1. Students check on all rooms in school. 2. Calculate energy savings and CO_2 reduction. 3. Share results with school and school community.

Example – **Energy Audit, Heating and Drafts**

Pre-Audit	**What does this information tell us?**	**Post-Audit**
1. Make a chart that includes: • Position of outer doors • Number and position of windows • Dates, Times 2. Students check all rooms in school. 3. Compile results in whatever graph/table form teachers are using in class. **Audits:** Heating – home energy (simple) Heating – home energy (math-based) Draft-proofing	1. Based on the kinds of heat loss students find, is a campaign a good idea? 2. What does the information tell us about what to focus on? • Is new weather stripping needed around specific doors? • Would window plastic reduce drafts from specific windows? • At home, could thermostats be programmed to reduce the temperature at night, and when no one is home? 3. How will success be measured? (For example, reduce heat loss by 10%, based on before and after heating bills) **Campaign:** Turn down the thermostat	1. Students check on areas where drafts were detected. 2. Have retrofits like weather stripping and window plastic reduced drafts? 3. Compare heating bills from before and after retrofits, and/or 4. Interview room occupants, have they noticed a reduction in drafts? 5. Calculate energy savings and CO_2 reduction. 6. Share results with school and school community.

Example – **Water Audit, Length of Showers**

Pre-Audit	**What does this information tell us?**	**Education and monitoring** (optional)
1. Record water use from home water meter at beginning and end of a time period just prior to beginning campaign. (You want to know what your typical water use is for a set period of time, before you begin) 2. Students record length of shower each day. **Audits:** Home – water School – leaking toilets and taps	1. Based on the length of student showering, is a campaign a good idea? 2. What does the information tell us about what to focus on? • Reduce shower length • Reduce number of showers • Install low flow shower heads • Other issues: running water while brushing teeth, identify and fix leaks in toilets and taps 3. How will success be measured? (For example, water use before and after campaign drops by measurable %)	1. Students read water meter daily or weekly. 2. Chart results. **Post-Audit** 1. Record water use from home water meter after campaign. 2. Calculate water savings during campaign, compared to water use over the same time period prior to campaign. 3. Share results with school and school community.

Example – **Waste Audit, Reducing Garbage**

Pre-Audit	**What does this information tell us?**	**Education and monitoring**
1. Collect garbage from indoor school bins from one day. 2. Sort waste into piles (For example, paper, plastics, compost) weigh separate amounts. **Audits:** Garbage sort School waste (simple)	1. Based on the amount and kinds of waste found, is a campaign a good idea? 2. What does the information tell us about what to focus on? • Separate recycling from garbage • Compost lunch waste • Share good food with other students instead of throwing it away • Reduce the use of plastic bags 3. How will success be measured? For example, divert 60% of compost from garbage to outdoor composter. **Campaign:** Garbage free lunch	1. Collect garbage bags, count and weigh. Is there less garbage than before the campaign began? 2. Check recycling bins or garbage cans to see what is in them. Are there fewer items that don't belong? 3. Is there an item that could be reduced, and how can you communicate that to students? **Post-Audit** 1. Collect garbage from one day and sort into piles. 2. Weigh or count separate amounts and compare to pre-audit. 3. Share with school and school community. 4. Is there another item that could be reduced? Plan your next campaign.

Example – **Food Audit, How we Eat**

Pre-Audit	**What does this information tell us?**	**Post-Audit**
1. Keep a food log for a week and record what you eat and where that food comes from. 2. Calculate distance food has traveled. 3. Locate grocery stores or community gardens. **Audit:** Food Miles – How we eat	1. Based on the way we eat or where we get our food, is a campaign a good idea? 2. What does the information tell us about what we should focus on? • Growing food in a school garden • Finding local sources of good food • Advocating for local and healthy food choices 3. How will success be measured? (For example, grow lettuce for school lunches) **Campaign:** How we eat	1. Keep a food log for a week and compare it to pre-audit log. 2. Calculate food distance not traveled, CO_2 emissions saved, or healthier choices eaten. 3. Share results with school and school community.

Example – **Transportation Audit, Idle Free Zones**

Pre-Audit	**What does this information tell us?**	**Education and Monitoring**
1. Record how students get to school. For example, how many are bused, how many are driven and how many use active transport? (bike, walk, etc.) 2. Create a chart to record vehicle idling time at the school, and observe and record vehicle idling. 3. Ask your parents/guardians if they idle, and when and why they idle.	1. Based on vehicle idling at the school, is a campaign a good idea? 2. What does this information tell us about what we should focus on? • A certain season or time of day • Communicating reasons for not idling 3. How will success be measured? (For example, reduce vehicle idling by 40%) **Campaign:** Turn it off - vehicle engines	1. Students approach drivers at school to provide education on idling. 2. Make a chart that includes: • Driver comments • Did the driver turn off vehicle when asked? 3. Compile results. 4. Share results with school and school community. **Post-Audit** 1. Students check on vehicle idling. 2. Calculate vehicle idling time reduced and CO_2 reduction. 3. Share results with school and school community.

Example – **Biodiversity Audit, Schoolyard Naturalization**

Pre-Audit	**What does this information tell us?**	**Post-Audit**
1. Draw the school grounds including all features. 2. Identify number and type of plants. 3. Calculate % of green space.	1. Based on the quality or quantity of natural areas in the schoolyard, is a campaign a good idea? 2. What does the information tell us about what we should focus on? • Plant more shade trees • Improve bird and insect habitat • Make play space that includes natural features 3. How will success be measured? (For example, planted 3 native bushes, put up bat houses, or reduced organic material going to landfill) **Campaign:** Schoolyard naturalization	1. Take photos of the school grounds as they change. 2. Recreate or add to drawing of school grounds including all changes made. 3. Recalculate percentage of grass or number of plants. 4. Calculate total weight of organic material kept out of landfill by composting.