

Building with Biology

Activities and Conversations about Synthetic Biology

Data Collection Training
for Public Evaluation Cohort

June 14, 2016
1:00 PM – 2:00 PM, EST



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Webinar Agenda

- The Building with Biology Project
- Evaluation Overview
- The Data Collector's Role *(before, during, and after the event)*
- Troubleshooting
- Questions

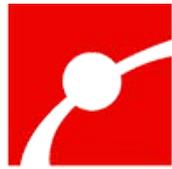
The Building with Biology Project

Building with Biology Project Overview

- Partnership of scientists and informal science educators
- Public engagement with science (PES)
- Addresses societal and ethical implications of synthetic biology
- 200 kits of hands-on activities and forums



Building with Biology Partners



Museum of Science®



ADVANCING SCIENCE, SERVING SOCIETY

BioBuilder
Educational Foundation



 **Sciencenter**

 **synberc** 
Building the Future with Biology.

Building  
with Biology

Evaluation Overview

Evaluation Questions

What do adult members of the public...

...**learn** from the event?

...**value** about their participation?

How does participation impact **interest...**

...in synthetic biology?

...in public engagement with science?

...in future activities related to synthetic biology?

Public Evaluation Overview

- Focused on hands-on activities
- Evaluation cohort of 50 sites

If you weren't selected you can still use the resources



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Evaluation Materials

- *Evaluation of Public Impacts Data Collection Guidelines*
- *20 Building with Biology Surveys*
- *Evaluation Surveys Envelope*
- Passport Station sign & stand
- Graffiti board sign
- *25 Evaluation Information cards*
- Pre-paid mailing envelope



Passport Activity and Survey

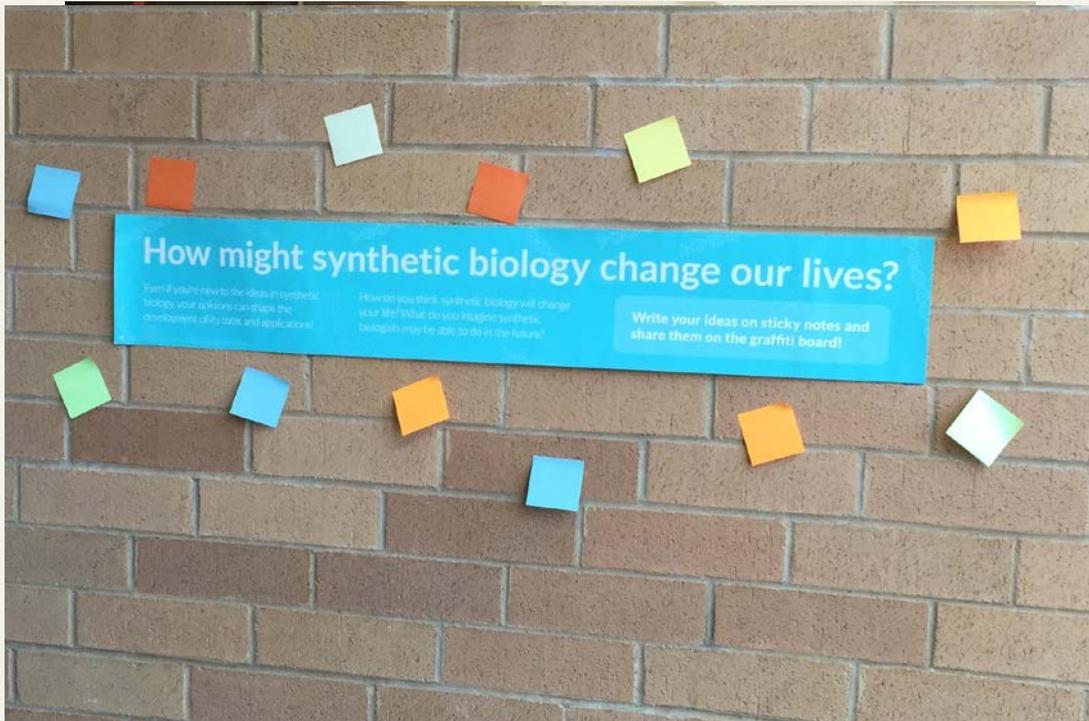
Data collection is embedded in a passport activity:

- Visitors of all ages may get passports
- At the end, adult visitors may fill out a survey



Graffiti Board

- Included in your kit
- You collect visitors' responses on sticky notes
- Make sure to use the sign we sent you



Your Evaluation Contact

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Sarah Pfeifle

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Katie Todd

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The Data Collector's Role

The Evaluation Data Collector

1. Complete human subjects training
2. Attend this webinar *(or watch the recording and speak with your evaluation contact)*
3. Watch data collection video
4. Collect data
5. Send data to the Evaluation Team



This person needs to devote his/her full attention to the evaluation.

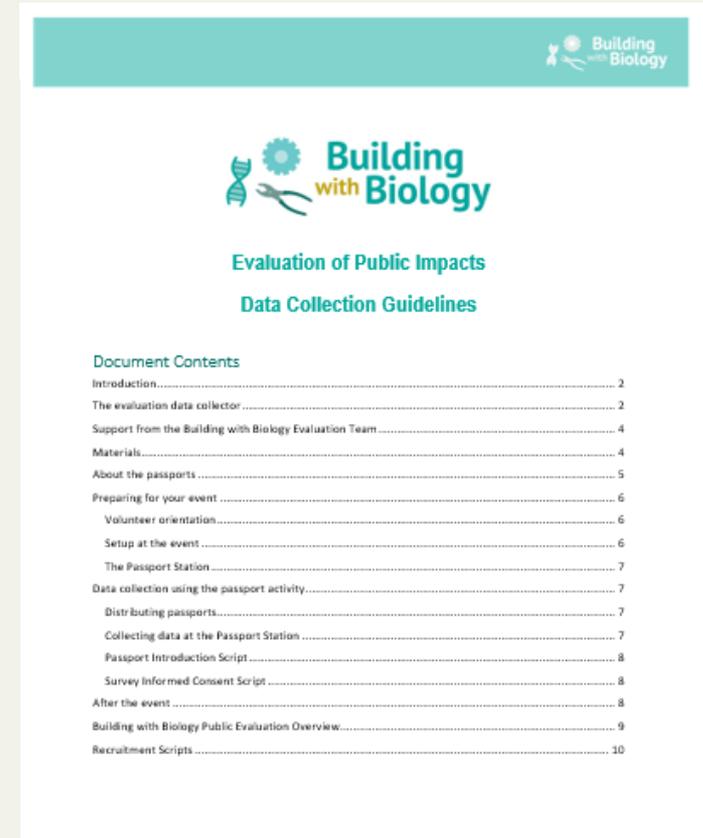
Human Subjects Training

- Send certificates to spfeifle@mos.org at least 1 week before your event
- Existing certificates from NIH or CITI are fine
- To get a new certificate, take the free, 2 hour online course from NIH:
<https://phrp.nihtraining.com/users/login.php>

Everyone who collects data MUST have a human subjects training certificate on file.

Data Collection: Preparation

1. Watch this webinar and the data collection video
2. Read *Evaluation of Public Impacts Data Collection Guidelines*
3. Fold passports (optional)



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Data Collection: Volunteer Orientation

At your volunteer orientation:

- **Train** volunteers to stamp passports
- **Identify** someone to facilitate the graffiti board

Passports

- Each facilitator will need to be prepared to stamp visitors' passports if guests ask them a question and/ or share what they think about synthetic biology.
- Facilitators who are scientists should wear "I'm a scientist" stickers at the event and should be ready to stamp passports if guests talk to them.
- The person at the graffiti board will need to stamp passports if a guest adds a post-it note to the graffiti board about how they think synthetic biology will change our lives in the future.

