

Anatomy of a Young Makers Season

What to Plan and Expect

You've compiled materials, recruited a bevy of excited youth and mentors, have projects ideas spilling out of your heads, can see the showcase event on the horizon, and can't wait to get going. You're ready!

Here we provide a sample model of what your season might look like at the club level. This model assumes your season is about four months in duration, from when you get started to when the showcase event takes place. However, some clubs run a two-month season, and others work for more than six months, so feel free to modify the model and timeline to fit your needs. As you situate yourselves, you'll start to notice the ebbs and flows, the momentum, and the desires of your club.

At a regional level or organizational level, clubs get together once per month or once per season—or some mixed frequency—to meet each other, trade tips and tricks, and share their progress and lessons learned. If you have multiple clubs in your region or within your afterschool network, we encourage you to reach out, share knowledge, and work together!

Sample 4-Month Young Makers Season

Month 1: The New

Month 2: Design and Make

Month 3: Go Team Go!

Month 4: The Final Stretch

Month 1: The New

Everything will be new this month, and that's okay! Expect both excitement and nervousness for everyone involved, as things get off the ground. Listen to your youth and mentors, and encourage them to try new things, get to know new people, and brainstorm new ideas.

Goals for Month 1 Meeting(s)

- Get to know each other! Play icebreaker and team-builder games.
- Introduce some new skills, materials, and activities. Get comfortable tinkering, exploring, and making mistakes.
- Start to create teams, match Young Makers with mentors, and create team identities, if appropriate.
- Commit to a future schedule of meetings.

For the first month, kick off sessions with official club meeting(s) that include icebreakers, team-builders, and brainstorming. In subsequent months, your sessions can either start with a meeting or primarily be work sessions, where Young Makers and mentors jump right into their ongoing project work.

1. Begin with basic design challenges and mini projects.

There are a wealth of fun, basic projects and activities that are open-ended but also introduce youth to new skills, tools, and materials. For most, you can use what you have on hand and make do with basic materials. There's no need to go out and purchase new, expensive items. The purpose of these activities is for your Young Makers and mentors to become comfortable working together and to start working with their hands. They may also inspire ideas!

Age-old design challenges, like the egg drop or bridge-building challenges, are great ways to get hands-on. Try opening those activities up a bit.

For example:

- Instead of dictating that a protected egg is dropped, have youth imagine scenarios in which fragile materials must be transported carefully. They can choose five easily accessible and inexpensive materials to use. You can add one additional material as a twist!
- With bridge-building, the common challenge is to create a bridge that can carry a heavy mass. Instead, consider having youth create a stable span that connects two tables,

using Legos, cardboard, scrap wood, paper, or uncooked spaghetti and marshmallows! Or perhaps the “bridge” is actually a shelf that can hold books.

Fun Brainstorming Activities

Themes, Bugs, and Materials:

1. Brainstorm 3-5 examples of the following: materials (e.g., wood, cardboard, duct tape), things that bug you (e.g., traffic, stinky feet), and themes (e.g., Olympics, colors, Halloween). Share those ideas out loud.
2. From the list, choose one material, one bug, and one theme.
3. Develop a project, idea, or solution that addresses your bug, using the material you picked, along the theme you decided on.

Take-apart:

1. Head to your local electronics recycling center or thrift store, pick up some used computer mice, keyboards, and even old mechanical toys.
2. Grab a few flathead and Phillips screwdrivers, and disassemble!
3. Try to identify what each part is, what its purpose is, and how it can be used elsewhere.

For more common, adaptable, and fun ideas, check out Maker Ed’s online Resource Library on “Projects and Learning Approaches” at MakerEd.org/resources.

2. Create club or team identities.

One advantage of a club is the opportunity to create a shared identity. Have your Young Makers and mentors choose a great name, design a logo, adopt a mascot, make T-shirts, and/or create a website! This all helps to create a sense of shared purpose and belonging.

3. Start brainstorming youth-driven big projects.

Members should aspire to choose projects that are ambitious, yet attainable. Projects should acknowledge the expertise that Young Makers have and hope to gain, as well as the knowledge and expertise of mentors. Remember that a project doesn't necessarily have to be an object! It can also be a performance or an experience created for others to enjoy.

4. Begin finding volunteers and mentors.

Each project team (whether a single Young Maker or a group of Young Makers) should have at least one mentor. Mentors may work with multiple teams to support and motivate them, or they may lend their support and expertise to one specific team.

Young Makers will have questions—how to get started, how to create a project plan, how to resolve a technical issues, how to work together, even how to budget. Mentors don't need to possess all of the skills and knowledge to complete a project—they just need to be willing to help find answers and figure out next steps. Mentors are curious, patient, and flexible, and they serve as supporters, motivators, and problem-solvers, helping Young Makers think through challenges. For additional support, outreach efforts can help identify and draw in talent from the community.

Goals for Month 2 Meeting(s)

- Continue skill-builder projects.
- Locate new materials and tools, if necessary.
- Sketch and prototype! Teams start to formulate and settle on their project ideas, vision, and plan.
- Encourage project teams to share with one another. Continue working sessions and meetings.

Month 2: Design and Make

In the second month, keep on making! Continue organizing opportunities for youth to dive into small, open-ended projects and activities. These fun “skill builders” offer a chance to learn about new tools and materials.

At the same time, youth can begin to really brainstorm, settle on a project idea or vision, and start planning. What are the steps needed to get this project off the ground? Mentors can help decide on milestones, gauge the scope of the project, and identify any additional resources that Young Makers may need.

Tips for Getting Past the Slump

- Revisit your project plan. It’s a good time to plan ahead and scale back. Look at all the things you want to do and decide which ones are “musts” and which are “nice to haves.” This helps you prioritize.
- Try to map those steps onto a calendar, giving yourself milestones along the way.
- Break up your project into manageable, bite-sized tasks. If you break it up into small micro-tasks, then you can feel a sense of completion and accomplishment each time you complete one of the micro-tasks.
- Find friends, mentors, and others to help with bite-sized tasks.
- Just pick an easy thing to do. Sometimes, we procrastinate because something seems too daunting. It’s okay to take a break to take care of some of the simpler things.
- Talk to others about your project. It helps to talk out loud and troubleshoot with others.

1. Continue small activities/projects to introduce new skills and materials.

Have you heard interest in particular skills or materials? Hampering for a soldering iron or sewing machine? Are your youth itching to learn more about felt and microcontrollers? In addition to inexpensive basic materials, you can borrow or purchase a few small things to challenge them further.

Small activities and team-builders provide a nice break or welcome addition to project work. These mini-workshops or side activities can be focused on a specific material, tool, or skill. Materials can include wood, metal, fabric, paper, and even natural elements such as sticks and leaves. Tools can be related to the materials you’re working with: hand tools, power tools, and sewing equipment. Skills can be technical—such as learning how to hand-sew or practicing soldering—but they can also be focused on collaboration and problem-solving.

2. Design and prototype!

It’s time to dig in, get your hands dirty, and really start making! Have youth sketch ideas out, brainstorm different models, and start creating prototypes out of simple and cheap materials. For the second month’s meeting(s), Young Makers can bring their sketches, photos, prototypes, and artifacts to show off. If they don’t have anything visual to share, it’s just as good for them to describe and talk about their ideas with the group.

3. Capture and document.

As they work, be sure Young Makers take photos, draw ideas, jot down notes, etc., so they can remember the important breakthroughs when it's time to tell the story of their projects. If you're choosing to document digitally, these assets can become regular posts on the group website.

4. Work together, then work some more.

Form project teams, and allow idea generation to continue. Designing and prototyping is happening! Sometimes a lot of work happens in one session, while other times, it feels like very little progress is made. That's okay! Remember that progress is both visible and invisible.

Early in the season, you might meet only once or twice a month for work sessions. Then you might gradually meet more often as your showcase event approaches. The number and duration of work sessions will depend on the progress and scope of your projects. Sometimes work sessions are interrupted by the need to find other materials or tools, seek outside help, or just take a break. Stay on track but remain flexible.

5. Meet to share and learn.

Meetings are quality time for sharing progress on projects and getting helpful feedback. They can also be spent troubleshooting with one another (can another team or mentor help with your roadblocks?). And meetings are a great chance to see what others are doing.

Afterwards, plan time to reflect on the meeting, look at project plans, and identify things that Young Makers might be able to divide and tackle on their own at home (research, individual tasks, etc.) versus what they might want to do together.

