

**APPENDIX A: OBSERVATION PROTOCOL**

**INGENUITY LAB OBSERVATION PROTOCOL**

Date:	Activity:	Facilitator:
Age and Gender:	Number in group: <7 8-12	Group Type: 13-17 18-21 22-35 36-50 50+
START TIME:	END TIME:	OBSERVER

*Activity Completion*

1. Playing. Visitor plays with the manipulatives, but does not do the activity as intended.
2. Partial Completion. Visitor partially completes the activity.
3. Full Completion. Visitor fully completes the activity.
4. Goes Beyond Activity. Visitors completes activity and takes it further.

*Level of Engagement*

1. Low. Visitor makes cursory stop with minimal engagement with activities (e.g. sitting down, talking with facilitator &/or quickly touch manipulatives).
2. Moderate, low. Visitor engages with facilitator or focuses on activities, but with low interest (e.g. tries the activity, but may not complete).
3. Moderate, high. Visitor engages with facilitator or activity, but with medium interest (e.g. “goes through the motion” to do activity, but does not take further).
4. High. Visitor fully engaged with facilitator &/or activities (e.g. dem onstrates prolonged engagement with the activity, appearance of directed focus or discussion related to activity, actively completes the activity, repeats it multiple times or does related activity).

*Level of Facilitation*

1. No interaction between facilitator and visitor
2. Facilitator provides an introduction to the activity and visitor completes it on their own
3. Facilitator provides minimal facilitation (answers visitor questions, offers minor suggestions)

4. Facilitator provides extensive facilitation (guides visitor through process, engages in extended dialogue with visitor)

*Affect*

(Which of the following emotions, if any, do visitors show as they participate in the activity? Check all that apply. Please note your observations & impressions.

- a. displeasure \_\_\_\_\_
- b. frustration \_\_\_\_\_
- c. confusion \_\_\_\_\_
- d. neutral \_\_\_\_\_
- e. surprise \_\_\_\_\_
- f. intrigue/interest \_\_\_\_\_
- g. excitement \_\_\_\_\_
- h. pleasure \_\_\_\_\_

Behavior	(-,√,+)	Indicate if facilitator initiated
Describes/identifies a problem to be solved (finding flaws)		
Expresses a design goal (“I want it to...”)		
Describes one or more options for achieving goal (brainstorming)		
Sketches design		
Selects appropriate materials from available options		
Makes causal inference/predictions about how design will perform		
Explores materials and variables (without designing)		
Manipulates variables to achieve goal (building, creating)		
Collaborates with others on design		
Creates innovative design (creates unusual design compared to typical designs by visitors)		
Tests design		
Modifies design to make improvements		
Tests revised design		
Compares two (or more) designs		
Discusses what works, what doesn’t, or what could be improved		
Discuss how this activity relates to the real world, real engineers, etc.		

NOTES: