

CREATING Effective *and* Authentic SCIENCE EVENTS

PROGRAM DEVELOPMENT GUIDE

Exploring Careers and STEM with EASE



ABOUT THIS WORKBOOK

This is not a comprehensive guide to program development. We have attempted to provide a useful and broadly applicable series of prompts for designing large scale immersive events that incorporate K-12 STEM activities, careers, industries, and other organizations. This guide is also not linear; you do not have to start on page one and work your way chronologically through the prompts. It might make the most sense for you to start in the middle, or skip a page entirely. That's ok!

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CONTACT US

Please let us know if you have any questions or feedback regarding the workshop, this guide, or our organization.
Thank you for choosing to spend this time with us!

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MEET YOUR PRESENTERS



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Director of Programming

After earning a B.S. in Chemistry and an M.Ed in Secondary Science Education, Bethany began a 13+ year career working in science education.

She has experience in both the classroom and in outreach. She is a wife and mom of two rambunctious little boys, and enjoys the performing and visual arts when she can find the time!



Courtney Behrle

Senior Director of STEM Outreach

Courtney has worked in informal science education for nearly 20 yrs & has an M.Ed. in Science Education.

She has experience working in museums, camps, university research, & outreach. She is a mom to 2 dogs, 2 wobbly cats, & 2 lizards. She loves being the “fun aunt” to 2 small nieces & also plays viola for RTOOT (Really Terrible Orchestra of the Triangle).

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Identify Your Goals



Before jumping headfirst into the planning and logistics - you need to develop or review your goals. Your program should support your organization's **mission** and **vision**, in addition to aligning with any **strategic plan** already in place.

If this program will fulfill the requirements of a grant, you will need to consider your specific parameters. Whatever the guidelines are - make sure you have carefully reviewed them in advance and continue to do so throughout the planning process.

ORGANIZATIONAL GOALS

Identify key points from your organization's mission and vision that will inform your planning process. Include any other guiding parameters, such as grant requirements.

- promote life science industry in NC
- support community college outreach

PROGRAM GOALS

Identify the goals specific to this program. Consider why you are organizing the event, who the event is for, and how you will evaluate whether you've met these goals.

What do you want to accomplish?

Who is your target audience?

How will you measure success?

Any additional thoughts?

PARTNER ORGANIZATIONS

Are there other organizations you will be partnering with? What do those organizations want/need? How will this program benefit them? How will they contribute to the program?

Organization:

How does this program benefit them?

How will they contribute to the program?

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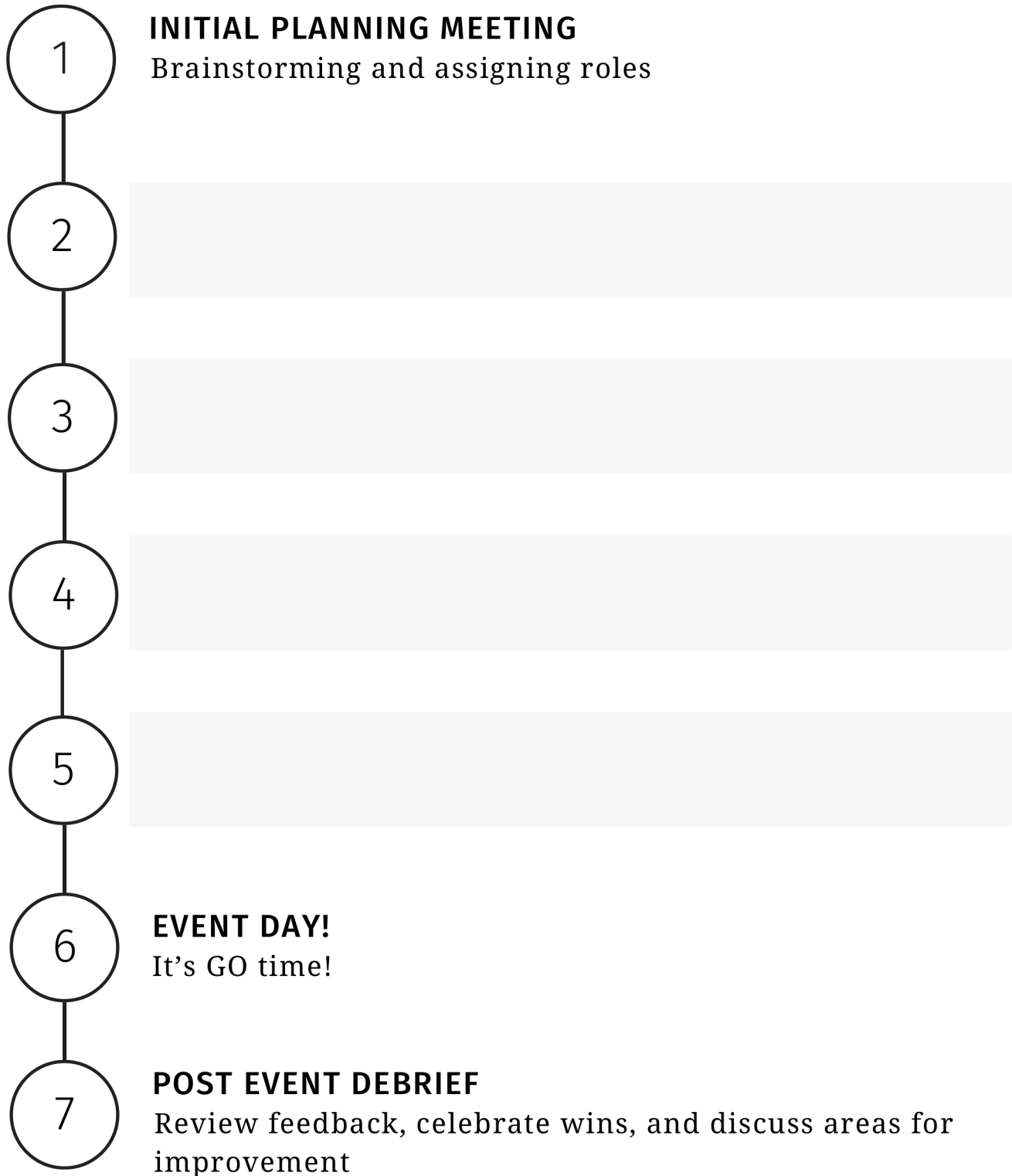
Organization:

How does this program benefit them?

How will they contribute to the program?

WHAT DOES YOUR TIMELINE LOOK LIKE?

The amount of time needed to plan for your event will depend on the scope and scale of the program. Make sure you establish and revisit your timeline frequently. Adjust the timeline as needed.



Financial Considerations



You will need to consider how your program will be funded. Is it part of a **grant**? Will your **organization** foot the bill? Will you look for **sponsors**?

In addition to funding sources, you will need to create a projected budget and then manage the actual flow of funds in (grants, sponsors, etc) and out (expenses). Will this be your job, or will you have a colleague or team member to assist with this?

You will need to identify expenses and allocate funds accordingly. *Below is a list of potential expenses to anticipate.*

- venue/rental space
- tables/chairs
- audio/visual
- decor
- signs
- speakers
- staff
- travel costs
- marketing
- shipping costs
- registration software
- consumable activity supplies
- special equipment for activities
- print materials
- event swag
- giveaways
- entertainment
- meals
- snacks
- drinks



Creating a Unifying Theme

How will you frame all the elements of your program?

An immersive experience should connect all the speakers, activities, and sessions to a single theme or group of topics. This can be broad (The Science of Magic, Making STEM Accessible) or very specific (The Salty Ocean Caterpillar). It can be reflected in everything from the keynote session and activities to the decorations, snacks, and print materials.

We find that activities are most engaging with a story the kids can buy into. Larger programs connected to a mystery or problem the kids need to solve become core memories they carry with them for a long time!

Brainstorm some overall themes or topics:

What are related problems the participants might need to solve?

Why will the participants care about the problem or question?

Elements of a Good Story

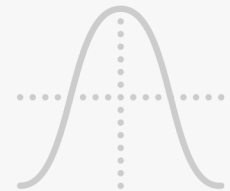
Tying your activities to a story that unfolds over the course of your event will excite and engage your participants beyond a simple ‘hook’ that gets their attention at the beginning.

In the space below, brainstorm some elements to your story.

Theme



Plot



Conflict



Place/Setting



Character



Program Format

Regarding the format for the program, consider the **duration** (1 hour, all day, multi-day) and **frequency** (One time, multiple sessions, monthly, annual), whether **in-person, virtual, or hybrid**, and the **agenda** for the event. Will you have concurrent sessions, a rotating schedule, or keynote speakers? What **spaces** will be needed to accommodate this format?

Duration and Frequency

How will guests attend? (in-person, virtually, etc)

What should I include on my agenda? (topics, activities, speakers)

What physical (or virtual) spaces will I need for the event?

DRAFT AGENDA

Create a first draft of what the agenda for your program/event might look like. Don't forget to include **breaks, transition times,** and whether you will have any sort of **opening or closing session.**

AGENDA ITEM OR ACTIVITY

TIME

Content and Curriculum

When planning for content aimed at K-12 students, you will want to research the **educational standards of your location**. For many states in the US, these will be the NGSS (Next Generation Science Standards). Once you know the age(s) you are trying to target, focus on relevant standards that connect your theme, goals, and outside partnerships.
My state standards:

Connections to Careers and Job Skills

How will you determine which careers to highlight? Does one of your partner organizations have jobs you want to promote? Does your theme connect to a certain type of career? Perhaps you want to highlight jobs that are growing in your area. A little research will go a long way.

