



S.P.A.R.K. Handbook: Everything You Need to Get Started

S.P.A.R.K. Expansion Department



Introduction

This handbook is designed to guide you through every step of **starting, running, and sustaining a SPARK branch** in your community. Whether you are beginning the application process or are already preparing to launch, you'll find clear instructions, practical tools, and proven strategies that align with SPARK's mission of inspiring students through hands-on, engaging STEAM learning.

Our goal is to provide a **consistent foundation for all branches**, while allowing for local adaptation and flexibility. Inside, you'll learn how to **recruit** your team, secure **funding and partnerships**, **plan** your program timeline, and **deliver lessons** that spark curiosity and confidence in science. You'll also find tips for **volunteer management**, examples of successful program formats, and a list of resources to support your work.

Think of this handbook as both a roadmap and a toolkit: it outlines the path from concept to classroom while equipping you with the methods and materials to make your branch thrive. By following these guidelines, you help ensure that SPARK programs everywhere share the same high-quality, student-centred approach that makes our impact possible.

Understanding the mission

SPARK was founded on a bold idea: **STEAM education should ignite curiosity, not just deliver content**. Too often, traditional classrooms follow a “factory model” (one teacher, one pace, one way of thinking) where students memorize facts instead of experiencing the wonder of discovery.

We believe the future demands something different. At SPARK, we revolutionize **STEAM** learning through:

- 1. Youth-to-Youth Mentorship**

High school and college mentors inspire younger students by showing them what is possible. This near-peer approach builds trust, relatability, and confidence.



2. Hands-On Experiments

Students learn by: doing, touching, building, testing, and exploring. We make science, technology, engineering, art, and math tangible and fun.

3. Personification of Concepts

Abstract ideas come alive when given personality and a story. We turn forces, molecules, or math concepts into characters students can understand and remember.

4. Multi-Perspective Mentorship

Science is not one voice; it's a chorus of perspectives. Our mentors bring diverse backgrounds, fields, and viewpoints, showing students that there's no single "right" path into STEAM.

Our mission is to **spark lifelong curiosity** by replacing passive, one-size-fits-all instruction with a vibrant, interactive learning community. Every branch, every mentor, and every lesson moves us closer to a world where students **see themselves as creators, problem-solvers, and scientists, not just test-takers.**

When you join SPARK, you're not just teaching a lesson. You're helping to reshape how the next generation experiences STEM learning.



Branches

How the Branching System Works

Delivering SPARK’s mission across every community is too big a task for the Headquarters (HQ) alone. This is why SPARK actively seeks passionate students who share our vision to start local SPARK branches in their own schools and neighbourhoods.

A branch begins with a few motivated individuals who align with SPARK’s goals and are willing to dedicate their time to making them a reality. These founding members are often:

- High school students eager to make a difference
- Passionate science and STEAM enthusiasts
- People who are great with kids and love mentoring

The process is simple: interested individuals **apply through the Google Form** linked on our website. Once accepted, they become Branch Leaders and, with their partners or collaborators, establish a branch within their region or school. For example, if a student from Richmond Hill High School applies and is approved, they can launch RHHS SPARK, a recognized branch operating under the SPARK name and mission.

Relationship Between Branches and HQ

SPARK HQ exists as a **support hub, not a control tower**. We are a collaborative network of current and former branch leaders dedicated to **providing tools, guidance, and resources to support new branches**.

HQ is not “above” the branches in a hierarchy. Instead, act as partners, offering assistance without micromanaging. Branches operate independently, creating their



own schedules, recruiting their own mentors, and running programs in ways that best serve their communities, as long as they maintain SPARK's values, uphold safety standards, and use our branding appropriately.

Typical support HQ provides includes:

- Management tips to help branches organize volunteers and schedules
- Program suggestions tailored to different group sizes and settings
- Resources like slide decks, experiment guides, and materials lists
- Mentorship and advisory from experienced university students and HQ members

In short: Branches carry the mission locally, and HQ ensures they are never carrying it alone.

Regional Bodies

Purpose of Regional Leads

In some cities or regions, there are multiple SPARK branches operating at once. To ensure coordination, resource-sharing, and smooth operations, HQ may appoint a Regional Lead, a branch leader who also serves as the primary point of contact for all branches in that area.

The Regional Lead's role is to:

- Foster collaboration between local branches
- Ensure programs are running smoothly and consistently with SPARK's mission
- Help new branches in the region get established and succeed
- Serve as a communication bridge between HQ and all branches in their area

Eligibility for Becoming a Regional Lead

To be considered for a Regional Lead position, the following criteria must be met:

- There are three or more active branches within your city or region.



- Collectively, these branches serve at least a total of three different elementary or middle schools with SPARK programs.

Example Scenarios

- **Scenario 1:** Bob is the only branch leader in Appleland. With no other branches in the region, he cannot be a Regional Lead... yet.
- **Scenario 2:** Addy is a branch leader in Pinableland, where four other branches are already active. Addy applies to become the Regional Lead, is approved, and now oversees the network of branches in her city.
- **Scenario 3:** Bob is inspired (and maybe a little competitive). HQ encourages him to help establish more branches in Appleland. Through outreach, advertising, and connecting with local schools, Bob helps start two new branches in his city. Once the region meets the requirements, Bob becomes a Regional Lead.

Benefits of Being a Regional Lead

1. **Automatic inclusion** in HQ leadership: play an active role in the organization's core decision-making.
2. **Regional influence:** help shape the growth and quality of SPARK programs in your area.
3. **Enhanced leadership skills,** gained valuable management, coordination, and communication experience.
4. **Priority** access to HQ resources: including materials, training opportunities, and mentor support.
5. **Networking** opportunities: connect with other Regional Leads and leaders across the SPARK network.



Steps to Start a SPARK Branch

1. Carefully read through the Starting Your Own Branch [webpage](#)

Understand our mission, chapter benefits, and the eligibility to become a branch leader..

2. Chapter Registration

1. Ensure approval from your school's administrative team for the establishment of your school's chapter.
2. **Fill** in the [Starting a SPARK Branch form](#).
3. Keep an eye out for an email from a member of our SPARK Headquarters, regarding the next steps to start a SPARK branch and resources to form your team.

3. Executive Recruitment

Construct an executive board with the necessary departmental roles and their responsibilities. Below are some basic positions recommended for your SPARK chapter.

- President(s) - **Review chapter goals** with effective timelines, **facilitate** the flow and progress of meetings, **coordinate** and oversee all chapter initiatives, monitor executive performances, delegate tasks, and communicate messages within the executive team (e.g., meeting times), with the SPARK headquarters for external needs, and with partner middle/elementary schools for the school visits. Branches can have an **external president and an internal president**.
 - Internal President: Coordinate communications within the school (e.g., informational meetings with volunteers)



- External President: coordinate communications with middle/elementary schools about the dates and times of school visits.
- Education Director(s) - **Collect contact information from volunteers** who wish to teach lessons, **demonstrate** lesson experiments, and ensure teaching volunteers are grouped and organized in effective teams to deliver every lesson with a high degree of **efficacy**.
- Marketing and Social Media Director - **create posts** to encourage participation in chapter initiatives.
- Secretary - **Record meeting minutes** (overview of the meeting) and **distribute** to the executive communication channel **after every meeting**. Ensure executives are informed of meeting dates and times at least 48 hours in advance of the meeting. Schedule rooms for meetings and/or create meeting links for virtual meetings, if necessary.

4. Secure Partner School(s)

Research and connect with at least **1-2** local elementary schools and/or middle schools.

1. Email the school(s) of your choice about their interest in becoming your partner school(s). Be sure to propose your **teaching model** (e.g., lessons bi-weekly, monthly, etc.) and SPARK's mission. This is where your school visits and teaching take place
2. Partner schools may be open to in-person and/or virtual options, so you may consider such possibilities for your branch to take on.
3. Email spark.reachout@gmail.com the name(s) of your partner school(s).



Funding

1. Reach out to Your School

Request sponsorship and collaboration from your **student council** and **school administrative team**. Different procedures for different schools/school boards. You may need to fill out a Google form at the beginning of the school year to request a budget from the school, or send out an email to your Vice Principals/Principals. Depending on the involvement level of your school staff, you may need to reach the board through your supervisor or guidance counsellors.

2. Finding an educational institution

For additional budget requirements, search for sponsorship outside of your school. Emailing educational institutions is a good start, similar to how you submit your resume when looking for jobs. For instance, a local Kumon branch is a good place to start. Reach a deal with your sponsors on how you'll advertise their brand. This includes:

- **Appreciate** the sponsor for their support, and briefly **introduce** the sponsors when you are visiting a school.
- Design your own SPARK T-shirt with the logo of your sponsor on it. Sponsorship outside of school can be more complicated to manage. If your branch requires assistance in any way, please contact the H.Q.



3. SPARK H.Q. Financial Aid

Usually, school visits and activities do not take a lot of financial resources.

However, if you **fail to acquire sufficient budget** from the two ways above, you can **request for financial aid from the Headquarter. You may apply using this [link](#).**

Branch Launch Ideal Timeline

Starting a SPARK branch is a journey that takes **planning, preparation, and steady execution**. While every branch develops at its own pace, this suggested timeline will help you understand what steps to prioritize at different points in the year. By thinking ahead, you'll give your team the best chance to grow strong and sustainable.

Preparation Phase

Before anything else, branch leaders should take time to **understand SPARK's mission, resources, and program model**. HQ offers orientation meetings and materials that explain how our modules are run. Familiarizing yourself with these early on will make the rest of the process much smoother.

This is also the stage to build your core startup team. No branch should be a one-person effort. Find a few like-minded peers who are passionate about STEAM and willing to dedicate their time. These first members will be your backbone as you start to recruit more volunteers later.

Summer Holiday: Start Building Foundations

The summer break is by far the best time to lay the groundwork. Without the pressures of classes, you'll have the freedom to:

1. Recruit friends and peers to help build your branch team.



2. Begin advertising SPARK in your community and raising awareness of your mission.
 - a. Refer to [Resources and Where to Find Them](#)
3. Connect with other schools or organizations that could become partners.
4. Reach out to student councils (StuCo), honour societies, or other student groups that might provide support.
5. Create a social media account to establish your branch's online presence early.

By the time the school year begins, you'll already have momentum, a team, visibility, and a plan.

September: The Critical Launch Window

September is the busiest and most important month for new branches. Schools are setting their club rosters and distributing budgets, making this the key opportunity to secure legitimacy and resources. As a branch leader, you should focus on:

1. Securing your partner school(s) where SPARK modules will be taught.
2. Recruiting new volunteers before they commit to other clubs.
3. Officially launching your branch's social media account.
4. Reviewing volunteer recruitment and management strategies with your team.
5. (Optional) Registering as a formal club within your school to unlock funding or recognition.

The work you put in during September determines how well your branch can sustain itself through the rest of the year.

October–November: Official Launch

By fall, your groundwork pays off. This is when you officially **begin SPARK activities**: visiting local schools, running teaching modules, and making your presence felt in the community.



Momentum matters here. Continue engaging volunteers through regular meetings and give them opportunities to take ownership of lessons and outreach. Keep your branch visible with consistent social media updates and by attending or hosting local school events. The goal is to establish your branch not just as a club, but as a recognized community initiative.

Starting Late (After September)

Sometimes branches don't begin until later in the year, and that's okay, but there are challenges. Budgets may already be distributed, students may be committed to other clubs, and schools may have less availability for new partners.

If you are starting in the first semester, use the time to prepare and plan for a second-semester launch. If you're in the second semester, aim for a pilot run; even a single visit to a partner school can help your team gain experience and credibility.

Remember: it's never too late to start. Every effort builds momentum for the next year. A modest beginning now can grow into a thriving branch later.



Program Model

When planning out an effective lesson at your elementary school, there are many factors to consider. You may have questions about how to format the lessons, engage with the children, and have an overall successful experience throughout the year. To get you started, here are some suggestions for what a successful school visit can look like.

Lesson Pathways

- **Big lesson**
 - 1 lesson with slideshow ~20 mins
 - Having a **worksheet** to fill out may allow students to have an easier time following along with the lesson
 - Followed by ~15-20 minute **experiments/hands-on activities**
- **Small stations**
 - Helpful if there is a large number of students
 - 3 different stations, each with 2 or 3 volunteers
 - Each station can have its own unique topic
 - Stations should include an interesting **activity** accompanied by a **brief slideshow** explaining the science.
 - Divide the students into 3 groups; throughout the visit, they can rotate, spending ~15 minutes at each station.



How to spend the 1 hour

Below is an *example* of the timeline of a visit for both lesson formats.

2:50 (SPARK volunteers) - Set up necessary materials/technology/chairs, brief recap among team members about what is going to happen later

3:00 - Students come in, volunteers introduce themselves & set classroom expectations

Big lesson

3:05 - Lesson (hand out worksheets if applicable) & explanations of activity

3:25 - Hand out materials & start hands-on activity/experiment

3:45 - Final quiz/trivia and conclusion & reflection of activity

3:55 - Clean up

OR

Small stations

3:05 - Brief introduction of each station, divide students into 3 groups

3:10 - First rotation

3:23 - Students discuss what they learned

3:25 - Second rotation

3:38 - Students discuss what they learned

3:40 - Third rotation

3:53 - Students discuss what they learned

3:55 - Discussion (e.g., something interesting you learned today, trivia questions, etc.)

