

**NIH SEPA Environmental Health Investigators  
Measuring Skills and Tools Curriculum: Lesson 9  
Grade Level: Middle  
Duration: 1 hour**

**Data Collection**

**Next Generation Science Standards**

Crosscutting Concepts:  
Cause and Effect

Science and Engineering Practices:  
3: Planning and Carrying Out Investigations

**Objectives**

1. Students will implement the scientific process.
2. Students will operate environmental tools to collect data for their research project.

**Materials**


- Tools/sensors needed for each group
- “Data Collection” sheets
- “Research Project Planning” sheets (completed from last session)

**Activities**

**Lecture:** Tell students that they will spend the majority of this session collecting data around the school for their research projects. Pass out their planning documents, tools, and data collection sheets. Depending on what type of data they are collecting, students need to plan an organized way to record their data. This may be by taking notes, keeping a table, etc. Be sure students know to use this time to ask you any questions about proper tool usage or data collection procedures. (10 minutes)

**Activity:** Once the groups are organized and you know where everyone plans to collect their data, let the groups have the majority of the class time to collect data for their research project. Give students clear instructions on where they are allowed to go and





when they should return to class. During this time, visit each group to check on them and answer any questions (40 minutes)

**Discussion:** Once all groups return, discuss if students were able to collect all of the data that they had planned. What went well and what did not? Collect all tools and sheets. (10 minutes)

### **Extension**

If time allows, devote another class session to data collection. This would allow students more time to practice using the tools and organizing their group responsibilities before data collection. This would also provide students with additional time to collect more data for their project.

Name(s): \_\_\_\_\_

### Research Project Data Collection

Use the front and/or back of this sheet to record the data for your research project.
