NORTH CAROLINA
SCIENCE OLYMPIAD

# The Science Olympiad Companion for Coaches

## How to Succeed and Have Fun with Science Olympiad

By Cara McLauchlan

# A Letter to Science Olympiad Coaches

Dear Coach,

First, thank you for being willing to lead your team in the adventure of Science Olympiad! As a veteran coach, parent and volunteer, I can easily say Science Olympiad was one of the best experiences in my life. More than anything, it gives students a chance to fall in love with science in unexpected ways. It gives students with all abilities the chance to shine, gain confidence and grow.

When I first started off as a coach, I had no idea what I was doing. Who was I to think I could coach an unruly bunch of kids in areas where I knew nothing about? I didn't have a science degree and I didn't work in a science industry. I wasn't an expert in anything other than encouraging and working hard. It turns out, that is all I needed.

The most important thing I learned as a coach is that passion gets it done. You don't have to be the smartest person in the room. You don't have to have extensive training. But if you show up and continue to show up with a positive and encouraging attitude, your students will follow suit.

Not only is this a great example for Science Olympiad, but also for life. I wrote this guidebook to encourage you on this journey. My hope is this resource gives you some support and ideas. Thanks for deciding to be an encourager. If you are like me, you will find it's one of the greatest choices you ever made.

With science hugs,

Cara McLauchlan
10-year Veteran Science Olympiad
Elementary/Middle and High School Coach
2019 North Carolina Science Olympiad Coach of the Year
2020 National Science Olympiad Board Member
Superfan of Science Olympiad

## Top Ten Reasons Why Being a Science Olympiad Coach Is Awesome

As if you needed a list. This list is to remind you that serving as a Science Olympiad Coach might be the best thing you ever do with your free time. For even more insights about the benefits of Science Olympiad for students, check out the Resource Section on page 43.

**Get Out of Your Comfort Zone**
As a coach, you set the tone for your team to go all out, work hard and participate in an intense competition. Navigating the emotions of students, parents, success, failure and everything in between will be a rollercoaster. You will definitely become a stronger person with greater abilities to nurture, problem solve and motivate students.

**Teach Kids It's Okay to Fail**
For students, so much about life is about success. Science Olympiad teaches that sometimes failures are where students gain the most. The competition experience offers them the chance to fail and allowing it to be a good thing.

**Share How to Learn Anything**
When students first read the rules for their event, panic and overwhelm may set in. But as their coach, you walk them through how to break it down into baby steps. Through weekly practice and consistent small efforts, they see how little things build up over time. One of the secrets about Science Olympiad is it demonstrates to them they can learn virtually anything.

**Learn to Do Hard Things**
There are a million hard things found in Science Olympiad. But you are modelling for students that practicing weekly, working through failure, persevering, embracing the grind and continuing to show up will get you there. You are serving as their guide for how to do hard things.

**Practice Teamwork with Grace and Style**
Many of the students that participate in Science Olympiad are rock stars on their own but teaching them to work with a team can be hard. Navigating the life lessons of pulling their own weight, being a supportive partner, helping others when you don't really want to -- all of these skills of teamwork will be vital for students. As the coach, you encourage them to see the best in others as a solid teammate.

**Learning as Bigger than a Classroom**
Science Olympiad allows kids to see how much learning can take place away from a desk and beyond a textbook. You get to show them that there is a big fat world out there for learning and experiencing. Science Olympiad allows them to learn things, but also see their application in the world through creating things, studying things from all sides and going deep in a subject.

**Give Kids Life Skills**
As the coach, you help students put many tools in their toolbox. Through the hands-on experience of competition, they learn about preparation, collaboration, failure, difficult partners/subjects/situations. They manage deadlines, test devices, practice critical thinking, take timed tests and handle the unexpected. They also might experience one of the best feelings -- working really hard all year long and then being rewarded for it. You get to be the catalyst to help them gain all of these tools.

**Create Amazing Memories**
I always tell people that Science Olympiad is as serious as it needs to be. If you do it right, you have a ton of fun. As the coach, you set the tone that this is fun. Help your kids see this as a chance to not only learn a lot about science things, but to create some fantastic life memories.

**Confidence Boost**

The secret sauce of Science Olympiad is the confidence it gives students. Help your students see that this is more than just a science competition. Help them see the bigger picture for how they can approach it as an example for life. Truly Science Olympiad is a chance to practice picking something you love, working hard and doing all you can to understand it in a really deep way. Then, students have the opportunity to test themselves and see what they learned. This is an outstanding reference model for how approaching life and going after something with passion.

**Help Kids See Their Greatness**

Many of the students who pursue Science Olympiad know they are smart. However, as their coach, you have a chance to point out how they are gifted. You can celebrate them in ways they may not see for themselves. This is your chance to influence them in their abilities that others may never take the time to notice.

# Getting Started

**What is Your Why?**

Before beginning the adventure of coaching a Science Olympiad team, you may want to ask yourself why you are doing this. This may seem like an obvious thing. For me, coaching was something that happened by accident because there was no one else to do it. As well, I wanted my own child to have it as an experience. This may look different for you. But getting clear about your why is important. When challenges arise, difficult students and parents complain, when things get hard or you are tired, you will want to have your why front and center to remind you what your aim was at the start.

**Here are a few reasons why others chose to be a coach:**

***"I am passionate about science and want kids to have the opportunity to experience that too."***

***"I love learning and Science Olympiad is an incredible chance to go deep in a subject."***

***"I want kids to see that science is more than just a classroom experience."***

***"Science Olympiad shows kids they can do hard things and test themselves in a fun atmosphere."***

***"Science Olympiad gives super smart kids and even not so smart kids an opportunity to shine."***

***"Science Olympiad teaches kids to learn incredibly hard things over a long period of time. It shows them there isn't anything they cannot learn or understand through consistent effort."***

**Pro Tip: Know Your Why**
**Write down your why and post it somewhere to remind you why you are doing this. This will help keep you grounded and focused on the bigger, better perspective.**

## Answer this question:

**The reason I choose to be a Science Olympiad coach is….**

# What does a Science Olympiad Coach Do?

When defining what a coach's role is in Science Olympiad, there is quite a bit of variety of what this might look like. Below are some options for considering your coaching role. For even more details on the Coaches' roles and responsibilities, check out the Resource Section on page 43.

**Science Olympiad Coach Basics:**

- Registers their team for Science Olympiad.
- Recruits students to participate in Science Olympiad.
- Assigns/designates students to specific Science Olympiad events.
- Shares resources and ideas for preparation of Science Olympiad competition.
- Motivates, encourages and inspires students to practice and prepare to their best ability.
- Communicates important team dates, deadlines.
- Serves as administrator for paperwork, team registration and team details.
- Serves as point person for parents, students and Science Olympiad office contacts.
- Manages the team before and during the competition.

**A Few Styles of Coaches**

***The Hands-On Coach***

- Usually the Coaching style for Division A and some Division B Teams.
- Meets with students - gives feedback/guidance for devices and academic preparation strategies.
- Recruits a few parents to support students in coaching/mentoring students for their events.
- Shares personalized ideas for study/preparation.
- Hosts weekly practices for the team.
- Connects mentors from industry/career/clubs or associations with students.
- Organizes field trips or suggests parent mentors.
- Encourages team spirit and team-building activities.

***The Hands-Off Coach***

- Usually the Coaching style for Division C Teams.
- Designates student leaders to lead team.
- Requires student leaders to assign events.
- Requires student leaders to host/lead their own team events and practices.
- Serves more as chaperone/guide and club advisor.
- Passes along all communication to student team leaders.
- Makes resources available for best practices.
- Encourages students to manage their role/event and learning process on their own.
- Attends only kick off events, overall team meetings and competitions.

***The Hybrid Coach***

- A cross between Hands Off/Hands On Coach - actively recruits parents and mentors from industry to coach each event within the team.
- Designates parents to take on a division of labor roles such as event resources, team meeting activities, team spirit, administration, event assignments, etc.
- Actively engaged in a year-long fashion but designates parents/students to take ownership/leadership of their specific events.
- Hosts select team meetings to share best practices and foster accountability but encourages smaller event teams to meet on their own on a regular basis.
- Serves as the team CEO with actively engaged parents and students to manage their own events.
- Provides best practices/resources and tips all year long for teams on a larger scale basis.

**Pro Tip: Decide Your Style**
**Think about your own educational environment and what would work best in the culture of your atmosphere. Also consider, what style works best for you and would be a fit for your students? If you aren't sure, check in with some parents/students and educators to see what is the best fit for your situation.**

**Answer the Question:**
**When I consider my own personal situation and the dynamic of my students/community, the ideal coaching style would be….**

# First Things First - Mile High View

Here are the first things to consider when starting your team. For simplicity sake, we will assume you have support from your school, your family and resources to register a team. If you do not have those yet, you may need to do some preliminary groundwork to line up financial support for your team registration and supplies and get everyone on board. If you need help, check out the Resource Section on page 43.

## Big Picture Elements for Coaches:

***Number One - Get People Interested.***

The first thing you want to do for your team is to recruit students. You can do a generic announcement for a Kick Off Meeting at the beginning of the school year. But the best way is to invite students personally. Who doesn't like a personal invitation? Reach out to your best and brightest, highly motivated as well as "diamonds in the rough " style students ready to rise to the challenge and fun of Science Olympiad. You will find some sample announcements in the Resource Section on page 43.

***Number Two - Host a Kick Off Meeting.***

Host a Kick Off Meeting as early as you can in the school year - this means ideally August or early September at the latest. Time is your friend when you start early. Even if you aren't quite organized yet or have all the details, host a meeting. At this meeting, share what Science Olympiad is, how it works and team details. Be prepared to have people complete paperwork and provide payment at this meeting. Be firm about payment right away to avoid hunting people down later. Students are not assigned events until they pay.

***Number Three - Register Your Team.***
Now that you have collected some funds, go ahead and register your team with Science Olympiad. If you have more than 15 students and are up to the task, consider forming a Junior Varsity Team as well. Even if it's only a handful of students, it's a solid idea. This way, you have back up resources and are building up a team for the next season.

***Number Four - Create A Yearlong Team Schedule.***
Go ahead and create a regular team calendar for the year. Include your Regionals date and your States date to have that on your students' radar. You may or may not qualify for States -- but you want to get key dates on the calendar. There is nothing more tragic than finding out they have a conflict a month before competition. Map out your year and share that with parents/students to get it on their calendars right away.

***Number Five - Event Selections/Tryouts***
Review your student registrations for Event Preferences to begin the matching process of students with event choices. It's helpful to have another coach, parent or interested party help you with this process. If you are a hands-off coach, you will transition the registrations to your Student Leaders for event assignments. Be sure to review best practices/guidelines from this guidebook to give practical guidance from the start. You may opt to delegate these to your Student Leaders as a support/review resource for them.

**Note -- if you have too many kids and don't want to set up a Junior Varsity team, you may have to consider team tryouts. Use this option only if you are limited by resources. This means you have students make a case/apply for the team, take event tests or have some sort of criteria for making the team and cutting others.**

***Number Six -- Share Rules and Resources.***
Once students are assigned events, share the Event Rules. As well, direct Students/Parents where to find Event Resources to begin learning about their events. If you can, attach key websites for Event Resources and your Event Rules Manual to every email you send out. Reminding about the Rules and Resources is something students and parents cannot see enough. For where to find rules and event resources, see the Resources section on page 43.

***Number Seven - Communicate Updates, Ideas, Fun Stuff***

Coaches serve as the main conduit of information between Science Olympiad and the team. You will share event updates/clarifications, answer questions and facilitate information with the team. You will share competition schedules, home base locations, event impound or location details and more. You will be communication central -- have a good system to do this regularly and easily.

***Number Eight - Go Time - Competition!***

As the coach you are the head cheerleader for inspiration! Remember you set the tone for the team. You are in charge of making sure kids get where they are going, parents/students have all the details for what they need for their events, providing supplies/backups, as well as troubleshooting and handling issues that come up. Be ready to celebrate as well as comfort families. Take lots of pictures, capture the moment!

***Number Nine - Wrapping it Up - Key Learnings for Next Year***

Lastly, as you close out the season, it's important to take stock. Thank all the people who helped you, congratulate and celebrate all the kids/parents that worked hard. Remind your families that the medals are great, but life lessons and personal growth will last a lifetime. Celebrate everything and take notes about what you would change next year.

**Pro Tip: Passion and Time are Key.**

**You may be a coach without a lot of resources or support. You may lack knowledge in the events or be overwhelmed by the amount of material the kids need to learn. Forget about that. By starting early in the season, time is on your side. Have a positive attitude no matter what. You will be amazed at how tiny, consistent efforts build up for the kids over time. But it helps to start early and encourage the kids to be consistent in their practices. How do you eat an elephant? One bite at a time.**

# No Coach is an Island -- Building Your Tribe

**Creating Your Science Olympiad Community**
Below are some best bets for designing a great team and community for your Science Olympiad season. People support what they help create. Enlist some allies early to create a community to see you through the season. For more ideas on building your support network, see the Resource Section on page 43.

**Finding Your Support Team**
The first step is to create allies -- people don't like committing to vague ways of supporting. With that in mind, ask people specifically. Ask for parents/friends/teachers and others to support you in ways you know you will need. Here are a few ideas on asking for help:

- Can you help me identify students that would be a good fit for Science Olympiad?
- Can you help me match students with events aligned to their strengths?
- Can you help me organize meaningful team meetings?
- Can you help lead some fun team building activities?
- Can you help me organize team communication, admin and updates?
- Can you help me work with students to design and produce a t-shirt?
- Can you help match resources with students/parents for event learning?
- Can you help me come up with fun ways to put team spirit into what we do?
- Can you help me to create lunch/snack/refreshment sign up for competition?
- Can you help be a chaperone at competition to check students in and make sure they know where to go?

**Identify and Invite Students**

Think about what students would fit your Science Olympiad team. Again, invite students personally and specifically. Starting out, it's fine to send out a generic announcement to recruit kids in your school/academic information resources. But by being intentional with your team, you are designing a group of kids that have the best chance of succeeding.

**Here are a few ideas for identifying students:**

- Start with any students you know and love personally -- try to have a mix of academic kids that like to memorize facts and tinkering creative kids that like to build stuff.
- Invite science and math teachers to share the Science Olympiad opportunity with specific kids that they think would be a fit.
- Reach out to enrichment student groups like science/math clubs, honor societies, student volunteer groups or faith-based enrichment groups. These groups have a highly motivated population that already loves these types of opportunities.
- Connect with your Support Team from above to help you identify students for Science Olympiad that are dedicated and have a ready to learn attitude.

**Line Up Event Mentors Where You Can**

As the coach, you cannot be all things to all people. Wherever possible, find “event mentors” that get students started with their event learning and support them along the way. You may have to do a little coordination on the front side to get them started. However, having a dedicated personal resource for their event goes a long way in accountability, motivation and support.

**Here are a few ideas for identifying event mentors/team supporters:**

- **Parents** - ask parents to share on their student's registration if they have any special skills/expertise related to STEM/Science Olympiad subjects and if they would be willing to lend a hand throughout the year.
- **Clubs & Professional Organizations** - share contacts of clubs and professional organizations that may be a fit for specific events. (i.e., Astronomy Club) Or invite your students to connect with these groups for their activities calendar or outreach events. Usually, these groups have members dedicated to education and can connect with a mentor as part of their organization's efforts.
- **Museums** - check out your local science museum's calendar for events related to your students' events. Connect with the museum education outreach contact to find out if there are professionals/education resources to connect with your kids on a specific subjects/events.
- **Universities** -- many universities have interns, grad students/undergrads that would love the chance to mentor or share their knowledge with students. As well, contacting university groups, college professional organizations and student groups are excellent ways to connect with people that are dedicated to education and have wisdom to share. This resource also makes the connection for students for what their event may look like on a larger level.

**Pro Tip - Design Your Team with Intention**

**When putting your team and tribe of support together, be intentional with the students, parents, event mentors and resources you put in place. Enlist the support of parents and community organizations to help you. This may require some extra effort up front to get it started, but a supportive foundation will make the season and future seasons go smoothly.**

# The Basics of Setting Up a Science Olympiad Team

**1. Create a Registration Form**

These can be customized for your group. See an example in the Resources Section on page 43 as well. Here are a few important things to include:

- Students Name/Grade/Parents/contact info
- T-shirt size for students/parents (optional)
- Event preferences/ranked choices by period
- Confirmation signature that they understand the commitment for Science Olympiad and are able to compete on specific Regional/State Tournament dates.
- Students - Areas where they have special abilities, gifts, coursework or knowledge.
- Parents - Areas where they are able to help you or sharing specific skills/expertise.
- Payment info options.

**2. Collect Money/Register Your Team**

Recruit a parent to keep track of the money and handle the administrative part of the team if possible. If for no other reason, it is a good idea to have a check/balance on the integrity of money management. They will need to collect funds, pay team registration fees and handle keeping track of team funds. If you have additional resources, you can have them purchase team supplies, competition items, t-shirts, pizza and spirit stuff. But it's important that someone handles this separately.

**3. Administrative/Paperwork**

As the season continues, you will be asked to complete Science Olympiad paperwork for the team. This might include Team Rosters, Photo Releases, Vandalism and Liability Release forms. For competition you may be asked to enter your students into a formal registration system or schedule them for specific events on a computer program. If you can have a parent help you with the administrative parts of the team, it's a huge help. This person could be the same person that handles the money or a separate volunteer. Do this as soon as you can in order to have the most choices for your students/team schedules.

**4. Develop a Team Calendar for the Year**

For your very first meeting, hand out a team meeting calendar for the year. Include your Regional and State competitions as well. Even if your team does not end up qualifying for States, you want to have it on your families' radar as opportunities for volunteering/inspiration. If you can tag each meeting with a purpose/team activity it helps families stay engaged and willing to come to every meeting all year long. Declare your final meeting prior to competition as "mandatory." See sample team meeting calendar in the Resources Section on page 43.

**5. Set Up Communications Systems**

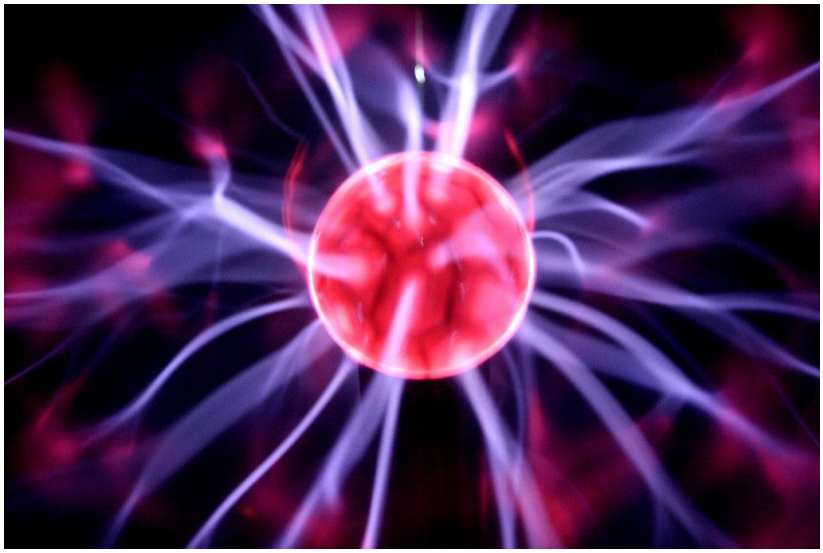
Consider setting up a way your team will communicate and share ideas/resources. Some ideas may include: a private team Facebook page, an ongoing email distribution, an Edmodo.com Classroom resource, a specific Google drive for your team or Instagram account to post things as you go. You may want to secure feedback from your parents/students up front to see what the best way to communicate with them. Be sure parents are okay with sharing students photos on this platform.

**6. Attend a Coaches' Clinic or Training If You Can.**

If your state offers a Coaches' Clinic or Training, attend if you can. It helps to recruit an invested parent or two to attend with you. Typically, it is a lot of information and too much for one person to cover alone. Consider swapping yourself out another invested parent to give yourself breaks. Share the load by sending at least one additional parent to attend sessions you cannot. If they have a resource store that sells items to support your team, buy as many items as you can afford that are useful for your team. For example, many of the chemistry or forensics kits include chemicals that cannot be shipped and are good items to purchase. By purchasing these items for your students/families, you are helping them get started. Figure out an easy way to share the key learnings or notes after the training through a group Google drive or note sharing resource.

**Pro Tip: Start as you mean to continue.**

**Start as you mean to continue by setting up strong systems from the start. This means having someone else handle the money and administrative tasks of the team. Establish your calendar for the year from the start and set up solid means of communication that are meaningful for your team/parents. Not only is this a good practice from an integrity standpoint, it also sets you up to manage your team well by having good support systems in place.**



# Best Practices for Event Selections

Here are a few guidelines for how to match students with their event selections and preferences. It helps to manage expectations clearly up front that not everyone will get their favorite event choices. Think of it like a puzzle. You are trying to find the ideal students together with the best events. It helps not to have to do this alone. Strive to have a couple wise parents or volunteer coaches to assist you with this.

**Seniority/Dedication**

The first thing to think about is the grade/age of each of your students and their past participation. Have they been a part of Science Olympiad before? Will this be their first/last chance at competition? The most veteran students typically receive their first choices of events as a reward for their consistency.

**Current Academic Load**

It's important to consider a student's existing academic load when assigning events. Are they taking a super challenging course load? Do any of those classes align with events they are requesting? It can be great synergy to assign students events they are studying in an advanced way. As well, if they have a particularly demanding academic year, it's best to give them events that balance this.

**Partners**

Creating good partner combinations can truly make or break the success of your students. If you can match friends that would work together, this is the ideal scenario. Or keep personalities in mind to match partners for a good fit and would balance each other well.

**Geography**

In a perfect world, it would be ideal to match partners that live nearby each other. However, this is only one more factor to keep in mind for ease of practice. The easier it is to get together, the more likely they are to practice. If you can match partners that are close geographically, you are setting up an optimal scenario to practice frequently.

**Abilities and Gifts**

Think about each student's giftedness when assigning events. Are they an amazing builder/tinker kid? Are they good with designing and creating? Are they able to master a huge depth of information? Think about each student's talents and choose events aligned with their skills.

**Current Classes/Studies that Are Aligned with Topic**

If your students are taking classes that are naturally aligned with Science Olympiad topics, this makes them a great choice for those events. Examples include AP, community college classes or other experiences with intensives in Science Olympiad topics. Be sure to invite students to list special classes on their registration forms to match them accordingly.

**Parent/Coach Mentors**

If a student has a parent that is a professional in a related Science Olympiad topic, it makes sense for them to consider that event. Obviously, if it would create a negative relationship or experience, do not put the student in this position. But if the student is interested in the subject and the parent is open to helping coach them in their expertise, this makes a natural opportunity to have a built-in support/mentor for their events.

**Balancing Choices for the Team**

When selecting students for events, the goal is to give them at least one of their top choices. Ideally, you would like to assign events that are in their top 1-3 preferences. However, this isn't always possible. In event selections, there are many things to balance, but it helps to always give at least one top choice. It's important to manage expectations at the first meeting to share that not everyone will get their top choices. Emphasize that being a part of a team means that sometimes you have to do things you don't love for the team.

**Covering All the Events is Key**

To be the most competitive team possible, it's important that you have someone that covers every event. In competition, every point matters. Your team gets points just by having someone come in and write their name on a test or show up with any sort of device - working or not. Ideally, you will have the maximum number of students that are slotted in all the events in advance. Sometimes you have kids drop out or have less active teammates than you hoped. Make sure you do all you can to cover every event, even if that means you send people in who have never studied for the test but will simply fill in guesses. Or for devices, they show up with something to get the most points possible.

**Warning Tips:**

- Do NOT put kids in events that they hate, but the parents want them to do.
- Do NOT give kids more than 1-2 building events -- they are super time consuming and three building events are too much.
- If you give a kid four events, make sure you are balancing them out with a combination of skills like some intense study, some build and some minimal memorization.
- It helps to match the same partners with all events so that study/practice time are more efficient.
- Manage expectations that everyone will need to contribute to their events. For example, building events may require some investment of purchasing glue, balsa, or other items needed. Same goes with study events. They may need to purchase a college textbook or download learning material that has a cost associated with it. You can decide as a coach whether you will support purchasing materials to get them started or if an event is particularly cost intensive, allow them to use their team registration fee to purchase materials.
- Manage expectations up front that every team member may not get every event they want or love. Share that you will make it a goal to give them at least one top choice, but they may be asked to take an event they don't love for the team. If this is a deal breaker for them, Science Olympiad may not be for them.

**Pro Tip - Manage Expectations Up Front**

**Be sure to communicate clearly and thoroughly how you evaluate students and match them with events up front. Be sure they understand that not everyone will get all their favorite events and that this is being part of a team. When you have a draft of event pairings together, it's nice to send that parent/student an email to "trial balloon" your event drafts for that person to gauge whether this is going to be a fit for them. Obviously, this takes a bit more time, but by asking for input instead of "assigning" it allows for a more collaborative approach. If the event choices are deal-breakers for the student/family, they are probably not a fit for your team anyways.**


# Making Team Meetings Meaningful

**Determine Style of Team Meetings**

Depending on what kind of coach you are - hands on, hands off or hybrid, decide what would make sense from a team meeting standpoint. Some coaches make the team meetings informational and as a means for equipping students/parents, and others make them actual event practices on a regular basis. Decide what makes sense for your team and design a practice schedule that offers accountability, resources and support for the season.

**Set Schedule for the Year**

One of the first things to do as a coach is to map out the team meeting schedule for the year. See examples of team calendars in the Resource Section on page 43. It's helpful to have a theme or purpose for each meeting to give people a reason to attend. For example, host a "Building Demo Day" early on in your season for help in getting first prototypes done. Another idea is to set up an "Event Simulation Practice" where students go through a practice test or station under timed conditions. Make each practice meaningful for parents and students so they feel as if it's a good use of their time.

**Start and End on Time**

Be a good steward of people's time by starting and ending on time. This may seem like a small thing, but if people can count on the fact that the team meeting will go exactly as planned, they are more likely to participate. Running 15 minutes late to start or end tells people to not show up on time and communicates that you are not organized.


**Remind All the Time**

Attach your team calendar including date/time/location and theme to every single email you send out. This may seem like overkill, but it's not. Even if you host the meeting in the same place every time, people will still ask where the meeting is. Remind people about meetings with every email. I also suggest sending an additional reminder email one week prior to the meeting and the 1-2 days prior to the meeting. If they don't attend meetings, Science Olympiad falls off their priority list and they become less engaged. By attending regular meetings, they stay motivated, inspired and accountable. Do all you can through regular reminders and communication to impress upon people the importance of team meetings.

**Team Building Sparks the Fun**

As part of every meeting, consider including team building activities. This is really important. Some ideas include: STEM maker challenges, Minute to Win It style games, fun science trivia games or building the best tower out of recycled items, just to name a few. You can have fun, simple prizes like candy or toys if you like. When the students have fun while they are working on Science Olympiad, they are more likely to stay engaged. As well, they connect with other teammates in a meaningful way. Keep the fun going by including team activities all year long. Check out the Resource Section on page 43 for more team building ideas.

**Mix Up Your Meetings**

Try to have a mix of experiences all year long for your team meetings. For example, bring in Alumni students to talk about their advice to current Olympians. At the same time, veteran parents can answer questions for new Science Olympiad parents. Invite a Science Olympiad staff member to come and answer questions and inspire students a few months prior to competition. Host a build demo day for all your builders to showcase what they are working on. Offer a "show and tell" time for your academic event students to share a bit about what they are learning and interesting experiences so far. Try to make every meeting a bit different to encourage your students and parents.

**Last Meeting Is Most Important**

Make your last meeting prior to competition mandatory. There will always be people who cannot make it. But trying to get as many people to this meeting as possible is key. Ideally, hosting it two weeks prior to competition is ideal so that you can encourage students for the final two weeks. As well, it also starts to become very real when you are talking about what to expect at competition. Use your final meeting prior to competition to remind students/parents about important details for the day, sign paperwork, share what to bring, reminders about the rules and competition best practices for students/parents. You can also incorporate spirit sign making and pass out team t-shirts at this meeting.

**Pro Tip - Over Communicate.**
**Team meetings are your chance to connect, inspire and motivate students/parents. Use these as your opportunities for accountability, teambuilding and fun. All season long, keep an "overcommunication" style mindset to remind folks about meetings, rules, practice best bets. Provide a recap of the meeting for important information conveyed to both reinforce details and share for those that missed the meeting. Attach a team calendar and rules manual to every email you send.**

# 18 Key Best Practices for Coaching Build Events

Here are a few best practices to share with your kids who are building devices. These might be rockets, cars, bridges, airplanes, Rube Goldberg machines and more.  Ideally, students would work independently with mentoring from a parent or volunteer coach. But here are a few ideas to get them started off on the right foot.

**1. Read the Rules First and Often.**

This may be the single most important idea. Encourage all your students, regardless of their event to make their first practice task to be reading the rules. Tell them that there will be things in the rules that they will not understand. Reassure them this is normal. Students should have their own copy of their rules. Tell them to read them monthly as they will learn new things and grow in understanding as they work on their devices.

**2. Set a Regular Practice Calendar.**

Just do it. Seriously. Encourage the event teams to calendar in weekly time they will spend working on their events. Even if it doesn't happen every week, challenge the kids to have consistent time and dates set aside. Things will come up, people will get sick, vacations and holidays will happen. But if they have a consistent time together on the calendar, it becomes a regular habit. Schedule out at least 90 days for getting together. For build events, they are a bit more time consuming so it's nice to work on these with a big chunk of time on Saturdays or Sundays.

**3. Brainstorm Device Designs**

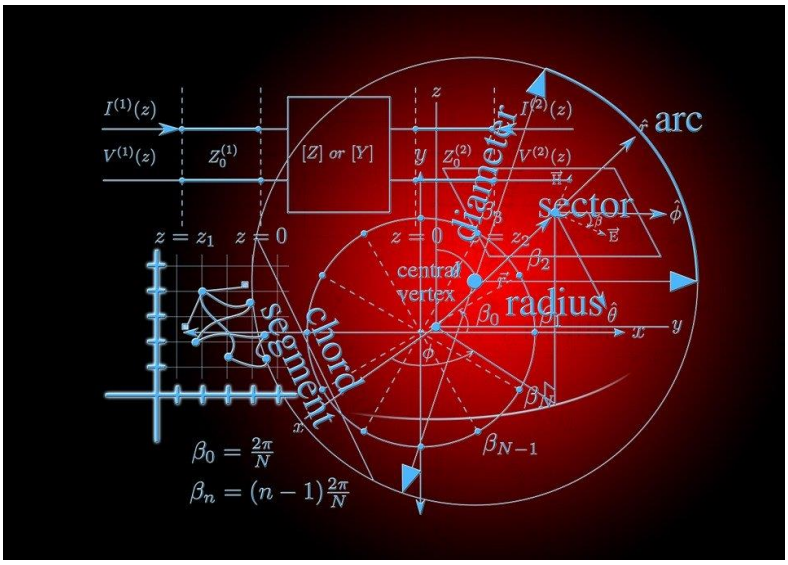
After reading the rules, students can begin brainstorming ideas for their device. They can use large sheets of paper to sketch out or map out ideas and options. Allow students to be creative and think about outlandish ideas. No idea is too crazy in the brainstorming phase. Encourage collaboration within the team to consider each other's ideas and work together to figure out what makes the most sense. It's perfectly okay if none of their ideas work. This is all part of the testing and learning experience of Science Olympiad.

**4. Gather/Order Supplies**

Once students understand the big picture of their events, have them make a list to order the supplies needed. This is good planning and budgeting practice for them. Some resources are available as kits online and other resources can be purchased from home improvement stores or hobby shops. Before they purchase supplies, suggest they look at their own resources first simply for experimenting and trying out ideas. Then once they know more about what they are doing, purchase resources as it makes sense. As a coach, you will decide whether to purchase supplies for them or encourage them to budget their purchases at their own costs. See the Resources section on page 43 for build supply ideas.

**5. Set Up A Designated Workspace**

Once students have their supplies, encourage parents to allow them to have a designated working space. This might be in a garage, basement or bonus room area. This would be an area where they can leave supplies gathered together in order to pick up where they left off after practices. Make it a space where they have to do minimal clean up and can leave it in a designated space. If they have to get every supply out every time they want to work on their device, it makes it difficult to practice frequently. With a separate area they can work with simple clean up, you are making it easy for them to constantly tinker, create and build as time allows.




**6. Prepare Any Documentation.**

Typically build events require some documentation to demonstrate learning and testing. Have your students read the rules to determine what is needed. Sometimes it may be a log, chart, graphs, or report of the design and build progress. Regardless of the rules, encourage them to snap pictures and take notes as they go to capture the journey. Make sure every entry is dated with notes of key learnings. If you have a team social media page, these are great pictures to post and share to inspire the team and chart progress.

**7. Learn Important Science Principles.**

Every build event has key science principles such as physics, load, force, efficiencies, aerodynamics, chemistry or biology that play into their developments. Usually the rules will highlight these aspects for your students to understand as part of the learning process. Encourage your students to study important science concepts as part of what they are creating with their build event. Help them to make the connection of their device project to the greater scientific ideas at work.

**8. Just Do It - Make a First Prototype**

Usually the hardest part about build events is getting started. Set a goal for your build teams to have an ugly first prototype to share after 30 days. Make their first builds a part of your team meetings show and tell time. Even if they end up having nothing complete to share, invite them to share what they have done to get started and what they are learning. Accountability is important for build events. Help them get some traction by setting an early deadline and additional milestones at future team meetings.

**9. Set Milestones.**

Hold the standards high for your build events by giving them a milestone to shoot for each month. Based on your competition date, as the coach you can decide what makes the most sense. From past experience, encourage students to have an ugly first prototype within 30 days of being assigned the event. From there, challenge them to have a working device 90 days prior to competition. Then a competition ready device 30 days prior to competition. This allows them to spend the last month tweaking their devices, finishing any final adjustments and documenting anything needed for competition.

**10. Test, Test and More Testing.**

Encourage students to remember that the secret to devices is to test, test and test some more. This might be frustrating to some students. Tell them that this is the best and most important part of the learning process. True scientists test things over and over again to figure out how they can improve their results. The more they test and learn, the better chances of doing their best at competition. As well, this teaches them the amazing life skills of patience, learning from failure and continuing to be resilient through many attempts.

**11. Study YouTube, Online Examples.**

While it's helpful to brainstorm your own ideas, invite students to search for YouTube videos or examples from the Internet. Many students post device videos to show off their hard work. These are an excellent way to get ideas and examples for reference. Just be sure that students are referencing examples that follow this year's rules.

**12. Take a Field Trip to See Real World Examples.**

One of the neatest things about Science Olympiad is being able to get out of the classroom and see how science is applied in real life. There are many real-world examples of bridges, wind turbines, simple machines and more. Invite your students to research what real world examples that are nearby as a way to see science come alive in the world. You may need to share ideas and examples for them to consider.

**13. Talk to a Professional in a Related Industry.**

If you can't find an example device in the real world, find a professional from industry with expertise in the related area of emphasis. Many professional societies and associations offer representatives for educational outreach, or someone in industry that can offer guidance. Also, local college/university professors are another excellent resource for support and wisdom on your devices.

**14. Show Off Your Progress.**

Give students time during designated meetings to show off their progress. This allows them to have accountability, as well as share what they are learning with other students. It also may inspire others to consider a build event in a future season. Students are able to practice their public speaking skills and get some shine time too. Not everyone loves the shine time, so you can to do a Q&A with them about their device if they are shy or invite them to demonstrate and explain their device if they are more outgoing.


**14. Go Watch a Competition at a Regional Event/Participate in an Invitational**

If your students have never competed in a Science Olympiad and have a public event, it's a good idea to go watch a nearby Regional competition before your competition to see how the event is run and best practices. This doesn't always work out from a calendar or geography standpoint, but watching the event goes a long way in inspiration. If they are bold, they can ask students questions about their devices and what they are made of, how they came up with their designs. Most students are happy to share once their event is over. I found that watching a public event prior to our own competition "supercharged" students' motivation and dedication to perfecting their devices.

**16. Read the Rules Again.**

Just do it. Have your students read the rules every month. Also, the closer you get to competition, the more clarifications and updates on the events come available on your state event resources website – encourage your students to watch for these important updates for event.

**17. Clarify Details/Simulate Competition Time Constraints.**

The closer students get to competition, the more they may have questions about the rules. Be sure to invite students to submit any questions to you so that you can ask for any clarifications on details prior to competition. As you get closer to competition, encourage your students to begin practicing as they would under timed circumstances or by keeping the rules in mind for competition constraints.

**18. Prepare Devices for Safe Travel to Competition.**

As a parent who accidentally stepped on my student's airplane on the day of the competition, I can't emphasize safe transport enough. The worst thing that could happen is to spend six months on a device, only to have it get jumbled around in the car on the way to competition and ruined. Think ahead for protected, safe transport for your devices.

**Bonus Tip -- Final Preparation for Any Documentation/Competition Resources**

**Label devices as indicated in the rules if required. Be sure it includes Team Name, Division and Varsity or Junior Varsity. Make sure your students bring back ups of any logs, charts, graphs, binders or other resources required as part of the rules. Be sure these also are labeled with the Students' Names, Team Name, Division and either Varsity or Junior Varsity. Have extra copies of any items you can on hand in case one gets ruined. Make sure you are following the rules exactly to submit what is required. Don't miss these easy points. Remember every point matters!**

# 18 Key Best Practices for Coaching Academic Events

1. **Read the Rules First and Often.**
   The number one reason that students don't succeed in their events or miss valuable points is that they haven't read the rules carefully. Start by reading the event rules and encourage your students to revisit them monthly or more frequently as needed.

2. **Set a Regular Practice Calendar.**
   Just do it. Seriously. Encourage the event teams to calendar in weekly time they will spend working on their events. Even if it doesn't happen every week, challenge the kids to have consistent time and dates set aside. Things will come up, people will get sick, vacations and holidays will happen. But if they have a consistent time together on the calendar, it becomes a regular habit. Schedule out at least 90 days for getting together.

3. **Make an Event Study Binder.**
   Have your students put their copy of the rules, study resources, notes and anything they use to prepare for their events in a binder. It's fun to take the first practice to decorate or create these together. This binder will be gold at the end of the season for (hopefully) all that the students have learned or worked through. This will also be an amazing resource to pass along to future team members after the season is through.

4. **Set Up Templates for What is Needed at Competition.**
   Most academic events allow you to bring a binder, cheat sheet/resource document or reference guide into competition. Encourage the students to create this as they go. Perhaps after each practice, they electronically drop into a document anything important that they think they may need to reference for competition. It's okay to cut and paste as much as you can each week -- they will fine tune it as they get closer to competition. Encourage them to create this as they go.

5. **Develop System for Sharing.**
   Consider ways to allow teams to gather and share information electronically as they practice and study. There are many great platforms like Edmodo.com or Google Drive where they can share and save all the learning resources they have worked through. With an opportunity to connect virtually, you are also creating efficiencies to study even when they are not in person. This might be educational videos, articles, practices quizzes or tests, Quizlet sets or whatever the students' work through to practice weekly. This allows them to review what they have learned over time, as well as capture a historical account for team members on resources to study in the future.

6. **Start with the Event Grammar**
   Encourage your team to learn the event "grammar" or vocabulary for their event first. This means looking over the rules and creating a study card for each term that is unfamiliar. A great resource to learn the grammar is Quizlet.com, an on-line flashcard study tool. You can even search Quizlet for sets created for the specific event. Just be sure they reflect the most recent rules. Encourage your students to start here first, review existing flashcard sets and make their own. No matter how brilliant they are, everyone needs to be on the same page with the event grammar first.

7. **Plan to Go Wide, Not Too Deep for Regionals.**
   Some of the best advice I have ever heard is to "go wide, not deep" for Regionals. In other words, it's important to have a good surface knowledge of all the topics listed in the rules for their events. For a State level competition, students will need to go "Deep and Wide" in their knowledge of events in order to make it challenging and to differentiate which students really knows their stuff.

8. **Gather Resources for Study.**
   Once your students have spent time with the rules, encourage them to look for resources to support their study and preparation. One great resource that is often overlooked is simple picture books or below grade science books at the library. I know this may seem juvenile, but by starting simple and working your way up, you are building a vast foundation of knowledge. Other ideas include used college textbooks, on-line resource websites and educational resource databases. It's worth it to encourage the kids to ask the reference librarian for guidance on resources that would be a help. After the librarian gets over their shock of being asked to share knowledge, they typically are thrilled to share all the myriad of reference resources for diving deep into a subject.


9. **Map Out Your Study Calendar.**
   Tell students to map out a "focus" for each practice scheduled. Do this by encouraging your students to match a topic from the rules to the dates they have on the calendar for practice. Leave about a 30-day buffer to allow for missed practices and then time to go back over topics that were difficult. This ensures that they are covering all the topics in the rules.

10. **Get Hands On.**
    Where possible, encourage students to find opportunities to make a practice more fun with hands-on activities. For example, create paper models of the earth or Jell-o glaciers for a Dynamic Planet study. Use experiments as a way to learn important concepts. Look at water samples, leaves, bugs or cells under a microscope to bring ideas to life. Get hands on to make your practices interesting and fun for the kids.

11. **Play Games**
    Students love games. Encourage them to play games for fun and competition as part of their practice. Students could make up questions for each other based on what they are learning, use Quizlet/flashcards for terms or create a Jeopardy style game too. With a little creativity, games go a long way in helping students to stay motivated for the entire season.

12. **Read the Rules Again/Gather Stuff.**
    Broken record again here, but this is where most students fail. After your teams have a good foundational knowledge of their events, ask them to go back over their rules and read them as if it were their very first time. One team I coached didn't realize that their event could be a written test, a station event or a combination of both. They had prepared entirely for a written test and the event turned out to be a station event and it completely rocked their world. Have them read the rules again and see what they missed the first time. Also, now is a good time to gather any supplies they will need for their event in competition -- goggles, lab equipment, lab coats, calculators, etc. Have them make a list of supplies needed for their event and start gathering those items now so they are familiar with everything.

13. **Watch for Event Clarifications.**

    It's important to watch your local state website Event Resources sections for any rules' clarifications and event updates. It's quite common for these to come out after the first Regional competitions have happened in your state. These will be vital and important tweaks to the rules. Be sure to pay attention and ask your students/volunteer coaches to do the same.

14. **Ask Questions.**

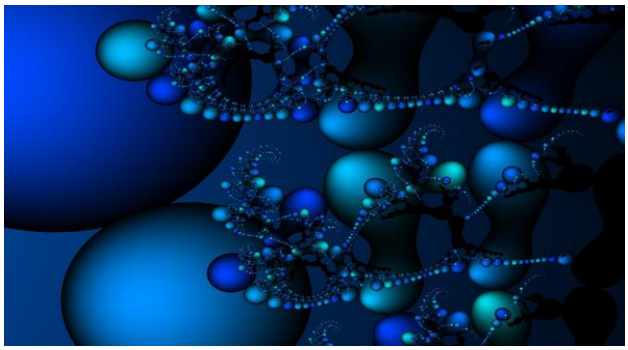
    Encourage your students to submit questions to you as they work through their events. If you don't know the answer, you will submit these to your point of contact at Science Olympiad for clarifications. Chances are really high that if your team has questions, many other students do as well. Remind your students that by asking good questions, it will help support their practices.

15. **Social Media, Student Forums & Resources.**

    There are many great student wikis, national student forums and social media handles specifically dedicated to their events. A simple internet search for their event and year (i.e. Dynamic Planet 2021) can share some Science Olympiad gold for additional support. The National Science Olympiad Student Forum also has sample question marathons, Q&As and more ideas for support. See the Resources section on page 43 for additional ideas.

16. **Practice Tests.**

    The National Science Olympiad website and National Science Olympiad Student website have a section for test exchanges. You can find these in the Resources section on page 43. Encourage students not to work on this until about 60 days prior to competition. Typically, once students begin using the sample tests, they begin to get obsessed with the content on these tests, instead of reviewing the actual materials from the rules. The sample tests aren't always a good example for what they might experience. Some tests tend to be over the top in difficulty or emphasizing content that isn't appropriate. My encouragement is to wait until they have made solid traction covering most of the rules content before they begin taking sample tests. But as you get closer to competition, sample tests under timed conditions are important.



17. **Prep Final Resources for Competition.**

    For the last 30 days prior to competition, students should be putting final touches on resources they will use for competition. This means any reference binders, cheat sheets, logs, charts/graphs, supplies. Now is a good time to go back over anything they need to bring into competition like calculators, goggles, lab coats, lab resources, etc. Students need to have everything they need together for competition ready to go two weeks prior. There is nothing worse than trying to hunt down some obscure science item the night before competition. Have back up supplies of all of your cheat sheets/binders/resources. Make sure everything is clearly labeled with your team name, division and varsity/junior varsity designation.

18. **Simulations & Final Days.**

    The last few practices should be dedicated to simulating competition experiences. Testing under timed conditions, stations events that rotate every two minutes or a lab identifying rotations with partial test. Make the final practices exactly what you think your competition might be like. Tell your students to be done studying and preparing by 5 p.m. the night prior to competition. No cramming, stressing the night before. Whatever has been done up until that point is all that is going to be done. Tell them to eat and hydrate really well. Then go to bed early and have some sciencey dreams!

# Spirit Makes Your Team Soar

Team spirit is an important way to establish team pride, camaraderie and fun for your season. As the coach, you set the tone for gracious competitors filled with team spirit. Here are a few ideas to build team spirit for competition.

**Team T-shirts**

The first place to start with spirit is a team t-shirt. You can go as simple and fancy as you like. Encourage a parent volunteer to take on this project if you can. You can make drawing ideas for t-shirt designs a team activity or find a graphic artist volunteer willing to donate a design for your team. There are many great on-line ideas for producing a t-shirt. Check out the Resources Section on page 43 for team t-shirt resources.

**Fun Signs/Banners**

As part of your final team meetings prior to competition, have the students create some fun spirit signs to bring to competition. You can have parents donate 3-5 pieces of poster board or engage your art department to help. The signs can be used to decorate your home base at Regional competition and also work great to save a designated seating area for your team for Awards Ceremony time. If budget allows, consider working with a local print shop to create a banner with your logo for your team. The banner can be used every year and at every competition, so it's a good investment. If you don't have a budget for a banner, invite the students to decorate one out of paper for your team space at Homebase and Closing Ceremonies. Poster boards can also be used each year if stored properly.

**Team Flair**

If you have extra budget for team flair, this can be a fun item to add into your spirit stash. Ideas might be fun head boppers, fedoras, funny beads or Hawaiian leis. Think about your team mascot and consider if there are ways to weave in your school theme with your team flair for added fun for the students and spirit at competition. These can either be worn during competition or to the closing Awards Ceremony to celebrate the tournament completion.

**Highlight Seniors or Team MVPs**

If you would like to celebrate Seniors that are graduating, one idea is to provide a special iron on patch for their team t-shirt. Seniors can be named as Team Captains and can be provided with a simple “C” patch purchased online. Other ideas might include doing the same with an MVP patch or simple award as voted on by fellow students or designated by the Coach. For middle school students, I liked to pick out a few to recognize who went above and beyond for the season and deserved special recognition. If budget allows, you can invite seniors to purchase Science Olympiad Honor Chords to wear for graduation ceremonies as well. For details on Science Olympiad Honor Chords, see Resource section on page 43.


# Getting Ready for Competition

During the final weeks and months prior to competition, here are a few helpful to get your team ready to perform at their best.

**Simulations/Invitationals**

Consider dedicating a final team meeting to hosting a simulation of competition experience -- or as close as it can be to the real thing. If this is not possible, area invitationals are another way to have your students experience a “scrimmage” style atmosphere for event practice. Anything you can encourage for your team to practice as they mean to compete will go a long way towards confidence for competition.

**Saturday Build Gatherings for Device Teams**

A fun way to add fellowship for your team is to encourage a group get together to work on build projects. For example, if you have a middle and high school team, you can gather all the rocket teams together to work on their projects and show off their work to date. This works well across divisions or with junior varsity and varsity. If you don’t have these team aspects, consider inviting all the build students together to work and show off their devices for great accountability.

**Provide Regional Tournament Checklist**

At your final meeting prior to competition, provide a handout that gives parents and students the “must have” details. Items to include: tournament location school name, address, home base assignments, helpful items to bring, what time to arrive, coaches’ contacts, behavior reminders, rules reminders. See a sample of what this might look like in the Resources section on page 43. Other handouts that are helpful for your final meeting are competition day schedule, map of the school and details for food options/sign ups.

**Encourage Parents to Volunteer at Tournaments**

Typically, the Regional tournaments need a lot of help with volunteers. Encourage your team parents to help out during competition day for signing up to volunteer at the tournament. If they do volunteer, encourage them to use good integrity by volunteering in a different division then their child is competing.

**Before Competition, Remind Parents to Celebrate their Student**

The week of competition, invite parents to tell their student something encouraging about their efforts this year and find something to celebrate. Science Olympiad is a long season and sometimes without rewards despite working hard. Invite parents to take time BEFORE competition to congratulate their student and let them know how much their hard work was appreciated.

**Competition Day Pro Tips:**

- **Snap Photos - be sure to capture the day with public events, candid shots, team shots or pics from your homebase and closing ceremony. Or ask a parent to take charge of this for the day to share for the team.**
- **Large Schedules - have a large poster print out made from your local copy shop of the tournament schedule to display on competition day at your homebase. You will be endlessly referring to the schedule, so it's super helpful to have it large for all to see.**
- **Team Snack Sign Up - have a parent put together a snack sign up with healthy items and bottles of water. It's a long competition day and having each parent bring an item to share helps fuel the kids up and makes it a fun feast for the families too.**
- **Thank You Notes -- when the students have down time in between events, invite them to write out a personal thank you note to their parents, volunteer coaches or event volunteers for the day. This is a great practice for them to learn about gratitude and to remember all the people that helped them get to this day.**
- **Food -- Have a game plan for lunch for competition day. Either be sure all parents are ordering food or bringing their own food. We like to order pizza for the whole team as it's fun and celebratory and takes stress off the parents for the day. Whatever you decide, make a plan and have another parent in charge of it.**
- **Decorations - Remember those spirit posters you made? Use them to decorate your homebase area. If you are feeling extra spirited, you can add in more fun decor as it makes sense. The students love it when their homebase is festive and fun - so consider easy and simple ways to do this. Ask a parent to lead this for you.**
- **Set the Tone for Fun -- As the coach, you are not only setting the tone for the team, but you are also helping parents/students follow suit. This means you should be smiling all day, super positive, calm, organized and high fiving every student you can. Even if you are not feeling this on the inside, help ease everyone's anxiety by reminding them how proud you are of them and thank them for working hard for the year. Make it fun for everyone, including yourself.**


# Celebrating Your Year

Now that your season is over, be sure you take some time to celebrate and take stock of all your hard work. Jot down any key learnings or notes you want to remember from the season while they are fresh. Below are a few additional ideas.

1. **Share Photos**
   Hopefully you were able to capture some great photos of competition. Be sure to share those with your team or post on social media (if appropriate). A private team Facebook page is a fun way to capture pictures and share progress all year long. Make sure parents/students are okay with sharing pictures here on social media first.

2. **Thank Everyone**
   Be sure to take time on competition day to thank every parent and student for dedication over the year. Science Olympiad is hard work. Send special appreciation to volunteer coaches/parent mentors or any volunteers that went above and beyond. If you are feeling extra thankful, you can put a small basket of kindness together or a large thank you note signed by the team for the Regional Event Director or Tournament Host Leader. They do a lot of work on top of their regular job without a lot of thanks -- take time to thank them for putting the tournament together for your team.

3. **Celebrating the Year**
   Some teams like to have pool parties, others use the final moments together at competition to celebrate the year. Whatever your style, encourage your parents and families to take time to celebrate their hard work --either together as a team or as a family with a special celebratory activity. It could be as simple as an ice cream or pizza as a family. Or as elaborate as a team park day picnic. Encourage your parents and kids to take stock of their hard work.


SCIENCE
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RESOURCES
More Ideas to Support You and Your Team

# Science Olympiad 101 – The Basics

## What is Science Olympiad?

Science Olympiad is a non-profit organization dedicated to improving the quality of K-12 science education, increasing male, female and minority interest in science, creating a technologically-literate workforce and providing recognition for outstanding achievement by both students and teachers. These goals are achieved by participating in Science Olympiad tournaments and non-competitive events, incorporating Science Olympiad into classroom curriculum and attending teacher training institutes.

## Science Olympiad is dedicated to:

- Ensuring all students have an equal opportunity to high quality science and technology education regardless of ethnicity, household income or geographic location.
- Motivating students to expand their knowledge and competence in science and technology and increase their insight into the investigative process by enabling them to "do" science through hands-on and inquiry-based exploration.
- Nurturing students' enthusiasm for science and technology.
- Getting students interested in pursuing science and science-related careers.
- Increasing community involvement in schools.
- Providing recognition for outstanding achievement for both students and teachers.

## What is a Science Olympiad Tournament Like?

Science Olympiad competitions are like academic track meets, consisting of a series of 23 team events in each division (Division A is elementary school; Division B is middle school; Division C is high school). Each year, a portion of the events are rotated to reflect the ever-changing nature of genetics, earth science, chemistry, anatomy, physics, geology, mechanical engineering and technology. By combining events from all disciplines, Science Olympiad encourages a wide cross-section of students to get involved. Emphasis is placed on active, hands-on group participation. Through Science Olympiad, students, teachers, parents, principals and business leaders bond together and work toward a shared goal.

## Who can participate in Science Olympiad?

Any charter, private, or public school as well as homeschool groups with grades K-12 are eligible to participate. Homeschooled students may NOT participate on teams that are associated with organized schools that are private or public. Homeschooled students must form their own teams.

**Participation is at three levels:** Elementary School (grades K-6) – Division A, Middle School (grades 6-9) – Division B, and High School (grades 9-12) – Division C. The teams from the three divisions do NOT compete against each other in the tournaments. A combined score of all the events will make up a team score. Top placing teams at middle and high school regional tournaments advance to the State tournament. In many areas, local tournaments/invitationals are held to help teams prepare for regional and state competitions. Division A teams compete only at the local regional level and do NOT advance to State tournaments.

## Membership is open to all schools and is in no way affected by gender, race, religion or ethnic origin.

**What Does a Science Olympiad Team Do?**

A Science Olympiad team prepares throughout the year at the school level and competes in local, regional, state and even national tournaments throughout the year. Science Olympiad teams are similar to school sport teams in that they "practice" to compete in tournaments. Science Olympiad tournaments always occur on Saturdays and have approximately 25 events that students may compete in that cover the various science disciplines of biology, chemistry, physics, earth/environmental science, engineering and technology. Science Olympiad teams compete against teams in their own regions and teams from across the state. Individual and team awards are presented at all levels of competition.

**What are the benefits of Science Olympiad?**

A three-year National Science Foundation Georgia State University study investigated the impact of Science Olympiad with middle and high school students and confirmed significant benefits in the following areas:

**1.Knowledge**

Increased in-depth knowledge and understanding of science concepts and general knowledge:

- An increase in ability to apply scientific knowledge
- Greater breadth of knowledge in areas previously unexplored
- Significantly enhanced laboratory skills
- Experience science as real scientists would
- Use and apply the scientific method with meaning
- Begin to see the interrelatedness of the sciences

**2. Problem-Solving Skills**

- Application of problem-solving skills as a long-term endeavor
- Education in the importance of trial and error
- Emphasis on experiences rather than memorization

**3.Hands-On Training In:**

- Collaborative and/or creative thinking
- Applying critical thinking skills to real-time situations
- Constant experimentation to solve problems at hand
- Creative application of new ideas
- Time management and teamwork

# Coach 101

## What Does A Coach Do?

Every team must have a head coach. A head coach registers and manages the school or organization's teams and serves as the point of contact for tournament organizers. The head coach may be a parent, teacher, principal, business person, community organizer or any other caring adult. Successful teams are organized and supported by a head coach that is willing to make decisions and provide leadership. The head coach must be aware of all the rules, manage the coaching resources, recruit students and assistant coaches, involve the parents, and provide clear direction for the team to prepare and compete.

## Who Can Coach a Science Olympiad team? Short answer: anyone.

- Anyone who has a genuine interest in young people.
- Anyone the school/group is willing to have represent it.
- Anyone who is willing to stick with the team and see the job through.
- Anyone who is willing to take the responsibility for the team at events.
- Anyone who the school is willing to support and provide the liability in their name for the team members during travel/preparation, etc.
- Anyone who loves science and competition.

## Who Are Some Types of People Who Make Great Coaches? Short answer: anyone.

- Former Science Olympiad students in high schools can coach middle school students.
- College students who were in Science Olympiad and some who were not, however have a genuine interest in service and science.
- Parents
- Teachers from all disciplines, not just science, math and technology.
- Community, business and industry volunteers.
- Retirees
- Community college and university faculty
- Anyone who wants to take the time to help

## How Do You Gather Support? Short answer: anywhere you can get it.

Coaching a Science Olympiad team requires people and resources. Recruit from everywhere. You CANNOT do this alone.

### First – Start With Your School Administration.

You will not be successful without their support. You want to remind them that the price for membership of an entire team is about the price for one football helmet. Seriously.

**Second – Get Teachers on Board.**
Enlist the help from other teachers at your school. They don't have to be math and science teachers to help you organize or manage your team. They can help identify students, support you in meetings or provide ideas for practice/study.

**Third – Form a Science Olympiad Booster Club.**
Let your boosters accomplish fundraising and recruitment of coaches/students. Check to see if team parents work for employers that:

1. Provide funding when parents volunteer time to the school/team.
2. Match funds the parents contribute to the school/team.
3. Are science-oriented and would donate old equipment, materials money or volunteers.

**Fourth – Other Support Ideas:**
Many teams receive sponsorship, support and volunteer coaches from local service clubs, parents' groups, school boards, intermediate (regional) school districts, senior citizens' groups, engineering offices, local community colleges and universities, science-related businesses, book publishers, the military, science supply houses, newspapers, park service officers, county extension offices, high school students, or college students needing community service hours, honor fraternity and sororities at local universities, local companies, corporations and industry.

**Fifth – A Few Other Support Ideas You Might Not Think About:**
You could also try fast food chains, local congressmen/women, garden clubs, conversation groups, professional organizations, businesses – anyone! Many businesses require about 6-8 weeks to review contributions for their organizations -- so allow enough lead-time. Don't forget to recruit coaches from local business and industry. For example, engineers are great to help students with bridges, towers, trebuchets, airplanes, bottle rockets, Rube Goldberg machines and so on. There are tons of folks right in your community that are experts in your events. Reach out to them and get them involved.

# Team 101

**Team Composition**
Teams are made up of 15 students to prepare throughout the year to compete in a regional tournament. Any given team may have only one entry per event. An entry is a team of up to 2 (sometimes 3 or 4) out of 15 students competing in any one event as the representatives of their team. Teams may compete in as many or as few events as they wish at the tournament.

**There are maximums for certain grade levels on each team:**

**Division A: a maximum of five 6th graders can compete on your team**

**Division B: a maximum of five 9th graders can compete on your team**

**Division C: a maximum of 7 seniors can compete on your team**

Technically sixth-grade students can still compete on the elementary school team they attended after they moved to their middle school and ninth grade students can still compete on the middle school team they attended after they moved to their high school. A child may compete with a higher division team than their age indicates, but not a lower one.

**Students in Division B and C must compete with their school of record** – the school who issues their report cards and maintain their student files.

**Division A does not have this restriction**. Students can organize in any way that they choose, through school, outside clubs or groups, or just a group of parents who are willing to coach a team with their kids. Division A competitors may only participate on one team and in one competition during the season.

**How Many Teams Can a School Have?**
Schools, organizations and groups can have as many teams as they wish participating in regional tournaments (one Varsity Team and the rest must be Junior Varsity teams). Only your "Varsity Team" is eligible to qualify your school for the State Tournament. The Junior Varsity team(s) will compete in the same room/areas with the Varsity team but will be required to be distinguished and separated from the Varsity team.

To help accommodate as many teams as possible at a tournament, teams may only compete in one tournament during the tournament season. For example, a team that competes in one county tournaments may not also register for and compete in a different county tournament. Tournament organizers may restrict team participation in any way they see fit (i.e. only elementary schools from "X" county, only 2 teams per school maximum, etc.) to better serve their tournament.

**How Much Does a Team Cost?**

Below is an example estimate of how much it costs generally to participate in Science Olympiad, as well as other costs to consider:

- **Team Membership Cost** – For one team, the current cost is $300 per team regardless if it is Varsity or Junior Varsity. This covers your cost for participation in a Regional Tournament and if qualified, a State and National Tournament participation.
- **Transportation and Food Costs** -- These will vary according to the distance a school must travel to the regional tournament in your area.
- **Coaches Workshop (Optional)** – These are highly recommended but not required. These are typically held in the fall and an excellent way to gather insights into events.
- **Building/Event Resources** – these are dependent on the specific event. Typically, events that require building something involve more expenses.
- **Team Spirit/T-shirts, Meeting Resources and Other** – Some additional items to keep in mind for budgeting purposes might include: team t-shirts, snacks/food, team spirit items or team meeting resources/prizes or special rewards.

**Am I Allowed to Invite Students Back to Compete on the Middle School Team?**

Technically, ninth grade students can still compete on the team for the middle school they attended after they have moved to their high school. While this is allowed, it is encouraged for ninth graders to compete in the school they are attending. Students must be from the membership school (recruiting from neighboring schools is not permitted). This same idea holds true for middle schools that only have up to 7$^{th}$ or 8th grade. Middle schools may invite any combination of up to five of their last year's students to be part of the team that have transitioned to an upper level junior high or high school. The exception is when a student leaves your school to attend a different school entirely. If you need support interpreting this for your situation, contact your Science Olympiad regional office for clarification.

**Junior Varsity/Varsity Team Details**

The first team from any school or organization is considered the Varsity team, and any additional teams after that are Junior Varsity (JV) teams, simply numbered JV1, JV2, and so on for however many teams the school provides. All students compete in the same room at the same time. The designation difference comes with distribution of medals and trophies. Varsity teams compete against the other varsity teams for one set of medals and trophies, and JV teams compete against all other JV teams for a second set of medals and trophies.

Therefore, it is not possible for a school or organization to earn more than one varsity medal. This is to help ensure that one school or organization with a large number of teams cannot "sweep" the competition and earn all the medals. Overall, there must be at least three JV teams at a competition for a set of JV medals to be issued; Otherwise the JV results will be combined with varsity results for purposes of awarding medals and trophies. Varsity and JV teams cannot "mix and match" their students. The varsity team member must compete with the other varsity team member in an event, JV1 with JV1, JV2 with JV2, etc. Likewise, Varsity and JV cannot share devices or resources in events; for example, the Varsity and JV team from the same school cannot share a guidebook or use the same bottle rocket.

**Homeschool Team Details**

Typically, home schools are non-public schools in which one or more children of not more than two families or households receive academic instruction from parents or legal guardians, or a member of either household. Be sure that you are in accordance with your state requirements for homeschools in good standing. This may include items below, but check with your local requirements for verification:

**Typically, to be in good standing, homeschools must:**

-Notify the State Division of Non-Public Education of your intent to operate a school and include your school name, and name of chief administrator.
-Certify that the persons providing the academic instruction hold at least a high school diploma or its equivalent.
-Maintain attendance records on each student.
-Maintain immunization records on each student.
-Operate on a regular schedule, excluding reasonable holidays and vacations, during at least nine calendar months of the year.
-Administer a nationally standardized test, or other equivalent measurement, that measures achievement in the areas of English grammar, reading, spelling, and math, to every student each year, and maintain the results on file for one year, subject to inspection by a duly authorized representative of the State.
-Notify the of Non-Public Education, when closing your school.

Because Science Olympiad is a team activity, not an individual one, a home school student must be a member of a team. A team consists of a maximum of fifteen students. There is no minimum members required for a team to compete.

Home school students should be placed in the division (elementary (Division A), middle (Division B). or high school (Division C)) according to where their age would place them if in a graded school situation. For example, a Division A (elementary school) team would mostly be made up of students from grades 3-5; a Division B (middle school) team would mostly be made up of students from grades 6-9; and a Division C (high school) team would be made up of students from grades 9-12.

**No home school student is eligible to compete on any public or nonpublic school team. All liability is the responsibility of the home school organization.**

# Event Resources and Preparations 101

## Matching Students and Events

Each team member can compete in one event per period, but not more. During each time period, many different events are taking place at the same time. It is important to review your regional tournament schedule and be sure that students are not preparing for conflicting events.

A good way to start the season is to send students on a scavenger hunt through the Science Olympiad state website to learn more about the individual events that they might be interested in. Some students gravitate towards building events and other that are better at the paper pencil tests. Students may not get all their top choices for events, but it is a good practice to try and give them at least one of their top picks. Many coaches base their decisions for popular events on a mini competition (like a bottle rocket launch day) or the dedication to completing assignments on time (like having X number of pages added to their reference binder at each meeting).

A good mix of grade levels is desired – high school seniors may have more depth in events but are limited on time. Younger students may have a big learning curve, but then will be stronger for the following year. Having a mixture of student ages and abilities makes an excellent team.

## What are some ways to prepare students?

### 1.Special Class

At some schools, Science Olympiad has evolved into a semester or year-long class. This has advantages in that it gives students plenty of time to practice events under the direct supervision of a teacher. But this method has several disadvantages as well. Students usually take the class once and may not be in the class just prior to competition. Some students who may have taken the class as a younger student are experienced but they may not have the support of the class in the current year to guide them. Usually, when a school offers a special class for Science Olympiad, the teachers direct the plans for preparing the students. This may limit the process of discovery, play and exploration a student would normally pursue with a less structured approach.

**2. After School Experience**

This method is set up as an extracurricular experience and is by far the main method used to prepare students. Team events and meetings can be scheduled throughout the year after the school day. Tournament simulations prepare the students for competition. The practices and meetings can be scheduled for a one to three-hour block of time after school. Some schools start with a monthly meeting and go to a weekly schedule during the two months prior to the regional competition. Some schools even meet every day during the last week and on some Saturdays.

The downside of the “After School Experience” is that it may limit students due to transportation for participation. Some schools have found creative ways to provide transportation for students. Keep in mind it is difficult to supervise more than 30 students at a time without other volunteers/assistant coaches/parent mentors. This can work really well when additional volunteer support is included. It is not unusual for a team to have 10-15 additional people to help during the school year.

**3.Classroom Experience**

Another productive method of using Science Olympiad activities is as part of the regular classroom experience. Some of the construction events are not conducive to this method. Construction events do use all the science process skills, but they do not always match the classroom science content. It is also difficult to conduct some of these activities safely in a regular classroom setting.

It is very worthwhile to challenge students with events. They can compete with themselves by repeating an event to improve performance. Teams of students can work together to compete against other teams or among classes. A time can be set aside during lunch or a special assembly for students to “show off” their performance or to compete. Records can be kept and the final team can be made up of the students with the best overall performance. The process skills demanded by the events are beneficial to all students.

**4.Combined Method**

This is the method used by most schools. Although most teachers say they would like to have a special class for Science Olympiad, it is difficult to have such a class in many schools. Instead, the most used method involves combining in-school and after-school activities. This combination has many advantages. It involves more students and includes all events. Then those who are dedicated and want to spend extra time can practice the events and be members of the team that travels to the regional tournament to represent the school.

**These options are not the only ways teams can be run. Make it work for you and your situation. Many successful high school teams now run with a student-led committee that handles practices, logistics, everything. The good news is that most of the events can fit the curriculum of a middle and high school science program. Most successful coaches have their students develop binders/portfolios for each of their events as a record for their learnings. Whatever style you choose, your ultimate goal is to move the students in the direction of taking ownership of their events and experiences.**

# Tournament 101

## Tournament Day

It can be difficult to describe what a regional tournament looks like to someone who has not seen one before. It looks a lot more like a track meet than a science fair. Team members specialize and become experts in several events (out of the total slate of events) and compete in these events at the tournament individually and as the representatives for their team. During a track meet, a team member may compete in the Javelin Throw and the High Jump and has worked in practice to improve at both of these events.

The team member may win a medal individually for each event and his/her performance will also contribute to overall team standings. Similarly, in Science Olympiad, team members compete in events and work throughout the year to improve and get better at these events. On the day of the tournament, team members compete in these events to win individual medals and to help bring home a TEAM win. Put simply, each team member chooses a few events to become "experts" in during the year, works with a partner, and then competes in chosen events at the tournament with his/her partner to medal individually and to post a high rank for the team.

### How is the Tournament Day Organized?

Science Olympiad tournaments have 4 different time periods (and walk-in) time periods when events are held. The typical event lasts about 50 minutes. Most events allow teams of 2 students to compete (some events allow 3 students). A student cannot plan to do more than one event during any one time period.

### Where can I find a sample tournament schedule?

Regional Tournament schedules are usually posted at the beginning of the school year on your State Science Olympiad website. When students select their choices for events they want to compete in, they must make sure that the events are not in the same time period as you can only compete in one event per time period.

### What does a coach do at the tournament?

A couple of the key responsibilities of the coach at a tournament include:

- Register/check in team and students.
- Impound devices that the regional directors have asked to be impounded (this will be designated on the Tournament Schedule)
- Set up Team Camp/Team Homebase or team designated areas.
- Check event schedule and make schedule available for team.
- Make sure students/parents know where to go and when for room locations.
- Have students compete in the events that they've been preparing for all year.
- Attend the Awards Ceremony.
- Have fun!

**What Do Coaches Bring to Tournament Day?**
Experienced coaches pack large ziplock bags or event tubs with materials for each event. This includes the safety equipment, calculators, etc. that the school provides / loans. The day of the competition the student team just grabs the bag and goes to their event. Try to pack extras tub/toolbox for the building events containing things such as scissors, duct tape, glue gun, superglue, etc. Have students commit (in writing) to those things they are responsible for bringing to the event - notebook, graphing calculator (if allowed), pens/pencils, etc.

**Snacks & Lunch**
Each regional tournament is different in terms of what they can provide for lunch. Your regional directors will post information about this on their tournament page. Always check out what is near or on campus. If students have never eaten on a college campus the dining hall is a great option. Some groups have parents bring a potluck for the group. Sometimes ordering ahead and then picking up pizza or subway type meals work well. It all depends on the group.

***Wisdom* have lunch ready to go 30 minutes before end of period near lunch and make sure to have enough food for those who are coming quickly to and from events before and after lunch.**

**Ask parents for snacks. Healthy orientend snacks are key in keeping up with the day.**

## Supervision on Tournament Day

We know that coaches are superheroes, but you still cannot be in multiple places at the same time. These students are your responsibility for the entire day and there needs to be adequate adult supervision to get them for Point A to Point B and back again. They should not be alone in a home base area, wandering around a campus alone, and should know how to contact their coach in case of an emergency. Please plan to have extra help on tournament day. Ask for parents or other staff to cover the home base area, walk a group of middle schoolers back from the gym, etc. Typically, problems of vandalism or behavior over the years have come while students are wandering around alone.

## About Competition and Medals/Trophies

Varsity teams will compete against other Varsity teams and Junior Varsity teams compete against other Junior Varsity teams. A first and second place trophy will be issued in the Junior Varsity division to the top teams. As well, medals are issued to Junior Varsity competitors typically in first or second place for each individual event. The Varsity competition will award trophies to the State qualifying teams (based on a quota system) and medal placing up to 5$^{th}$ place (depending on the size of the tournament.)

## Will Scores Be Available After Tournaments?

Following the Regional Tournament, coaches will be provided with a spreadsheet to show how Varsity and Junior Varsity teams placed in each event. Sometimes, Junior Varsity teams score and prepare better than the Varsity teams and are a better choice to attend the State Tournament competition. This is up to the coach to decide.

## About Construction Devices

The students primarily responsible for the design and construction of the device must be present and operate the device when it is operated for scoring. The event supervisor(s) may extensively question the students as to the design and construction of the device. Questioning may include the overall design and construction as well as the component parts, how they operate and function in the device.

If the students cannot answer the questions correctly, then the event supervisor(s) has grounds to believe the students did not design and/or construct the device. The team will be disqualified from the event and scored accordingly.

Science Olympiad encourages collaboration with adults on these designs, but too often, we see the parents working on the device at a tournament while a student stands and watches. Don't be that team; remember that this is a learning experience for the students and that they need to have ownership of the device. Of course, in areas of safety, please help the students. A third grader should have help cutting wood for their marshmallow catapult, but it should be their design.

## Interference

Interference occurs when students, coaches, teachers, chaperones, parents, or any other person associated with a team assists, hinders, obstructs, or gives outside help to competitors during an event.

**The following are examples of interference:**

1. Entering an area where events are set up for the competition or are being held without proper authorization to do so.
2. Giving any verbal or non-verbal "coaching" or outside assistance to a participant competing during an event.
3. Disrupting the event leader or flow of an event.
4. Providing resources, tools, or help to a competitor during an event without prior authorization.

Many teams have been penalized in events for receiving outside help during construction events open to the public. These students are rarely asking for this advice, but a passionate bystander is providing it anyway, and event supervisors are forced to penalize the team. Please advise all involved with your team that they must not yell instructions or gesture while the team is inside the competition area.

## Scoring

Each pair of students will be ranked. If there are 20 teams competing at a tournament, the rank will be from 1st place to 20th place. Teams finishing 1st place receive 1 point for their team; teams finishing in 20th place receive 20 points for their team. If a team decides NOT to compete in an event, that team gets an NS (No Show). In this case, the team would get last place + 1, where last place = 20 and thus the team would get a 21 for not competing in the event. The ranks for all events are added together to get a team score that determines 1st, 2nd, and 3rd place, etc. for each tournament. Low score wins! In addition, 1st, 2nd, and 3rd place medals are given out for each event. In many tournaments more than three places are awarded based on the number of registered teams. As a result, each team member is competing for an individual medal as well as a team trophy.

## State Bids and the First Place Overall Winners Program

Division B & C Varsity teams have a chance to move on to the state tournament if they finish at the top of their regional tournaments. Every year, the bids awarded to each regional are determined by looking at the overall number of teams competing in the state and dividing up the bids.

Team bids to States are awarded to a school, and that school may choose any 15 students to represent them at States; it does not have to be the same 15 who were on the Varsity team at regionals. If you have some JV students who did better in their events than their Varsity counterparts, you can rearrange the team as you see fit.

## First Place Overall Winners

It is the goal of Science Olympiad to encourage and recognize the most hard-working and talented science students. In an effort to make sure every student and every school participating in the NCSO is given the opportunity to be represented at the state level, the NCSO is allowing First Place Overall Event Winners to advance to the State Tournament. Rules for this program are below:

**Teams that qualify for the State Tournament are not allowed to participate in the First Place Overall Winner Program. They will attend the State Tournament as a team.**

In the event that a school's Varsity team qualifies the school for the State Tournament, individuals from that school, whether on a Varsity or Junior Varsity team, can NOT advance to the State Tournament as a First Place Overall Winner. In this case, the TEAM concept takes priority and it is the coach's decision what individuals will then be a part of the school's Varsity team at the State Tournament.

**Teams that do NOT qualify for the State Tournament are allowed to participate in the First Place Overall Winner Program.**

In the event that a school's Varsity team does NOT qualify the school for the State Tournament, individuals from that school, whether on a Varsity or Junior Varsity team, may advance to the State Tournament to compete ONLY in events the individuals placed first overall in at the regional competition. This means that on the "combined score sheet" for the Regional Competition there is a "1" in the box for that event. This means that Varsity or Junior Varsity individuals receiving gold medals, but NOT placing first overall in an event, will NOT be allowed to advance to the State Tournament.

Only the SAME students who earned first place overall at Regionals will be allowed to advance to the State Tournament. No SUBSTITUTIONS allowed. Individuals who advance to the State Tournament under this program will not affect team standings in terms of team placements or who qualifies for Nationals. Individuals that advance to the State Tournament under this program will be included in the combined scoring for each individual event for purposes of awarding event medals. However, in order to determine the overall team standings, individuals under this program will be removed from the rankings for all events so that team standings are unaffected. Individuals who advance to the State Tournament are NOT eligible to advance to the National Tournament.

### Can I Change My Team for the State Tournament?

The team that represents a school at the State Tournament can be any students the coach and the team decide. It could even be someone who did **not** compete at the Regional Tournament. The only thing the regional tournament does is qualify the school to send a team to the State Tournament. Who the members of the final team are who compete at the State Tournament is totally up to the coach/team. The only requirement is that all students on the team must be members of the school's student body as defined by the administration of the school.

# Additional Resources 101

## Goggles and Safety Glasses

Safety glasses look similar to regular glasses. For events that require safety glasses, teams must use safety glasses that are impacted rated ANSI Z87+ or higher. This is printed somewhere on the glasses, usually on the arm. They must also wrap around the sides of the face or have side shields. Side shields are pieces on the sides of the glasses that protect the eyes from the side as well as the front. Safety glasses may never be used for events that require goggles.

Safety goggles are the type of eyewear that holds suction to the face. Events that require safety goggles must be "splash" goggles with indirect vents. Not all safety goggles have an impact rating, nor is it required. Goggles that do have an impact rating of ANSI Z87+ or higher may also be used in in place of safety glasses in events that require them. To see a full explanation about the kinds of goggles and glasses, see our webpage (https://www.soinc.org/eye-protection).

These are an example of goggles from Carolina Biological. They have indirect vents and suction to your face to prevent chemicals from getting to your eyes:

This is an example of safety glasses from Carolina Biological. These are impacted rated to at least Z87+ to prevent anything from flying in to your eye during testing in engineering events.

# Checklist Before Tournament Day

- Have you secured transportation to the tournament?
- Have you gotten field trip paperwork filled out by parents as required by your school district?
- Do you have a plan for feeding everyone?
- Do your competitors and their families understand where to meet you and how to contact you on tournament day?
- Do you have all your construction devices and supplies needed for each event? PENCILS; there are never enough pencils.
- Has your team and your principal signed off on the Vandalism and Behavior form?
- Have you gotten every parent to fill out the contact information and sign the liability waivers?
- Have you entered your students in Avogadro computer system?

# A Coaches' Practices/Timeline for the Year

## Practices

In sports, almost all teams at all schools have practices that look the same. In Science Olympiad, teams are all different in the type and style of practice schedule. You must determine what works best for you and your competitors and tweak it as you go.

## Some possible schedules:

- Tues/Thurs after school for 1 hour
- One practice/week, each week focusing on a different period of events
- Sunday afternoons, whole team meets at a central location
- Meet before school 2 days a week
- Dedicated time during the school day for clubs or other activities
- Actual class that competitors are enrolled in
- Independent work, coach touches base with each team regularly to check on progress, but students are not required to meet at a certain time

There are a multitude of ways to design a year for a Science Olympiad team. Timelines may shift depending on what time of year your regional tournament is and your school calendar. If you start later, don't worry! The first year is a learning year, do the best you can and bring the team to the tournament to celebrate all that they have learned. Make it work to your own goals and priorities by tailoring your own plan for the year.

# An Example Timeline for the Year

| Month | Activity/Focus Areas |
|---|---|
| **August** | **-Register team(s) online and pay fees**<br>**-Recruit students, parents, coaches**<br>**-Get support of administration**<br>**-Hold initial meeting and share Science Olympiad details/benefits** |
| **September** | **-Receive Rules/Coaches' Manual**<br>**-Study Coaches' Manual**<br>**-Hold construction event meetings, content/lab-oriented events to familiarize students with events.**<br>**-Make sure students have copies of all the rules for events.**<br>**-Students select events.** |
| **October** | **-Event Coaches Attend Coaches' Workshops**<br>**-Students/parents develop a weekly practice schedule and begin meeting.** |
| **October-December** | **-Coaches/students organize notebooks for their events, locate/purchase resource materials, establish a study/building timeline, outline course of study, build and test devices**<br>**-Work to have students take control of their own learning and work in teams, practice events, attend local invitational/scrimmage**<br>**-If available, continue to recruit and fill in holes on teams, design a t-shirt to wear at Regional competition.**<br>**-Each student should be meeting and practicing weekly.** |
| **January - February** | **-Intensely prepare for Regional competition.**<br>**-Most teams have practice weekly and sometimes up to daily.**<br>**-Organize, study and build unity with partner and team members.**<br>**-If possible, visit the site for Regional competition as a learning experience and to facilitate familiarizing students with location.** |
| **January – March** | **-Regional competitions**<br>**-If qualified, make plans/preparations for State Competition** |
| **March-April** | **Evaluate results from Regional Competition/Prepare for State Competition** |
| **April** | **State Competition** |
| **April-May** | **Evaluate Results/Prepare for next year or if qualified, National Competition** |
| **May** | **National Competition** |
| | |

# Tournament Schedule Example

Several events run in a period. Division B & C tournaments usually have 4 periods. Students can only compete in 1 event each period. The colored blocks indicate when the event is running. A **sample** tournament schedule is given below. Your tournament may look slightly different. ***Be sure to check your tournament webpage for your exact schedule.***

**North Carolina Science Olympiad**

2020 (Tournament Name) Regional Tournament Schedule

B Division- Middle School

*Saturday, (Tournament Date)*

Revised 7/24/2019

| Event and Location | 7:30 - 8:15 | 8:30 - 9:45 | 10:00 - 11:15 | 11:30 - 12:00 | 12:15 - 1:30 | 1:45 - 3:00 | 4:00 - 5:30 |
|---|---|---|---|---|---|---|---|
| Anatomy & Physiology | Registration, Morning Impound | | | Lunch, Afternoon Impound | | | Closing Ceremony |
| Boomilever | | | | | Self-Schedule | | |
| Circuit Lab | | | | | | | |
| Crime Busters | | | | | | | |
| Density Lab | | | | | | | |
| Disease Detectives | | | | | | | |
| Dynamic Planet | | | | | | | |
| Elastic Launched Gliders | | | | | Self-Schedule | | |
| Experimental Design | | | | | | | |
| Fossils | | | | | | | |
| Food Science | | | | | | | |
| Game On | | | | | | | |
| Heredity | | | | | | | |
| Machines | | | | | | | |
| Meteorology | | | | | | | |
| Mission Possible | | | | | Self Schedule, No Impound at Regionals | | |
| Mousetrap Vehicle | | Self-Schedule Impound 7:30 - 8:15 | | | | | |
| Ornithology | | | | | | | |
| Ping Pong Parachute | | Self-Schedule | | | | | |
| Reach for the Stars | | | | | | | |
| Road Scholar | | | | | | | |
| Water Quality | | | | | | | |
| Write It, Do It | | | | | | | |

**Note - students can only compete in 1 event per period.**

# Detailed Example Timeline for Coaches

**August** – In August, teams typically begin planning the year. Coaching Workshop and Invitational Tournament announcements will start to appear on the NCSO website https://ncscienceolympiad.ncsu.edu/. The event rules are published at the national level and need to be downloaded – for free- at: www.soinc.org.

- **Seek school approval for a team (if necessary).** There are YouTube clips and research documents available for help with convincing administration of the value of Science Olympiad.

- **Review the membership rules for organizing a team** at https://ncscienceolympiad.ncsu.edu/ under Policies and Team Composition.

- **Register your team on the NCSO web site** (You must register for each team you plan to bring; you can pay at a later date).

- **Outline the current year:**
  - Plan for a team organizational meeting (you might want to first meet with returning team members if you are inheriting an established program.)
  - Plan for a parent meeting later in the fall after you've established your team.
  - Find the contact information for your regional directors and the date of your region's spring tournament. This is found on the "tournaments" page on the website.

