Building with Biology Final Report

Building with Biology Final Report - Introduction

Thank you for your willingness to complete this online report! Each host site should designate one representative to complete this report. This should probably be the person who knows the most about what happened during your event and/or forum, such as the person who planned and hosted the event. The purpose of this report is to gather information about your Building with Biology event to share with the National Science Foundation as a part of grant reporting.

Please complete this report no more than 3 weeks after your event.

How long will it take?

- This identifiable report should take about 15 minutes to complete.
- The report includes some questions about what you did in preparation for your Building with Biology event, what activities took place at the event, and who attended your event.

Information about your participation:

- To complete this report, you must be 18 years of age or older.
- The information you provide will be used for NSF reporting purposes as well as to improve our future work.

Thank you for your willingness to participate and your efforts to improve our project!

Please contact Kayla Berry at kberry@mos.org with any questions about the report.

Terms

For the purposes of this report, we will use the following terms and acronyms:

- **AAAS**: The acronym AAAS stands for the American Association for the Advancement of Science.
- **Event**: Whenever you see the term 'event,' please consider all Building with Biology programs you hosted that included members of the public. This could include hands-on activities or forums.
- **Forum**: Building with Biology forums are in-depth discussions of a synthetic biology topic. These programs target older participants (age 16+) and are designed to last one hour or longer. Scientists and members of the public talk with one another, often seated at round tables. For Building with Biology, two forums were created: *Should we Engineer the Mosquito?* and *Should we Edit the Genome? When, Why, and How Much?*
- **Hands-on Activity:** Building with Biology hands-on activities are short (usually less than 15 minutes per visitor group) educational experiences that are designed for family audiences. They are typically facilitated by a volunteer or educator at a table, cart, or demonstration space. There were 6 hands-on activities created for Building with Biology, including: Bio Bistro, Kit of Parts, See DNA, Super Organisms, Tech Tokens, and VirEx Delivery.
- **PES**: We will use the acronym "PES" to stand for Public Engagement with Science.
- **Public**: When we refer to a public audience or public participants, we mean visitors who attend Building with Biology events. This is in contrast with volunteers, staff, and/or scientists who were specifically invited to share their expertise by leading hands-on activities or participating in forums.

This survey contains "tooltips". A tooltip is used to clarify certain words or expressions that you will find in the survey and you can use them by simply hovering your mouse over the hyperlinked text or clicking and the tooltip will appear.

Try it now, hover HERE.

General Information

1. **What is your name?**

2. **What is your email address?**

3. **Which host site are you from?** *

AK, Fairbanks: Fairbanks Children's Museum
AK, Fairbanks: University of Alaska Museum of the North
AK, Kenai: Challenger Learning Center of Alaska
AL, Birmingham: McWane Science Center

