

Living Laboratory Researcher Orientation Guide and Materials

Leading researchers through an effective and efficient Living Lab Researcher Orientation before they start testing within a museum environment creates mutual understanding of the goals, logistics and protocols of the program. Clearly communicating these elements from the very beginning of a collaboration provides a platform for a more seamless and less stressful integration of a study/researchers into the exhibit, increased appreciation for cultural differences between museums and academic labs, and identification of new challenges and opportunities that arise when conducting research in a museum setting.

As orientations are meant to be intimate and interactive, groups of no more than five researchers have proven most effective to ensure that each person has an opportunity to engage in interpretation training.

This guide contains the following resources:

1. Living Laboratory Researcher Orientation Guide
2. Living Laboratory Researcher Orientation Checklist
3. Living Laboratory Contact Sheet Template

Living Laboratory Researcher Orientation Guide

Researcher Orientation Goals

By the end of the orientation, all researchers should:

- 1) Understand the educational philosophy of Living Laboratory, the “host” exhibit and the museum at large
- 2) Know the rules that apply to all museum staff (e.g., dress code, emergency exits, first aid)
- 3) Understand the procedures and rules for researchers conducting studies in the museum (e.g., informed consent, greetings, badges/name tags)
- 4) Get practice explaining their study in layperson language and answering common questions about their work

Orientation schedule:

1) Introduction

First, provide a brief introduction to Living Laboratory program, the “host” exhibit and the museum. Many RAs arrive for the orientation without knowing much about the program itself and what they will be doing at the museum.

The Living Lab is an educational program where researchers conduct studies in the museum and educate visitors and museum staff & volunteers about their work through study participation and face-to-face conversations. Share the educational mission of the museum and the exhibit in which the Living Laboratory is housed as well as the history of the collaboration.

2) What to expect during a typical research shift

What should researchers expect when they arrive for their research shift? Give them a sense of a “typical shift” by addressing common questions, like:

- How and where do they “check in” at the museum when they arrive?
- Do they need to obtain a sticker, badge or sign that affiliates them with the museum?
- Where can they find you or their museum contact?
- Where can they store their personal items like book bags, wallets, cell phones, etc.?
- What is the dress code for all museum affiliated personnel? Researchers should follow the same dress code as the rest of the museum staff. Examples may include no tank tops, open-toed shoes, shorts or skirts above the knee, or clothing with logos.
- What is the museum policy on cell phones in the exhibit? Show researchers where they may be able to store these safely.

3) Where will you be working? Tour of exhibit spaces

Give the group a brief tour of all parts of the exhibit space. They should be aware of what areas are included in each exhibit, so that they know where they will be allowed to recruit participants, and also so that they are aware of the types of activities that go on in each exhibit. You can discuss the best ways to approach/recruit visitors throughout the exhibit during this part of the tour as well.

4) Tour of the LL research area within the museum exhibit

This tour should hit on the following items in the LL area:

