STANDARD SECTOR INDICATOR CODE: ED-017-C	Students: Math/Science Content Mastery - Number of math or science students, out of the total number the Volunteer/partner worked with, who used problem solving practices or analytical strategies more effectively. (ED-017-C)	
EDUCATION SECTOR	Sector Schematic Alignment Project Area: Math, Science, ICT Project Activity Area/Training Package: Math, Science, ICT Proficiency	
Type: Outcome	Unit of Measure: Math or science students	Disaggregation: Sex: Male, Female

Definitions:

Problem Solving Practices include but are not limited to—cause and effect reasoning, establishing decision-making criteria, exploring multiple options.

Analytical Strategies include but are not limited to—making more connections between course content and real world experience; using deductive strategies, and increased application of course principles to new situations in appropriate ways; or improved ability to restate or summarize the essential elements of instruction.

Rationale: An increase in the number of math or science students who use problem solving practices or analytical strategies more effectively provides for a solid academic foundation to succeed in school and life.

Measurement Notes:

1. **Sample Tools and/or Possible Methods (for Peace Corps staff use):** Volunteers should use data collection tools to measure progress against project indicators. A data collection tool to measure this indicator could be based on one of the following methods—observation, interview—though there may be other data collection methods that are appropriate as well. For more information on the suggested methods, please see **Appendix I in the MRE Toolkit.** Also be sure to check **this link** on the intranet page as sample tools are regularly uploaded for post use. Once a tool has been selected and/ or developed for the post, staff should have a few Volunteers and their partners pilot it, and then distribute and train Volunteers on its use.

2. **General Data Collection for Volunteer Activities:** All Volunteer activities should be conducted with the intention of achieving outcomes – knowledge change (short-term), skills demonstration (intermediate-term), and behavioral changes (intermediate to long term) as defined by the progression of indicators within the objectives of a project framework. The progression of measurement for all Volunteer activities should begin with baseline data being conducted prior to the implementation of an activity (or set of activities), followed by documenting any outputs of the activities and then later at the appropriate time, measurements of specific outcomes (see "Frequency of Measurement").

3. **Activity-Level Baseline Data Collection**: Activity-level baseline data should be collected by Volunteers/partners before or at the start of their activities with a math or science student or group of math or science students. It provides a basis for planning and/or assessing subsequent progress or impact with these same people. Volunteers should take a baseline measurement regarding the outcome(s) defined in this data sheet. Volunteers should collect baseline information early in their work with math or science students, and may use their judgment to determine timing because the information will be more accurate if the Volunteer has built some trust with the math or science students first. The information for the baseline measurement will be the same or very similar to the information that will be collected in the follow-on measurement (see "Frequency of

Measurement") after the Volunteer has conducted his/her activities and it is usually collected using the same data collection tool to allow for easy management of the data over time.

Because Volunteers are expected to implement relevant and focused activities that will promote specific changes within a target population (see "Unit of Measure"), taking a baseline measurement helps Volunteers to develop a more realistic snapshot of where math or science students within the target population are in their process of change instead of assuming that they are starting at "0." It also sets up Volunteers to be able to see in concrete terms what influence their work is having on the math or science students they work with during their service. Please note that data collection is a sensitive process and so Volunteers will not want to take a baseline measurement until they have been able to do some relationship and trust-building with the person/people the Volunteer is working with, and developed an understanding of cultural norms and gender dynamics.

4. **Frequency of Measurement**: For reporting accurately on this outcome indicator, Volunteers must take a minimum of two measurements with math or science students of the target population reached with their activities. After taking the baseline measurement (described above), Volunteers should take at least one follow-on measurement with the same math or science student(s), typically <u>after</u> completing one or more activities focused on achieving the outcome in this indicator and once they have determined that the timing is appropriate to expect that the outcome has been achieved. Once Volunteers have measured that at least one math or science student has achieved the indicator, they should report on it in their next VRF.

   Volunteers may determine to take more than one baseline and one follow-on measurement with the same math or science student (or group of math or science students) for the following valid reasons:
   a. Volunteers may want to measure whether or not any additional math or science students initially reached with activities have now achieved the outcome in the indicator, particularly for any activities that are on-going in nature (no clear end date);
   b. Volunteers may want to enhance their own learning and the implementation of their activities by using the data collected as an effective monitoring tool and feedback mechanism for the need to improve or increase their activities;
   c. A Peace Corps project in a particular country may choose to increase the frequency of measurement of the indicator and Volunteers assigned to that project will be required to follow in-country guidance.

   In all cases, any additional data collection above the minimum expectation should be based on the time, resources, accessibility to the target population, and the value to be gained versus the burden of collecting the data. Following any additional measurements taken, Volunteers should report on any math or science students achieving the outcome in their next VRF.

5. **Definition of Change:** The minimum change to report against this indicator is any student using problem solving practices or analytical strategies more effectively. Regardless of how effectively a student already used these practices or strategies, the math or science student demonstrating more effectiveness, after working with the Volunteer/partner, is the change identified in this indicator.

6. **General Reporting in the VRF**: The "number achieved" (or numerator) that Volunteers will report against for this indicator in their VRFs is the number of students who, as a result of working with the Volunteer, used problem solving practices or analytical strategies more effectively. The "total number" (or denominator) that Volunteers will report on for this indicator in their VRFs is the total number of math or science students who participated in the activities designed to meet this indicator.

7. **Reporting on Disaggregated Data in the VRF:** This indicator is disaggregated by "Sex." When reporting in the VRF, a Volunteer should disaggregate the math or science students who achieved the outcome based on male and female gender.

Data Quality Assessments (DQA): DQAs are needed for each indicator selected to align with the project objectives. DQAs review the validity, integrity, precision, reliability, and timeliness of each indicator. For more information, consult the Peace Corps MRE Toolkit.

Alignment with Summary Indicator: ED IMPROVED STUDENTS