- **Set up a database of information for your reference**. Record names, student ID numbers, current grade levels, phone numbers, and parents' names.

- **Promote the team.** Hallway posters, signs, and banners are a good idea to recruit team members. NCSO also has a short video on their YouTube channel that can be played on announcements or linked in other communications.

**September**--- In September, registration is underway. Event rules are provided free of charge to download at soinc.org

- **Register your teams** for a regional tournament.
- **Read the rules for each event carefully.** The rules are very specific and must be strictly followed by your students and their coach at all times. Questions about rules are often addressed at the National web site in the Events Clarification section.
- **Hold first team organizational meeting.** Introduce the events at this meeting to generate student interest. Students can sign up for events that they might be interested in doing.
- **Distribute copies of event rules** for students to use in studying for events.
- **Solicit parent help.** Sometimes parents can be the best assets to help coach events.
- **Set up and maintain a team web site or Wiki site.** This is a great way to promote the team.

- **Start gathering resources, study materials, supplies, and mentors.** Build a SO library for future use. Take advantage of information on the web. Look to others to help mentor events. "Many hands lighten the load."
- **Set up team practice schedules.** Some teams practice after school. Other teams practice on Saturdays. Lunch and study hall time can be used. Elective course can also be established.

**September through November** -- If you can organize in the fall, your students will be able to take advantage of holiday breaks to study and prepare for their events. It's also a time when coach workshops will be offered. *(But if you are just getting started and can't pull it all together in the fall, you can still plan on competing at your Regional Tournament. Many schools don't start their teams until January.)*

- **Work with team members to determine which events best suit their interest and ability.** Students should plan to participate in at least three different events if you plan to compete in all of the events. This will provide team versatility. (Remember you do not have to compete in all events.)

- **Regionals publish their tournament schedules in early fall**. They are posted on each tournament's webpage. Use the schedule to match students with events. **Once a schedule has been published, assign students to the events they should plan to compete.** Sometimes conflicts with the schedule happen. This is difficult for students who have spent a lot of time preparing for an event only to find they have 2 events in the set schedule at the same time. The tournament schedule cannot be amended for these conflicts. Team versatility helps.

- **The State tournament schedule is published and posted in September.** Highly competitive teams will compare their Region's tournament schedule to the State schedule to avoid conflicts and make adjustments accordingly.

- **Make sure your yearbook supervisor takes a team photo of you and your team for your school yearbook.**

- **Do some team fundraising** to help with costs like team registration, supply purchase, and possible team travel costs. (Some districts make teams pay for school buses to transport teams to competition.)

- **Network with coaches from neighboring schools.**

**December - January** --- In December and January, some schools host invitational tournaments. Invitational tournaments are awesome ways to give your team members practice competing in their respective events. There are small fees assessed for participation in these invitationals. But the cost is well worth the experience that students gain from participating in them. Invitational information will be posted at the NCSO web site as it becomes available to the State board.

- **Attend the coaches meeting at your regional tournament site, if available.** (This information will be sent to you by your regional director.)

- **Expand student study and project building time**. Hold organized practices right up until your Regional tournament date. Create assignments for students to do over holiday break.

- **Test constructed devices** as soon as possible. **Measure the devices carefully.** If there are dimensions published in the rules and you are slightly off from those dimensions, your device will be ranked lower than other devices in event scoring at tournaments.

- **Prepare paperwork for competition.** (permission slips and paperwork required by your school and your regional director). This can also include logging in to Avogadro and entering competitor names and signing up for self-scheduled events. Make sure you adhere to deadlines for paperwork submission.

- **Organize transportation** for the team to the regional tournament site.

**February – March** – This is the time period for NC regional tournaments.

***This is "crunch time." It can be very intense time for students and for the coach. HANG IN THERE.***

- **Make sure you have all required regional tournament paperwork completed and submitted.** Some regionals will require teams to provide 2-3 volunteers to help run the tournament. Try to line up parents or other teachers to do this.

- **Finalize travel arrangements to get the team to the regional competition.**

- **Collect signed permission slips.**

- **Continue practicing and fine-tuning events.**

- **Make sure ALL devices used in an event are clearly labeled with your team name**

**April** -- The State tournament is usually held the last Saturday in April at NC State University in Raleigh. The top 2 teams in each division (B and C) are invited to compete in the National tournament. **If your team qualifies for the State competition, congratulations!! Things to plan include:**

- **Your practice will need to continue.** (Some teams even practice during spring break.)

- **Be sure you submit required paperwork for the State tournament on time.** This might include self-scheduled events.

- **Organize transportation** for the team to and from the State tournament.

- **Submit names of parents who are willing to volunteer** at the State tournament.

**If your SCHOOL is not invited to States**, but you have students who take First Place in combined V and JV scores in a specific event, they will be invited to States to compete in that specific event.

- This is a great incentive to individuals on a new team to do their best as your team grows
- If you did not qualify for State, you may want to volunteer at the State tournament to see how it's organized.

**May** -- Unless you are competing at the national tournament, this is a time for closure for your team and planning ahead for next year.

- Collect the resource materials that your team used and created this season. It is very helpful for creating year-to-year continuity and improving your team next year.
- Hold a team party during this month to congratulate the students for all of their hard work. You might want to give awards (MVP, Rookie of the Year, Most Creative Team Member, etc.).
- Write thank-you notes to people who helped your team along the way. Volunteers who helped you will be more likely to help again next year if you recognize and applaud their efforts.

**June and July** --- This is the time to reflect upon the past season and plan ahead for next year.

- Keep looking at the NCSO web page for updates over the summer. New event rules don't come out until the end of August. However some events will stay the same. Some events will be retired for a few years, and some events will be brand new. It's still a good idea to keep a library of all of your reference materials. Typically, retired events come back again after five or six years.
- Registration for the next season opens in on August 1.

# Other Useful Information

## Paperwork/Administration

All must follow competition rules. Regional directors are required to collect the names and grade levels of the team members who will be competing. The Principal or head of the school must sign this list. We also request information such as which team member is competing in which event. It is important that you return all requested information carefully filled out before the deadline date.

It's a good idea to keep copies with you at the tournament. You will need to keep student medical forms and be able to show that you have them available if asked at the tournament. You will be asked to do a new set of documents for the State tournament if you qualify for it.

## Wrist Bands & Other Identification

Every tournament uses wristbands for students competing to wear to identify themselves as legitimate competitors. The wristband must be worn to enter an event.

## Competition Day Insider Tips:

- Science Olympiad competition runs like a track meet. There will be a central team location or gathering place where students, coaches, and parents can congregate. Some teams set up a "team camp" or home base complete with a school banner.

- There is a lot going on at a tournament and your efforts to help students stay organized matter. Students will be competing in events at designated time periods. A helpful tool is to give each student an individualized schedule of their events including times and locations for competition in each event – this can be printed from the scoring program, Avogadro, in advance.

- Student MUST be on time for an event**.** Suggest they wear watches or have cell phones with time available to keep track of when they need to be at an event. *Caution – some events do not allow students to bring cell phones.*

- Some engineering devices will need to be impounded before competitions start. Make sure you have your team name clearly displayed on everything you impound. Make sure your students impound their devices on time before competitions begin.

- Parents can provide coolers of snacks for students. Typically, these will be left at the designated team camp or team homeroom location. Keep an eye on belongings, however, as these events are open to the public.

- When not competing, your students can watch the spectator events. Some events are closed to spectators. Many engineering events are open for spectators to watch. It's always great fun to have your comrades watching as they run their cars, planes, rockets, vehicles or other engineering event. Encourage your team members to cheer each other on!

- Encourage students to stay in their event for the full time. They should double-check work before turning in anything for grading. They should put their team name on every single page they turn in just in case papers get separated by supervisors during the grading process.

- Encourage your students to have fun. It's a busy day full of activity and full of emotions. But it's a good kind of busy.

- Encourage students or parents to wait for competing team members to come out of closed events. It's nice to see a friendly face when you emerge from an intense round of testing.

- Make sure you pick up impounded equipment and devices to take home.

- Learn from other teams. At spectator events, watch the other teams and their devices. Learn from their experience. Get ideas for improvement. However, always be respectful of their intellectual property. You should ask before taking a picture of another team's device.

- Sit as a group at the awards ceremony. There is generally a designated place for the team and a different place for parents to sit.

- Take photos of students who go to the stands to claim a medal. This is great for the students, their parents, and for a team scrapbook. They make good yearbook moments, too. These photos are great to post on a team social media page or Science Olympiad social media – always check that this is acceptable with parents.

- Take a team photo after the awards. This can be used the following year as a promotional tool or shared on your team social media page.

- Cheer on the other teams. Stand and applaud the winning team. This shows good team sportsmanship.

# Coaches' Checklist

***Things for the coach to bring on competition day:***

- Parent/Student Contact Information
- Science Olympiad Tournament Director Contact Info
- Paperwork for Science Olympiad – Vandalism/Release Forms
- Copies of Tournament Schedule
- Copies of Team Assignments/Events/Impound Notes/Self Schedule Slots
- Hand Sanitizer/Trash Bags/Paper Towels/Snack Supplies
- Spirit Gear/Posters/Decorations
- Office Supply kit – tape, scissors, stapler, paperclips
- First Aid Kit with band-aids, instant ice-packs, bandages
- Sharpie markers (for labeling if needed)
- Extra pencils with good erasers
- Copies of paperwork you have submitted
- Emergency phone contacts (as on medical forms)
- Extra non-programmable calculators
- Extra safety goggles
- Copies of graphs, charts, logs or other documents needed to be turned in to Event Supervisors
- Roll of duct tape (just in case), screwdriver, glue, etc. for minor repairs to devices
- Cell phone/charger
- Camera ---TAKE LOTS AND LOTS OF PICTURES!!! *(Don't forget to put them at your web site or share on Science Olympiad social media if allowed by parents.)*

# Teambuilding Ideas

There are a million resources and ideas for building team connections and fun. Here are a few ideas to get you started. Feel free to design your own to match your team dynamics and interests or search the internet for additional ideas.

**Maker Challenge:**

Host a monthly STEM maker challenge that invites students to work together in teams of 2-3 students. Give them a set period of time to complete the challenge and invite parents to judge the results for fun for inexpensive prizes. Example challenges: tallest towers, bridges that can hold the weight of a golf ball, duct tape art, longest roller coasters made of trash, paper airplanes that stay aloft the longest, design an experiment using paper, paper clips and rubber bands, etc.

**Minute to Win It Games**

You can put teams of two head to head for fun “minute to win it” style games. Participants are given a challenge to complete something in one minute. For example, Oreo cookie from the forehead to their mouth challenge, races to carry an egg on a spoon without dropping it, blindfolded scientist putting lab gear race, STEM Bingo, etc.

**Speed Science Trivia**

Create fun trivia questions about generic STEM topics and students have 30 seconds to answer the question. If they get it correct, they remain seated, if they are incorrect they shift one space to the right. They keep a correct card for a point. The student with the most points, wins a small prize or the honor of being Speed Science Trivia Superstar.

**Science Art Challenge/Design Challenge**

Invite students to imagine a grand challenge to solve. Examples might include: draw a renewable energy device of your imagination, design what your city looks like 50 years from now or how you would use technology to solve one of the global challenges of clean water, renewable energy, homelessness or poverty. Share paper, art supplies, pencils for students to dream, draw and explore ideas to solve important global challenges.

# Sample Kick Off Meeting Announcement

Hello!

We are gearing up for the upcoming Science Olympiad season on Thursday, August 15 at 3:30 p.m. Below are the details – friends and newcomers welcome! Please feel free to share this invite with friends and families that you think would be a good match for Science Olympiad.

**Awesome School Science Olympiad Team - 2021 Season Kick-Off Meeting**
**Elementary (Division A - K-6the grade)**
**Middle (Division B – 6-9th grade)**
**High School (Division C- 9th-12th grade)**
**Thursday, August 15 - 3:30-4:30 p.m.**
**Location – Cafeteria of Our School**

**NOTE:**
**If you are planning to register your child for the team on Thursday, please complete attached paperwork and come prepared to pay your $X/student team fee. We accept payment by cash, personal check payable to your coach, Venmo, Paypal or Zelle (Details on Attached Form). We will not be able to assign your student a team slot until payment has been received.**

**Meeting Details:**
Come and learn more about Science Olympiad and opportunities to participate for elementary/middle and high school-aged kids. We meet monthly. This is not a drop-off activity. We support and equip parents and students with resources to practice weekly/monthly with their partners for competition. We expect that you will support your student by scheduling practices according to your schedule on a regular basis and will be committed to supporting the team once you register your student. Science Olympiad is a commitment and requires dedicated time on a regular basis. Please don't sign up and take up a spot if you don't feel like you can dedicate the time and effort to support the team through regular practice/preparation.

**Mandatory Regional Tournament Date**
**February 29, 2021 at Big Time High School, Snazzy City, USA**

**State Tournament Date (if we qualify)**
**April 26, 2021 at Fantastic State University, Amazing City, USA**

**Here Is a Working List of Events for Division B/C:**
**Division B - Middle School 2020 Events List**
**Division C - High School 2020 Events List**

**2021 Science Olympiad Meeting Calendar – Team Meetings**

August 15, 2021 - Kick Off Meeting/All About Science Olympiad
September 19, 2021 - Best Practices/Teambuilding
October 17, 2021 - Building Best Practices/Academic Event Best Practices/Teambuilding
November 14, 2021 - Demo Day for Build Events/Simulation for Academic Events
No December Meeting
January 16, 2021 – FAQs/Event Shares and Build Shares and Maker Challenge
February 13, 2021 - Getting Ready for Competition - Spirit Signmaking/Forms/What to Expect
February 29, 2021- MANDATORY - Regional Competition (ALL DAY)
March 19, 2021 - TBD - Getting Ready for States Meeting (if we qualify)
April 16, 2021 - Final States Prep (if we qualify)
Friday/Saturday -- States Competition - April 24-25, (if we qualify)

Please let us know if you have questions!

Suzanne Supersmart
Science Olympiad Coach
Contact Info
Email/Phone

## Sample Participant Interest Form
## Team Name - Science Olympiad Participant Interest Form

Student's
Name: _____

Student's Grade: _____ Student T-Shirt Size_____ Parent T-shirt Size _____

Circle One -- Division A (Elementary) Division B (Middle) Division C (H.S.)