- a. *Where will studies be set up?* Studies are always set up in full view of the public. The tables and chairs in the research area can be rearranged as needed for different studies. There are also extension cords and surge protectors for laptops or cameras.
- b. *Researcher storage spaces & supplies:* Direct researchers to where they can store study materials, paperwork, etc. safely within the exhibit. If this is a locked cabinet, where can the key be found? Show researchers how to change any signage associated with their research study or the Living Lab if that is their responsibility.
- c. *Handouts:* A separate handout is printed up for each study. Researchers can use these for recruitment and/or debriefing, and should make sure that participants in their study receive one to take home.
- d. *Sign-in sheet/Participant tracking sheet:* Where is this located? This shows the schedule for the week, with spaces for researchers to fill in the number of participants (visitors who sign consent forms to allow researchers to collect data), educational opportunities (visitors who don't sign consent forms but still speak with researchers or try out the study for fun), and staff/volunteers they speak with during each shift. Explain each of these categories, emphasizing that researchers should NEVER turn away any interested visitors – visitors who aren't eligible to be actual participants in the study can still try out the study (hear the stories, or play the game or computer task, etc.) in order to learn about what the researcher is studying.
- e. *Researcher greetings:* While discussing the last column of the sign-in sheet, explain what “greetings” are and how and why they are done:
 During the first half hour of the shift each week, a Living Lab staff member or intern will make sure researchers have the supplies they need for their shifts, and then will be the first “practice” participant in the study. Researchers should run the staff member in the study as though they were an actual participant, and then explain what they are studying just as they would for a visitor. Staff members might ask questions that would be of interest to visitors, or ask for follow-up explanations of anything that is not clear. Then they will ask another volunteer from elsewhere in the exhibit to be the second participant. Purpose of the greetings: The greetings provide **professional development** for researchers (who get ongoing practice talking about their work and answering questions) and for museum staff (who get to learn about the research process and about current research topics, which benefits them as science educators).
The greetings take place every week. Eventually all the museum staff/volunteers might have tried out the study, but the greeting procedure stays the same so that researchers get ongoing practice talking about their work and answering questions, and staff/volunteers stay up-to-date on any new procedures, conditions, and preliminary results of the study.
- f. *Research Rules in the exhibit:* Consider mentioning these rules now so you can point out particular things in the exhibit.
 - Researchers must have signed consent forms from parents or legal guardians in order to collect data
 - Parents or whatever adult with the child should ideally observe the study in its entirety or must, at the very least, remain nearby for the child's safety. If the adult leaves, researchers should stop the study and bring the child back to the adult. If the adult is missing, they should ask a staff person to call security.
 - No food is allowed in the exhibit, and drinks should be kept hidden from visitors
 - Point out the emergency exits, and explain first aid procedures

5) **What will you be doing? Educational philosophy & interpretation in the exhibit**

At the end of the tour, be sure to point out museum staff and volunteers in each space and describe what their role is – to engage visitors of all ages in fun and educational conversations about science topics and to encourage people to be scientists themselves. Museum staff and volunteers are NOT lecturers or study recruiters. Museum educators often encourage people to ask questions and focus on the skills that scientists use to answer questions: observing the world, making hypotheses, designing studies, collecting data, making conclusions, and asking follow-up questions. Researchers' role as educators is very similar – although they will be engaging people in their particular branch of science, they should aim for informal conversations and encourage questions from visitors, rather than lecturing.

You can give the group an example of interpretation to help them understand what types of informal science activities volunteers and staff facilitate.

6) **Researcher Manual: Living Lab Mission and Educational Goals**

The remainder of the orientation can take place in an office area. Each researcher should receive a Researcher Manual. The manual contains information about the educational goals of the Living Lab. Go over each of these goals and connect them to the educational mission of the exhibits once again (emphasis on science process skills, showing visitors what it is like to be a scientist, encouraging people to ask questions).

7) **Speaking with the public**

Explaining the study. Researchers will need to explain their study over and over again to visitors, and must get practice explaining their research in a concise but understandable way. Ask each researcher to tell you about each of the following aspects of their study, starting with (a). During their explanation, they may end up describing the answers to questions (b)-(d) without your prompting, but if not, continue asking them about each of these topics.

- a. What are you trying to find out? What question are you trying to answer?
- b. What are kids/visitors actually going to do in your study?
- c. What are you going to measure, and how will that answer your question?
- d. Why is this question interesting or important?

If researchers have trouble explaining any of these points, ask follow-up questions to get them to explain in more detail. If a researcher does not know about the study they will be running at the museum (usually happens only with undergraduate RAs), ask them to describe what their laboratory studies in general, and what types of research methods they use there. If they are explaining too much background information, stop them and ask a follow-up question (perhaps one of the questions listed above) to refocus the conversation. (e.g., “So what are kids actually going to see in the computer game?” Or, “Can you tell me more about what you’re hoping to find out in this study?”)

If researchers are using a lot of complex vocabulary, or explaining their study in a way that would not be understandable to a visitor, ask them to explain what they mean, or ask about specific questions like those listed above. (It’s important to do this even if you DO understand what they mean – if you think that a visitor won’t understand it, the researcher should learn to recognize that and should try to explain it in a different way.)

Encourage researchers to keep the focus on what children/participants will be seeing and doing in the study, and what information researchers will get from that behavior.

Recruiting. You may also wish to help researchers practice what they would say to recruit visitors to participate in their study. This is usually a short statement that would get visitors interested in seeing the study or hearing more about it. Emphasize again that *anyone can try out the study for fun*, even if they aren't eligible to be a formal participant.

Common visitor questions: At the end of the researcher's explanation, you should let them know that they may get a lot of questions from visitors, and so we want to prepare them for some of the most common ones.

- What is the practical application of this work? / What is this going to be used for? / Why is this useful? etc.
- How did my child do? / Did my child pass the test? / Is my child smart? etc.
- Questions about other development topics: e.g., When should my child potty train?, What is the attention span of a three year old?, I'm worried my child might be autistic., etc.
- Questions about the museum: e.g., Where is the butterfly garden? When does the Omni movie start? etc.

8) Remaining rules for running studies, and questions

The manual contains all of the rules that you have gone over earlier in the orientation, plus some additional information about things like parking, scheduling, benefits of being associated with the museum, etc. Go through these additional topics as time allows. If you don't get to the additional information, just point it out in the manual and allow researchers to read it when they get home.

See if researchers have any other questions.

9) Contact sheet

Before researchers leave the orientation, have them fill out a researcher contact sheet so that you have their phone number, email, and emergency contact information on file.

10) Visitors' passes and parking validation

Before researchers leave, make sure that their parking is validated if they need it. Also, let them know that their Visitor's pass will let them into the exhibit halls, if they want to explore the museum.

Researcher Orientation - Checklist

Prior to orientation:

	Send confirmation email to researchers scheduled to attend, with time & date, directions, and contact information.
	Add orientation time and names of researchers scheduled to the prior week's Living Lab Log
	Book orientation time
	Print/Copy LL Researcher Manual and Contact sheet for new researchers

During orientation:

	Meet researchers in lobby & get visitors passes, parking validations
	Introduction to educational mission of the program
	Show storage room and "badging" procedure
	Review rules for staff/volunteers/researchers in the exhibits (dress code, food/drink, cell phones, first aid)
	Tour of exhibit (including emergency exits) & researcher area
	Review researcher greeting procedure & rules for conducting studies
	Hands-on example of museum interpretation & informal science education
	Hand out LL Researcher Manual and talk about Living Lab Educational Goals
	Researchers practice recruiting and explaining study in layperson terms, and answering common visitor questions
	Miscellaneous rules and questions (as time allows).
	Researchers fill out contact sheet

After orientation:

	Add contact information to Researcher Contact Database
	Add researchers' names to this semester's schedule
	File paper copy of contact sheet
	Add orientation time and names of researchers who attended to the "Completed orientations" section on the next Living Lab Log

Living Laboratory Researcher Contact Information Sheet

Date of Orientation: _____

Name: _____

Role:			
<input type="checkbox"/> Professor	<input type="checkbox"/> Post Doc	<input type="checkbox"/> Grad Student	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Lab Manager	<input type="checkbox"/> Undergrad	<input type="checkbox"/> High School	

Research Institution: _____

Laboratory: _____

Advisor: _____

Shift Owner: _____

Work Number: _____

Cell Phone: _____

Email: _____

Emergency Contact Person: _____
Phone Number: _____ Relationship: _____

Study Name: _____

Agreement

I have read and agree to the guidelines for conducting research in Living Laboratory.

Signature

Date