AL, Mobile: Gulf Coast Exploreum Science Center
AR, Hot Springs: Mid-America Science Museum
AR, Jonesboro: Arkansas State University Museum
AZ, Prescott: Children's Museum Alliance, Inc.
AZ, Tempe: Arizona State University and Arizona Science Center
AZ, Tucson: Children's Museum Tucson
CA, Berkeley: Lawrence Hall of Science, University of California Berkeley
CA, Davis: Explorit Science Center
CA, Emeryville: Synberc
CA, La Verne: University of La Verne iGEM Team
CA, Los Angeles: California Science Center
CA, Modesto: National Ag Science Center
CA, Oakland: Chabot Space & Science Center
CA, Sacramento: Powerhouse Science Center
CA, San Diego: Reuben H. Fleet Science Center
CA, San Jose: The Tech Museum of Innovation
CO, Boulder: University of Colorado Science Discovery
CO, Durango: Powerhouse Science Center
CO, Fort Collins: Colorado State University
CT, New Haven: Southern Connecticut State University
CT, New Haven: Yale University iGEM Team
DE, Wilmington: Delaware Museum of Natural History
FL, Fort Meyers: Imaginarium
FL, Orlando: Orlando Science Center
FL, Pensacola: Pensacola MESS Hall
FL, Tampa: Museum of Science and Industry
FL, West Palm Beach: South Florida Science Center and Aquarium
GA: Suwanee: Lambert High School iGEM Team
IA, Des Moines: Science Center of Iowa
IL, Champaign: Orpheum Children's Science Museum
IL, Chicago: University of Chicago
IL, Evanston: Northwestern University iGEM Team
IL, Normal: Children's Discovery Museum
IL, Oak Lawn: Children's Museum in Oak Lawn
IL, Woodstock: Challenger Learning Center for Science & Technology
IN, Bloomington: WonderLab Museum of Science, Health and Technology
IN, Crawfordsville: Carnegie Museum of Montgomery County
IN, Fort Wayne: Science Central
IN, Indianapolis: Children's Museum of Indianapolis
IN, Muncie: Muncie Children's Museum
IN, Richmond: Joseph Moore Museum, Earlham College
KS, Wichita: Exploration Place
KY, Louisville: Kentucky Science Center
KY, Prestonsburg: East Kentucky Science Center
LA, Sheveport: Sci-Port: Louisiana's Science Center
MA, Boston: Museum of Science
MA, Lowell: University of Massachusetts Lowell

MA, Nantucket: Maria Mitchell Association and the Farmer and Artisan's Market
MA, Newton: BioBuilder
MA, Somerville: BosLab
MD, Baltimore: Baltimore & Ohio Railroad Museum
MD, Baltimore: Maryland Science Center
MD, Baltimore: Port Discovery Children's Museum
MD, College Park: University of Maryland
ME, Bangor: Maine Discovery Museum
MI, Detroit: Michigan Science Center
MI, East Lansing: Michigan State University iGEM Team
MI, Mt. Pleasant: Mt. Pleasant Discovery Museum
MI, Traverse City: Great Lakes Children's Museum
MN, Bemidji: Headwaters Science Center
MN, Duluth: Duluth Children's Museum
MN, Minneapolis: SELF International, Inc. at FLEX Academy
MN, St. Paul: Science Museum of Minnesota
MO, Malden: Bootheel Youth Museum
MO, Rolla: Missouri University of Science and Technology
MO, St. Louis: St. Louis Science Center
MS, Gulfport: Lynn Meadows Discovery Center
MS, Hattiesburg: University of Southern Mississippi and the Hattiesburg Boys & Girls Club
MT, Bozeman: Montana State University
MT, Helena: ExplorationWorks!
MT, Missoula: spectrUM Discovery Area
NC, Charlotte: Discovery Place, Inc.
NC, Durham: Museum of Life and Science
NC, Elizabeth City: Port Discover
NC, Gastonia: Gaston Day School iGEM Team
NC, Greenville: GO-Science (Eastern NC Regional Science Center, Inc.)
NC, Raleigh: Genetic Engineering and Society Center at NCSU
NC, Raleigh: Marbles Kids Museum
NC, Wilmington: Cape Fear Museum of History and Science
NC: Durham: Duke University iGEM Team
ND, Bismark: Gateway to Science
NH, Manchester: SEE Science Center
NJ, Morristown: Morris Museum
NM, Albuquerque: Nanoscience & Microsystems Engineering at the University of New Mexico
NM, Las Cruces: Las Cruces Museum of Nature and Science
NM, Los Alamos: Bradbury Science Museum
NM, Los Alamos: Science Education Solutions
NV, Reno: The Terry Lee Wells Nevada Discovery Museum
NY, Brooklyn: Genspace NYC Inc.
NY, Buffalo: Buffalo Museum of Science
NY, Corona: New York Hall of Science
NY, Elmira: Regional Science & Discovery Center
NY, Ithaca: Cornell University iGEM Team
NY, Ithaca: Sciencenter