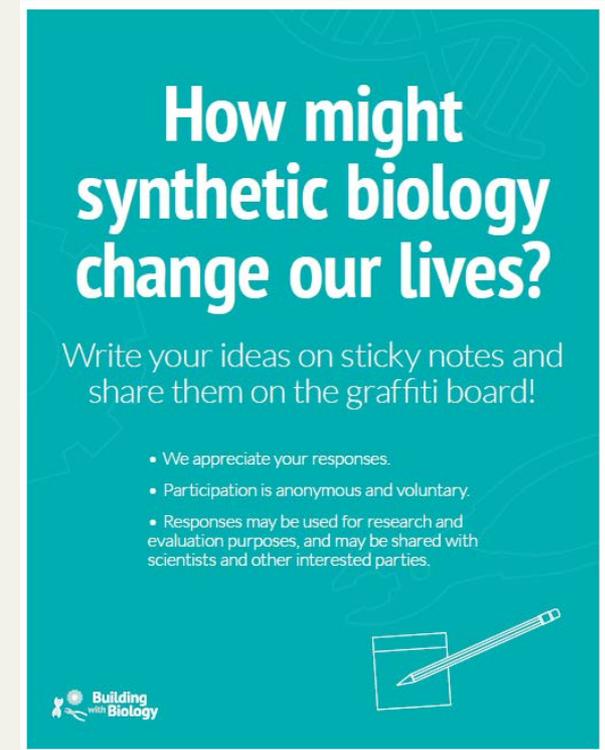


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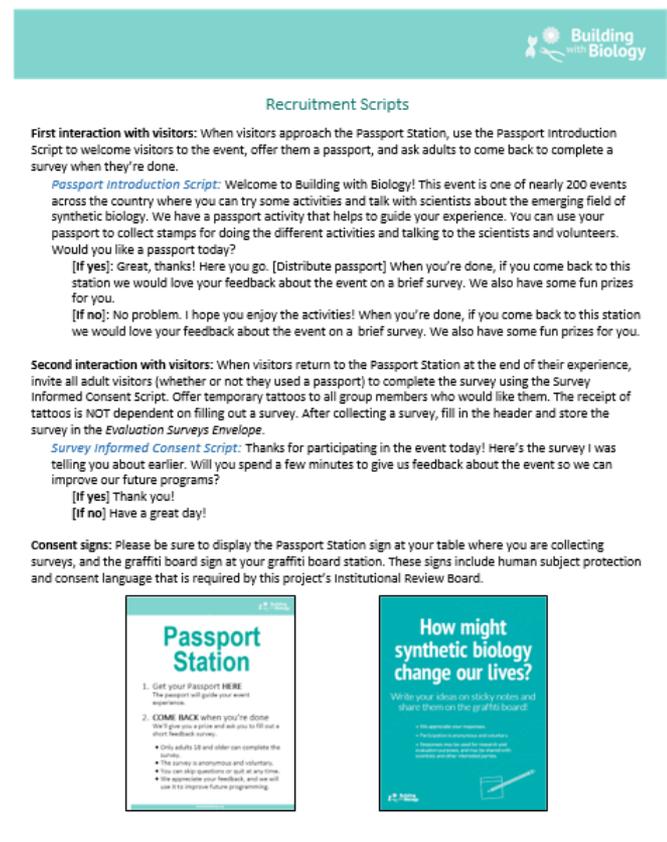
Data Collection: Setup for the Event

- Follow the *Building with Biology Public Evaluation Overview*
- Post the graffiti board
- Situate the Passport Station near entrance and exit
- Make sure the passport and graffiti board signs are clearly visible



Data Collection: Distributing Passports

- Use the *Passport Introduction Script*
- Offer passports to **all visitors**
- Ask adults to return for the survey, even if they don't take a passport



Building with Biology

Recruitment Scripts

First interaction with visitors: When visitors approach the Passport Station, use the Passport Introduction Script to welcome visitors to the event, offer them a passport, and ask adults to come back to complete a survey when they're done.

Passport Introduction Script: Welcome to Building with Biology! This event is one of nearly 200 events across the country where you can try some activities and talk with scientists about the emerging field of synthetic biology. We have a passport activity that helps to guide your experience. You can use your passport to collect stamps for doing the different activities and talking to the scientists and volunteers. Would you like a passport today?

[If yes]: Great, thanks! Here you go. [Distribute passport] When you're done, if you come back to this station we would love your feedback about the event on a brief survey. We also have some fun prizes for you.

[If no]: No problem. I hope you enjoy the activities! When you're done, if you come back to this station we would love your feedback about the event on a brief survey. We also have some fun prizes for you.

Second interaction with visitors: When visitors return to the Passport Station at the end of their experience, invite all adult visitors (whether or not they used a passport) to complete the survey using the Survey Informed Consent Script. Offer temporary tattoos to all group members who would like them. The receipt of tattoos is NOT dependent on filling out a survey. After collecting a survey, fill in the header and store the survey in the *Evaluation Surveys Envelope*.