Parent's Name: _____

Address:_____

Home Phone: _____ Cell: _____

Email Address: _____

Your preferred number of events 2 3 No Preference

Do you have a preferred partner(s) or preferred partner characteristics?
_____
_____
_____
_____

Do you have preferred events or event types -- for example study only events, station/test combination events or building events?

Does your student have a passion for a certain type or aspect of science? Physics, chemistry, biology, physical science, general science or not sure?

Please list your top 5-7 event choices according to the Science Olympiad Event List:

Anything else we need to know about for event choices?

Parent Support Preferences – Please share how you might best support the team from options below:
Parent Mentor/Event Support/Team Spirit/Admin/Hospitality/Other

Please turn in your payment for $X/child made payable to the coach below:
Suzanne Supersmart/Coach Contact Info/Payment Information and Details

**Science Olympiad Division C/High School Participant Interest Form**
**Regional Tournament – Amazing High School - February 29, 2021**
**State Science Olympiad – Fantastic State University - April 24 & 25, 2021**

Student's Name: _____

Student's Grade: _____ NOTE: Please complete one form per student.

Parent's Name: _____

Address: _____
_____

Home Phone: _____ Cell: _____

Email Address: _____

Please order your event preferences so that #1 is next to your first-choice event for each period and #5 is next to your least favorite event. Circle and rank very top three choices overall.

| Period 1: 8:30-9:45 | Rank 1-5 | Period 2: 10:00-11:15 | Rank 1-5 | Period 3: 12:15-1:30 | Rank 1-5 | Period 4:1:45-3:00 | Rank 1-5 |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| Boomilever | | Boomilever | | Anatomy & Physiology | | Forensics | |
| Codebusters | | Chem Lab | | Astronomy | | Fossils | |
| Detector Building | | Detector Building | | Circuit Lab | | Ornithology | |
| Disease Detectives | | Designer Genes | | Experimental Design | | Water Quality | |
| Protein Modeling | | Dynamic Planet | | Geologic Mapping | | | |
| Sounds of Music | | Sounds of Music | | Gravity Vehicle | | Gravity Vehicle | |
| Wright Stuff | | Wright Stuff | | Ping Pong Parachute | | Ping Pong Parachute | |
| Write It Do It | | Machines | | | | | |
| | | | | | | | |

Your preferred number of events 2 3 No Preference (Most will need to have 2-3)

Do you have a preferred partner(s) or preferred partner characteristics? Please use back side to share any talents/interests/passions of both student and parent.

_____
_____
_____

T-shirt size for your participating child: YS YM YL AS AM AL AXL AXXL AXXXL

Adult supporter T-shirt (one additional): Small Medium Large X-Large XX-Large

Please return this form with cash/check/Paypal/Venmo for $X (per participant) to:
Suzy Supersmart Coach/Contact Details/Mailing and Payment Info

# Sample Team Meeting Calendar

## 2021 Science Olympiad Meeting Calendar – Monthly Team Meetings

- **August 19 – Kick Off Meeting – All About Science Olympiad**
- **September 19 – Science Olympiad Getting Started Best Practices/Teambuilding**
- **October 17- Building Best Practices/Academic Event Best Practices/Teambuilding**
- **November 14, - Demo Day for Build Events/Simulation for Academic Events**
- **No December Meeting**
- **January 16 – Maker Challenge/Final Countdown Best Practices**
- **February 13 - Getting Ready for Competition – What to Expect/Spirit Sign Making**
- **February 29 - MANDATORY - Regional Tournament (All Day)**
- **March 19 - Getting Ready for States (if we qualify)**
- **April 16 - Final States Prep (if we qualify)**
- **April 25-26 – State Science Olympiad Tournament (if we qualify)**

## Getting Ready for Competition – Parent/Student Handout Example

## Science Olympiad Regional Tournament – 10 Most Important Things
## March 3 – Awesome High School, 321 Future Leaders Rd., Fantastic, USA

**1.Pack Your Car the Night Before Competition**
Nothing starts your day off poorly than forgetting something really important. Pack your car the night before with stadium chairs, cooler with water/drinks, snacks, food, games, event rules, maps, study resources and a safe travel house for devices. Bring extras of everything.

**2. Read Your Rules - One More Time.**
Just do it. Read your rules one more time to be sure you are not overlooking anything important -- the little points are important!

**3. Parents & Students - Smile, Laugh, Have Fun.**
Whether you practiced a ton or not at all, just enjoy this. No crying or stressing or nagging or criticizing at this point -- it is what it is, good bad or ugly. Trust that whatever happens is a great experience and enjoy it!

**4. Allow Plenty of Time. Arrive at 7:30 a.m.**
If you have a first period event, you should arrive 1 hour before. If you have later events, be sure you are arriving at least 1-1.5 hours before the event to check in, take a deep breath, relax, go to the bathroom, get your bearings, etc. before you have to compete.

**5. Get Your Wristband at Homebase Before You Compete.**
Everyone must have a wristband to compete -- find your coach at the homebase room which is Room 123 at Awesome High School.

**6. Know if You Need to Impound - When and Where**
Please review your rules and schedule to know if you need to impound your device, when and where. This is listed on the event schedule.

**7. Pay Attention to Event Time - Students & Parents**
Don't have so much fun that you miss your event. Parents -- please help us be the time stewards and make sure everyone is heading to their events in a timely fashion -- at least 15-20 minutes prior to their events.

**8. Fuel and Hydrate Well.**
Students -- please make sure you are drinking water and eating enough to be fueled up all day. Make good choices like high protein, nuts, fruits and waters -- save sodas, cookies and junky stuff until after you are done competing. Give your brain the best chance to succeed.

**9. Be Ultra Classy! Everyone Says Thank You, at Every Event.**
You are representing our school. Make sure they see you as cool, classy and awesome. This means saying "Thank You" to every event volunteer and saying, "thank you for volunteering today!" Push in your chairs, clean up after yourselves, leave everything better than you found it. Be completely awesome.

**10. Be Helpful and Gracious to Competitors.**

Wish other teams good luck, smile. Everyone has worked hard -- so congratulate them. If you notice someone is missing something and you have extra, offer it up. If someone's device breaks and you have glue, offer to help. Help everyone. Have awesome integrity.

**And a Few Bonus Items:**

1. Remember if you are Varsity or Junior Varsity.
2. Have a clean copy of all your event rules or take a picture of them in case you need to reference them or look something up at competition.
3. During the event - if you have a challenge, ask for help or politely clarify with supervisor.
4. After the event – if you have a challenge, talk to your coach about it. Parents are not allowed to intervene or discuss concerns with tournament staff.
5. As always, collaborate with your partner politely and quietly, cover your own work, keep your eyes on your own work and have awesome integrity.
6. Label everything you can with your names, team name, varsity or junior varsity and division.
7. If you are at a station event, circle what station you are starting at - usually not Number One!
8. If you are a public event, go early to watch others launching to see if you can learn anything.
9. Be sure to pick up and keep any devices after competition. We use them as examples each year – so pick up and save anything you created.
10. Use good penmanship -- sometimes this is a tiebreaker!
11. Remember - every single point counts!

**MOST IMPORTANTLY -- HAVE FUN!**

**Coach's Phone Number:**
**Suzanne Supersmart**
**Cell –(123)456-7890**

# Glossary of Science Olympiad Terms

1. **Alternate** – You may have more than 15 students interested in competing. Students beyond the official 15 competing team members are called "alternates." These students may be used as substitutes if an official team member becomes ill, injured or cannot compete at a tournament. You will need to clear this with the Regional director before substituting a student. In addition, alternate students are allowed to compete in trial events.

2. **Arbitration** – This is the process which allows a coach to file a complaint concerning the way his/her team has been scored, allowed to run their device, or any other concern that seems to violate the rules as stated in the rules manual. It is strongly suggested that the coach talk to the regional director before filing for arbitration. Often, things can be resolved at that point. Most regionals have paperwork that must be filed within a specified time frame as well as a designated person(s) who will determine the outcome. Most regionals require that only the head coach file for arbitration.

3. **Coach –** this is used to describe two kinds of people in the organization. The Head Coach, who is in charge of the logistics and direction for the whole team and the Event Coach, who has worked with a smaller group of kids to prepare for a specific event. When we ask to speak to a coach at the tournament, we always mean the Head Coach.

4. **Director** – This is the person in charge of the planning and implementation of the tournament. All questions you have about the tournament and competition process should be directed to this person. This person is also called the "Regional Director."

5. **Event Supervisor** – Event supervisors are dedicated volunteers who prepare, implement, and score each of the competition's events. Regional, State, and National level tournaments recruit their own event supervisors. All event supervisors (no matter the level of competition) MUST follow the event rules. These are not paid workers. They are volunteers. Please have your students thank them for their contributions.

6. **First Place Overall Winner (FPOW) -** Schools that do NOT qualify for the State Tournament are allowed to participate in the First Place Overall Winner Program. In the event that a school's Varsity team does NOT qualify the school for the State Tournament, individuals from that school, whether on a Varsity or Junior Varsity team, may advance to the State Tournament to compete ONLY in events the individuals placed first overall in at the regional competition. This means that on the "combined score sheet" for the Regional Competition there is a "1" in the box for that event. This means that Varsity or Junior Varsity individuals receiving gold medals, but NOT placing first overall in an event, will not be allowed to advance to the State Tournament.

7. **Headquarters** – Most regionals have a designated area where you can find the tournament organizers so that questions can be asked about the tournament. This may also include an area where event supervisors can turn in their tests, scores, and rankings.

8. **Impound** – This is the process used to check in team-built devices before competition begins. Events that require advance impoundment are indicated in the events rulebook. Tournament schedules will indicate the time and location where impounding will take place.

9. **Invitational** – Practice tournaments organized by schools are called Invitationals. They are useful to practice learned material, get copies of tests to use for study purposed, and compare team-built devices to those made by other teams. To find available invitational tournaments in our state, review the list on the NCSO website. To participate, register with and pay the organizer. These events are not by invitation, but are open generally to all registered teams, and may attract teams from beyond NC. The exact roster of students you register for these events is not required to match the roster you bring to other tournaments.

10. **Junior Varsity team** – a team that can compete in invitational competitions and in *some* regions at the Regional Tournament, but not in State or National tournaments.

11. **Regional** – In North Carolina, there are 12 geographic regions. A "regional" tournament is the competition between teams from that local area and qualifies a portion of them to participate in the State tournament.

12. **Registration** – Team registration opens typically early August for the following year's competitions. Registration takes place at the NCSO website (https://ncscienceolympiad.ncsu.edu/). Choose the tournament that your team wants to participate in from the registration page and register the number of teams you plan to bring. Your payment options include paying immediately by credit card or sending a check to the state office. ***Teams that have not registered and paid the membership fee are not allowed to compete.***

13. **Self-schedule** – Some events will be "self-scheduled." This means that individual time slots are available for teams to choose from rather than be placed in a block of time assigned by the tournament director. If your regional director has self-scheduled events, they will inform you of the time slots along with directions for the selection process. A highly competitive team will want to complete the self-scheduling process right away to secure times that work best for them.

14. **Spirit Award** – At each tournament, volunteers and staff are looking for examples of good sportsmanship and overall "spirit" from team members. They turn in nominations during the day and a team from each Division is awarded a spirit award at the closing ceremonies. This is a coveted award each year as teams work to exemplify good sportsmanship by cheering on and helping their team and others.

15. **State** – The State competition is typically held in late April each year at NC State University in Raleigh, NC. Invitations to the State tournament from each regional are allocated proportionately based on the percentage of Varsity teams from region compared to all teams in the State. The top two division B and division C teams are invited to compete at the National tournament held in May.

16. **Team –** This is another term with two meanings. The Team as a whole is the 15 members representing their school or group. There are then the individual teams of 2 or 3 going in to represent the Team in events.

17. **Trial event –** This is an event that is typically new and we are trying it out to gauge interest and works out kinks. Students receive medals just like all the other events, but it does not count towards the team trophy.

# Science Olympiad Resources

Here are a few ideas to support you for items you might need for Science Olympiad. As always, check with your local businesses in your area as well. Many local print shops, sign-making resources and local vendors can help produce t-shirts or other items needed. You might invite them to sponsor your team to donate resources too.

**T-shirts/Stickers/Banners**
**Café Press -- www.cafepress.com**

**Printables/Wearables/Logo Resources**
**Vista Print - www.vistaprint.com**

**Copies/Large Schedules/Office Supplies – Check for Education Discounts**
**Staples - www.staples.com**
**Office Depot - www.officedepot.com**

**Team Spirit/Flair Ideas**
**Oriental Trading - www.orientaltrading.com**
**Party City - www.partycity.com**

**Graduating Seniors/MVPs:**
**Science Olympiad Honor Chords – (link website)**
**"MVP or "C" Captain's Iron On Patch – www.amazon.com**

## Websites that Can Help You Prepare for Science Olympiad

- Your own state Science Olympiad website or https://ncscienceolympiad.ncsu.edu/
- National Science Olympiad Website - www.soinc.org
- National Science Olympiad Student Center Website - www.scioly.org
- Balsa/Building Project Resources - www.midwestproducts.com
- Building Project Resources - www.pitsco.com
- Earth Science Resources - www.forestry-suppliers.com/s01_pages/ed_sci_prog.asp
- Biology/Chemistry/Physics/Earth Science/Build Resources - https://www.wardsci.com/store/
- Airplane Resources/Launchers - https://www.guruengineeringtech.com/
- Bottle Rockets/Launcher Resources - https://www.nerdsinc.com/
- Study/Learning Resources – www.youtube.com
- Study Terms/Resources – www.quizlet.com
- Creating a Virtual Learning Class Resource – www.edmodo.com
- Problem Attic – Test and Learning Generator - https://www.problem-attic.com/
- Use a search engine for “Science Olympiad” and your Event Name.

# Questions?

**Contact: NC Science Olympiad**
**NCSU Box 8211**
**Raleigh, NC 27695-8211**
**(919)515-9402**
**ncscienceolympiad.ncsu.edu**