What qualities/characteristics should a career have to be included in your program?

Identify some careers that meet your criteria. **Which skills are needed for each career?** Consider both technical skills and soft skills, such as communication or collaboration, as well as supporting or related careers.

CAREER

RELEVANT SKILLS

POTENTIAL ACTIVITIES AND SESSIONS

The careers and skills listed previously should help you begin your search for activities. You don't have to reinvent the wheel. Research activities online, in books and other print publications, or shop your old activity repository. You might be able to breathe new life into an old activity with a unique spin. Consider a different technique, connect to a current event, or use new technology to improve the process or the product.

Check out the next page for additional considerations when selecting and evaluating an activity.

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EVALUATING POTENTIAL ACTIVITIES

There are many considerations when selecting specific activities and their format. We suggest incorporating *hands-on* activities as much as possible! Participants also love when they can take something home from their activities.

STANDARDS

Does this activity support one or more of the relevant educational standards?

AGE APPROPRIATE

Is the task appropriate given the fine/gross motor skills of the target audience? Will they understand what they are doing?

SKILLS

Are there laboratory skills or other relevant workplace/life skills that can be reinforced in this activity?

TRAVEL

If the materials must be transported, what kind of containers will you need? Will they be shipped or will you bring them in a van or other vehicle? What kind of cart or straps will you need to transport materials on-site?

STORAGE

Do items have a **shelf life**? How far in advance should they be purchased? Will you reuse materials in the future - if so, how and where will they be stored?

COST

Consider start up and recurring costs. Are the materials consumable or can you reuse them if you repeat the activity. Will you rent equipment or buy it?

TIME

Will there be enough time to complete the activity given the constraints of the schedule?

SETUP/RESET/CLEANUP

Consider the time and effort required to set up the activity, reset the activity in between groups or sessions, and to clean up afterwards - both the space, and the participants!

OTHER CONSIDERATIONS

TYING THE ACTIVITIES TOGETHER

For the most immersive experience, you will want all aspects of your program to tie into the theme or storyline. **If you have multiple activities - will they all relate to the same topic?** Or will each one contribute a piece to the puzzle? You should select and tweak activities to fit your goals and theme.

Storyline/Theme

ACTIVITY

CONNECTION TO THEME OR STORY

GATHER YOUR TEAM

You will need a lot of support in creating and implementing any new program. **Who will be working with you in the planning stages?**

Here are some example tasks that might ALL fall to you (we hope not!), or you might be able to delegate to members of your team.

- volunteer coordination
- volunteer training
- budgeting
- purchasing
- marketing
- grant manager
- fundraising
- managing sponsors
- curriculum planning
- testing activities
- organizing materials
- scheduling venue
- managing food and beverage
- emcee
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ROLE:

RESPONSIBILITIES:

ROLE:

RESPONSIBILITIES:

ROLE:

RESPONSIBILITIES:

ROLE:

RESPONSIBILITIES:

RECRUITING VOLUNTEERS

You may or may not need to include volunteers in the implementation of your program. If you do, **how will you recruit them?** Perhaps they will be from one of your partner organizations, or older students from the same educational institution. Here are some example roles that volunteers might fulfill.

- set up and tear down
- running activities
- assisting with activities
- hallway monitors, ushers
- tech assistant
- gopher
- parking assistant
- event registration/sign in
- refreshments
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ROLE:

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EVENT LOGISTICS

This guide is **not comprehensive and focuses more on the design and development of the program than on the implementation itself**, however, we have included below some items to consider when you are ready to leave the planning stage and bring your event to life.

DATE

Don't conflict with major events or holidays. Schedule far enough out to finish planning and preparations.

MARKETING & PROMOTION

Consider social media, email newsletters, websites, traditional ads in publications or TV/Radio.

PRINT MATERIALS

Any printed signs, directions, activity sheets, etc. should be drafted and edited multiple times for continuity, grammar, and accuracy.

BEHIND THE SCENES AGENDA

When will set up occur? When should volunteers plan to have a break or snack? When will you test the AV equipment?

FEEDBACK AND EVALUATION

Will you pilot your activities before the big day? After the event, how will you collect and analyze feedback from participants?

VENUE

Must accommodate expected number of participants and include necessary facilities/AV equipment. Consider parking, accessibility, insurance and cost.

REGISTRATION

Will guests preregister or fill out an interest form? Where do they access this information? Will you provide name tags?

BRAND

Brainstorm potential names. Will you have a tagline or #hashtag? Will there be colors or a logo?

OTHER CONSIDERATIONS