Survey Informed Consent Script: Thanks for participating in the event today! Here's the survey I was telling you about earlier. Will you spend a few minutes to give us feedback about the event so we can improve our future programs?

[If yes] Thank you!

[If no] Have a great day!

Consent signs: Please be sure to display the Passport Station sign at your table where you are collecting surveys, and the graffiti board sign at your graffiti board station. These signs include human subject protection and consent language that is required by this project's Institutional Review Board.

Passport Station

1. Get your Passport **HERE**. The passport will guide your event experience.
2. **COME BACK** when you're done. We'll give you a prize and ask you to fill out a short feedback survey.
 - Only adults 18 and older can complete the survey.
 - The survey is anonymous and voluntary.
 - You can skip questions or quit at any time.
 - We appreciate your feedback, and we will use it to improve future programming.

How might synthetic biology change our lives?

Write your ideas on sticky notes and share them on the graffiti board!

- We appreciate your feedback.
- The survey is anonymous and voluntary.
- You can skip questions or quit at any time.
- We appreciate your feedback, and we will use it to improve future programming.

Data Collection: Collecting Surveys

- Use the *Survey Informed Consent Script*
- Ask adults to complete the survey even if they didn't take a passport

Recruitment Scripts

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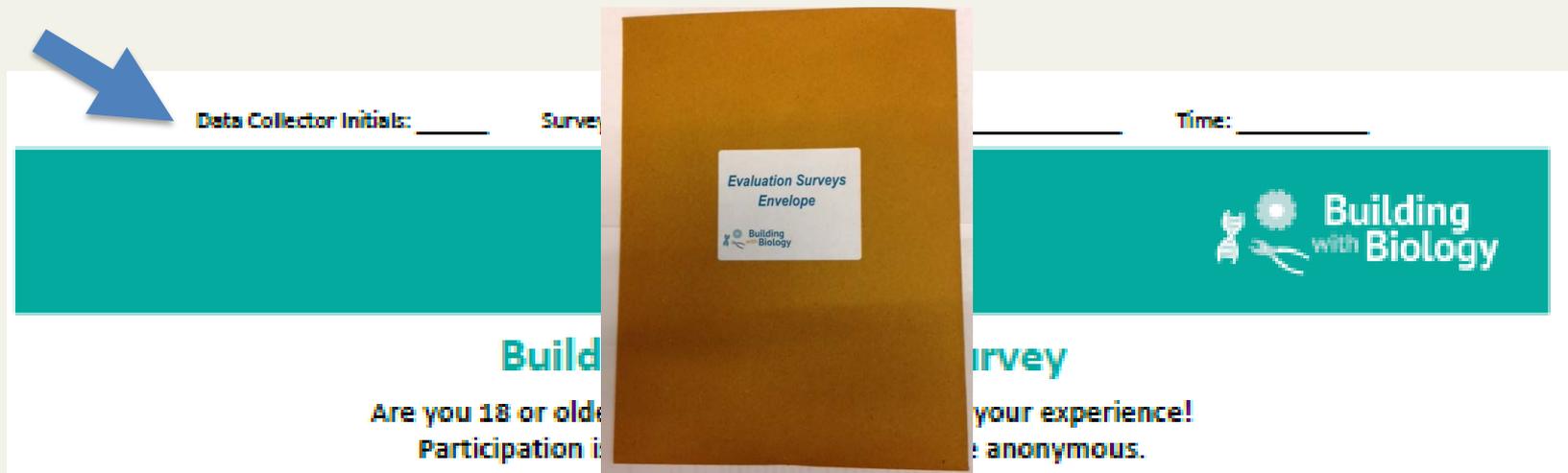
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Data Collection: Collecting Surveys

- Check surveys for completion
- Offer tattoos to **all visitors**, whether or not they take the survey
- Fill in survey header
- Store surveys in the *Evaluation Surveys Envelope*



The Survey Target Number

- Your kit has 20 surveys
- Fewer than 20 limits the strength of your report
- You're welcome to collect more
- You can print additional copies at:
buildingwithbiology.org/project-evaluation

20

The more data you get, the more you know.