NY, Ithaca: Sciencenter
NY, Jamaica: Children's Library Discovery Center
NY, Oneonta: AJ Read Science Discovery Center at Oneonta
NY, Port Jefferson: Maritime Explorium
NY, Rochester: Rochester Museum & Science Center
NY, Schenectady: miSci
NY, Stony Brook: Stony Brook University iGEM Team
NY, Syracuse: Milton J Rubenstein Museum of Science and Technology
NY, Troy: SUNY Poly Children's Museum of Science
NY, Upton: Brookhaven National Laboratory Science Learning Center
NY, Utica: Mohawk Valley Community College
OH, Columbus: Ohio State University
OH, Dayton: Boonshoft Museum of Discovery
OH, Mount Vernon: SPI Spot
OH, Youngstown: OH WOW! The Roger & Gloria Jones Children's Center for Science & Technology
OK, Enid: Leonardo's Children's Museum
OK, Tulsa: Tulsa Children's Museum
OR, Ashland: ScienceWorks Hands-On Museum
OR, Eugene: Science Factory
OR, Portland: Oregon Museum of Science and Industry
PA, Erie: Gannon University
PA, Philadelphia: The Franklin Institute
PA, State College: Discovery Space of Central Pennsylvnia
PR, Arecibo: Arecibo Observatory
SC, Hilton Head: The Sandbox, An Interactive Children's Museum
SC, Myrtle Beach: Children's Museum of South Carolina
SD, Pierre: South Dakota Discovery Center
TN, Chattanooga: Creative Discovery Museum
TN, Knoxville: Boy Scouts of America
TN, Knoxville: The Muse Knoxville
TN, Memphis: Pink Palace Museum
TN, Murfreesboro: Middle Tennessee State University and Discovery Center
TN, Nashville: Adventure Science Center
TX, Armarillo: Don Harrington Discovery Center
TX, Austin: Thinkery
TX, Brownsville: The Children's Museum of Brownsville
TX, College Station: Texas A&M University and the Brazos Valley Museum of Natural History
TX, Corpus Christi: Corpus Christi Museum of Science and History
TX, Dallas: Perot Museum of Nature and Science
TX, Frisco: Sci Tech Discovery Center
TX, Houston: Children's Museum of Houston
TX, Houston: Rice Excellence for Secondary Science Teaching
TX, Laredo: Imaginarium of South Texas
TX, Longview: Longview World of Wonders
TX, Lubbock: Science Spectrum Museum and OMNI Theater
TX, McAllen: International Museum of Art and Science
TX, Midland: Permian Basin Petroleum Museum
TX, San Antonio: St Philip's College Center of Excellence for Science

TX, San Antonio: St Philip's College Center of Excellence for Science
UT, Lehi: Thanksgiving Point Institute at Farm Country
UT, Logan: Utah State University
UT, Salt Lake City: Natural History Museum of Utah
VA, Ashburn: Broad Run High School iGEM Team
VA, Charlottesville: Open Bio Labs
VA, Portsmouth: Children's Museum of Virginia
VA, Williamsburg: College of William and Mary iGEM Team
WA, Everett: Imagine Children's Museum
WA, Mukilteo: Institute of Flight and Future of Flight Aviation Center
WA, Pullman: Palouse Discovery Science Center
WA, Seattle: Pacific Science Center
Washington DC: AAAS
Washington DC: Smithsonian Institution's National Museum of Natural History
WI, Appleton: Paper Discovery Center
WI, Eau Claire: Children's Museum of Eau Claire
WI, Green Bay: Children's Museum of Green Bay
WI, Madison: Madison Science Museum
WI, Madison: Morgridge Institute for Research
WV, Morgantown: Children's Discovery Museum of West Virginia
WV, Morgantown: West Virginia University
WY, Casper: The Science Zone
WY, Lander: Lander Children's Museum
Other

4. Please specify which host site you are from:

5. **Which of the following did your institution host?** *(Please check all that apply).*