Month 3: Go, Team, Go!

The third month is all about keeping the momentum going: Keep making, keep documenting, and keep sharing!

In some instances, there is a frenzy of work that takes place in this month. Other times, project momentum and progress slows, dips, or drops in the third month. There might be a frustrating roadblock, or maybe the idea is less interesting or feasible now, and sometimes the project starts to feel overwhelming. It's okay! This is a natural part of making, and it's good for mentors and makers to pause and reflect on this.

Work together to get over the hump, problem-solve challenges, be realistic about timing, and acknowledge that frustration can actually be constructive. Take time to share with other groups, and Young Makers will see that they're not alone in their efforts. Keep going!

Goals for Month 3 Meeting(s)

- Share progress on your project.
- Revisit project plans and timelines. Adjust, if needed!
- Hit some snags? Made some mistakes? It's okay! Share them, laugh about them, consider how to learn from them, and move forward. Sometimes it's fun to have a "Marvelous Mistakes" wall to capture all the challenges, and mistakes along the way.
- Add work sessions or solicit mentor help, as needed.
- Get excited about the showcase event!

1. Check in on project plans.

Mentors should check in on progress with the team or with individual Young Makers. Sometimes it's worthwhile to scale back the project or revisit milestones. Sometimes the direction of the project has changed altogether!

2. Start thinking about the showcase event.

Some showcase events might begin to ask for exhibitor proposals. Work with Young Makers to start thinking about what they want to do for the event. Will the exhibition be interactive? What will they talk about? How can they show off what's been accomplished? Even if the project isn't complete (which is fine!), it's still worthwhile to exhibit it, present it to others, and go through the showcase event experience.

Month 4: The Final Stretch

The fourth month is all about finishing what you can. Host an intensive work session to finish off projects. Bring mentors, Young Makers, food, celebratory thoughts, enthusiasm, and encouraging energy to the session, and propel forward for the last bit. There's almost always a mad rush towards the finish line!

At the same time, it's okay to not have a finished project to show off. Don't stress out over the final days of the season. People show off half-finished projects all the time! Finish what you can, reach a stopping point, and celebrate your hard work and innovation. Be proud to share any and all progress made. Whether the project is a tangled heap of great ideas that didn't pan out or it's a fabulously finished realization of the original design, it's all worthwhile to share. Event goers will be interested, excited, impressed, and inspired.

1. Prep for the showcase event.

This is a special opportunity for Young Makers to show off their ideas, interests, and hard work to friends, families, community members, and any other event goers.

- Help them think through what they'll show off and how they'll present it. Is there a video? A poster?
- Practice talking points, and think through some common questions they may want to answer.
- Update websites and blogs. Some people will want to read more about what Young Makers have been working on and may then be inspired to make their own project.

2. Run through “Showcase Event Prep Checklist” (see below).

3. Last but not least, be proud!

Congratulate one another, and continue to develop your ideas, prototypes, and projects. Imagine your next steps!

Showcase Event Prep Checklist

Confirm all these details too:

- Address
- Parking details
- Timing
- Setup and breakdown
- Extra power cord, chairs, paper clips, glue gun, etc.
- Decorations
- Food, clothing, water
- Registration or ticketing
- Accessibility to water, power, Internet, etc.
- Volunteer assistance

- Practice explaining.** Come up with a 10-second, 1-minute, and 3-minute spoken overview of what you made, how you made it, and why. Attendees will want to spend a brief moment with you, or a long time, and you want to make sure you know how to tell your story to different audiences.
- Ask for a venue sneak peek.** Some showcase events will host an open house before the event date to give makers a first-hand look at the site. For projects that may be affected by their setting, put this visit on the project plan calendar.
- Design the “look and feel” of your project.** Create the best way to showcase or demo it. Determine what props you’ll use: supplies, descriptive signage, even the artifacts of your process (notebooks, sketches, prototypes) to tell the story of how the project came to be and share how you made it.
- Tell friends and family!** Spread the word with a poster at your school or on your neighborhood bulletin board. Start a checklist of all the items you need to bring with you. Who will help you set up? How can you pack for easy setup? Come prepared with all you need for setup. And pack comfy shoes, clothing for variable weather, and maybe even rain gear, depending on the forecast. You may need a cart to get your project to its booth location, or the event may have these available to borrow.