After the Event

- Email spfeifle@mos.org with scans or clear photos of:
 - Completed surveys
 - Graffiti board responses
- Mail data to the Evaluation Team using the provided envelope

Building with Biology Survey

Are you 18 or older? If so, please tell us about your experience!
Participation is voluntary. All responses are anonymous.

1. How many times did you do each of the following activities? (Please check)

	Not at all	Once	More than once	Unsure
Talk to a scientist	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ask a volunteer a question	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Share your ideas on the graffiti board	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tell a volunteer your thoughts about synthetic biology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Try a hands-on activity (drawing, playing a game, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2. What, if anything, did you learn from participating in this event?
Synthetic biology research could help prevent the Zika virus.

3. How much did you know about the following topics BEFORE the Building with Biology event, and how much do you know AFTER the event? (Check one 'BEFORE' and one 'AFTER' for each topic)

	BEFORE the event, I know...				AFTER the event, I know...			
	Nothing	A little	Some	A lot	Nothing	A little	Some	A lot
Facts about synthetic biology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Applications of synthetic biology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Societal aspects of synthetic biology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
What other people think about synthetic biology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4. How much did this event increase your interest in the following? (Please check)

	Not at all	A little	Somewhat	A great deal
Checking out news stories (online, TV, and/or print) about synthetic biology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Learning about how synthetic biology is connected to my daily life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Talking to a scientist about the impacts of scientific research in my community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sharing my views about synthetic biology with friends and family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

OVER →

TRACKED INSURED

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I want A glowing fish pet

I hope it gets me a job!

Medicine for my aunt

Cheaper food

Could hurt the ecosystem

Reporting

- The Evaluation Team will prepare a report about the data you collect
- We will send you a report in fall/winter 2016
- We will also offer a webinar about the results from the overall evaluation

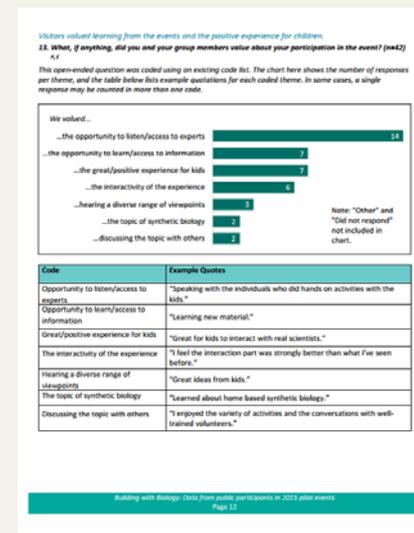
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The Sample Museum – Summer 2016
Data Collected from Public Visitors

Document contents	
Introduction	2
Data collection	2
Analysis	3
Themes within the data	3
Questions to consider	4
Authenticity	4
Representation of data	4
Visitors represented a range of ages, genders, and group types	5
Most groups engaged with at least two activities	5
Most respondents knew that some of the volunteers were scientists	6
Respondents considered the benefits of synthetic biology, but some did not consider the pros and cons or the risks	7
Visitors enjoyed the events but some did not feel like they contributed	7
Groups felt the events increased their behavior and future interest in synthetic biology activities	8
Visitors learned from interacting with scientists and participating in building with biology events	9
Visitors valued learning from the events and the positive experience for children	12
Respondents found different aspects of the events to be interesting and exciting	13
Respondents offered some suggestions about how the events could be improved	14

Building with Biology: Data from public participants in 2012 pilot events
page 1



Questions?

Troubleshooting

Some people will say no. It's ok!

- Many people **value** giving feedback, so don't be afraid to ask.
- You're giving them an **opportunity** to share.



If they say no, just let them go.

Low Numbers

- Find a good location
- Split up passport distribution & surveys
- Tell adults about the survey at the **beginning** of the experience
- Clipboards offer mobility
- Prepare to ask



Your evaluation contact is happy to discuss your setup.

Forgetting What to Say

- Read the scripts before the event
- Practice!
- Consent is multi-faceted:
 - Verbal
 - Printed on sign
 - Printed on survey



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Questions?

Video

The data collection video summarizes the process.



<https://vimeo.com/169711008>

Your Evaluation Contact

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