- [ ] An event using the hands-on kit activities
- [ ] A forum
- [ ] Something else (Please explain:_____)

6. On what date(s) did you hold your Building with Biology event(s)?

Hands-on Activities at your Building with Biology Event

7. **Where did your event(s) using the hands-on activities take place?** *(Please check all that apply).*

- [ ] At your institution
- [ ] At another location (Please explain: _____)

---

8. **Which hands-on activities did you offer at your event(s)?** *(Please check all that apply).*

- [ ] Bio Bistro
- [ ] Kit of Parts
- [ ] Super Organisms
- [ ] See DNA
- [ ] Tech Tokens
- [ ] VirEx Delivery
- [ ] Graffiti Board

---

9. **Please briefly describe your event(s) using the hands-on activities including the types of activities you offered either from the kit or another source and who was involved in the event (staff, volunteers, guest speakers, etc.).** *Maximum 200 words.*

---

10. **Please describe the types of audiences that you reached through your event(s) using the hands-on activities.** *Maximum 200 words.*

---

11. **Did you use the passport activity during your event(s)?**

- Yes
- No
- I'm not sure

12. **How many passports did you hand out during your event(s)?** *If you aren't sure, please provide your best estimate.*

13. **How much time did it take you to pass out this many passports?** *Please answer in hours : minutes. If you aren't sure, please provide your best estimate.*

14. **How many people were at the event location on the day(s) the public interacted with Building with Biology hands-on activities?** *If your site does not collect this information, please provide your best estimate.*

15. **Approximately what percentage of those attendees do you think came to your event(s)?**

16. **Please briefly describe how you came up with your attendance estimates.** *Maximum 200 words.*

17. **Please describe how, if at all, you plan on using the Building with Biology kit materials in the future.** *Maximum 200 words.*

Your Building with Biology Forum

18. **Did you receive a forum stipend?**

- Yes
- No

19. Were there any changes from your proposed forum budget?

- Yes
- No

20. Please describe the changes in the forum budget and your justification for these changes.

21. **Which forum(s) did you offer?** *(Please check all that apply).*

- Should We Engineer the Mosquito?
- Should We Edit the Genome? When, Why, and How Much?

22. **Please briefly describe your forum(s) including whether you used introductory video(s) and/or speaker(s), how long your event was, and who attended the event.** *Maximum 200 words.*

23. **How many people do you estimate participated in your forum discussion(s)?**

24. **Please briefly describe how you came up with your attendance estimate.** *Maximum 200 words.*

Volunteers and staff at your Building with Biology activities

25. **How many staff and volunteers were involved in your Building with Biology event with hands-on activities?**

26. **How many of these staff and volunteers facilitated hands-on activities?**

27. **How many of these staff and volunteers were synthetic biology scientists, researchers, or graduate students?**

28. **How many staff and volunteers were involved in your forum discussion(s)?**

29. **How many of these staff and volunteers were synthetic biology scientists, researchers, or graduate students?**

30. **Please provide the names and email addresses from your Facilitator Email Signup sheet of staff and volunteers over the age of 18 who facilitated hands-on activities and/or attended a Building with Biology orientation. We will invite them to participate in an evaluation survey.** *You may enter the names and emails below or upload a scanned version of your Facilitator Email Signup sheet from your kit.*

If you add contact information in the text box below, please enter as:
first name, email address
first name, email address
etc.

Upload a copy of your Facilitator Signup Sheet here.

Browse... Upload

31. **Do you have any comments about the Building with Biology kit or suggestions to help us improve future products?**

You have now reached the end of the report. Thank you for completing it! Your response is important to us.

Our external evaluation team is conducting an optional post-survey where you can provide confidential feedback on your experience participating in Building with Biology events. It only takes a few minutes and will help us improve opportunities for other museums and institutions on future projects. You will now be directed to the survey.

Thank You!

Thank you for taking our survey.