3:58 - Clean up

4:00 - Dismissal

4:00-4:10 (SPARK volunteers) - Final cleanliness checks & stack chairs, brief reflection among team members of that day's performance



Managing and engaging with students

Trying to work with and teach younger children can present numerous challenges; potential issues include rowdiness, acting out, and/or loss of interest. We aim to provide you with tips and resources to manage these situations, but if things get out of control, it is advisable to seek the help of the supervising adult.

Tips

- Make sure that classroom expectations are set at the beginning of the visit.
 - Basic ground rules: keeping hands to oneself, using equipment safely & responsibly, being respectful to peers & volunteers, etc.
- Finding a **call and response** that works for you (e.g., clapping hands, “waterfall”, “shhh”, “1,2,3, eyes on me!”, etc.)
- Volunteers should be walking around throughout the visit, offering help, talking to the kids, and intervening when needed

Engagement Resources

- [20 Student Engagement Strategies for a Captivating Classroom](#)
- [Increasing Student Engagement](#)

Teaching Components & Instructions

- **Slideshows** (presentation)
 - ~20-minute presentation: this is when most of the verbal teaching of the scientific concept(s) is done
 - Ensure presenters are not reading off the slides, but explaining concepts in a **straightforward** way, **simple terms**, and may further elaborate if needed
 - Always **encourage questions** and **answer right away** when a student has one, even if it interrupts the lesson. This helps them fully understand the concept before moving on to the next step



- Additional volunteers should **keep an eye on students**, making sure they pay attention and respect presenters and other students
- **Hands-on activities: Science Experiments & Building Models**
 - Ensure the area is clean and all students are seated **before** handing out materials
 - Always have **at least 1 volunteer** at each table, monitoring student activity and making sure they follow instructions
 - Volunteers have the right to **take away materials** from students if they continue to disrespect peers, rules, and classroom expectations
- **Trivia** to check understanding
 - **Trivia** is supposed to be a **fun** experience, where students are divided into teams and compete to answer the most questions
 - Questions are displayed on the screen, and the fastest student to raise his/her hand gets a chance to answer
 - 1 point for a correct answer; if answered incorrectly or not instantly after being called, the chance is given to another student chosen in the same way
 - Ensure speakers are respected and students are properly seated and obeying rules
- **Quiz** (Recommended only for older students)
 - To be treated seriously: no talking or cheating allowed
 - Separate student seats when completing quizzes
 - Always have volunteers walk around to maintain student honesty and integrity before and during quizzes
- **Lesson worksheets** (includes reflection at the end)
 - Prepare **clearly-printed** worksheets enough for all students well before the visit
 - Volunteers should **check in** on students to make sure they are on track and completing the worksheet properly, assisting if needed
- **Science videos**



- Have most volunteers stay at the **back** of the classroom to minimize distraction and watch over the students to make sure they **pay attention** and **stay quiet** during the playing of the videos

How to get volunteers:

Difference between volunteers and executives:

Before looking for volunteers for your new branch, you must understand the differences between volunteers and executives. Volunteers are meant to help guide the school visits through tasks such as setting up, cleaning up, and helping the children at school visits. In comparison, executives will be expected to lead the school visits and the general club itself. This makes volunteers crucial to running a successful branch, as they are the main contributors to executing proper school visits.

Volunteers are essential in starting a new branch because they are the key to building a **strong** and **enthusiastic** team. Without committed volunteers, it can be difficult to run school visits and carry out projects to connect with the community. To attract new members, make sure to use multiple outreach methods:

1. **Posters** can be a simple but powerful tool when looking for new members. Design them to be visually appealing, easy to read, and include clear information stating the goal, time, dates, and other essential information. Place them in high-traffic areas in the school, such as hallways, libraries, and cafeterias.
2. **Social media**, especially **Instagram**, can be an effective way to reach potential volunteers. Post engaging photos, short videos, and updates about the activities and goals of SPARK. Using relevant hashtags and tagging local community accounts may help broaden your reach.
3. **Asking friends or classmates** to get involved can help expand the branch. Encourage current volunteers to bring someone they know. Following up with



individuals who express interest, providing clear details about their potential role, and ensuring they feel welcome and valued from the start is very important. By actively seeking volunteers, you can help build a committed team that will keep your branch thriving.

- What volunteers get
 - i. **Volunteer hours** (fulfill graduation requirements)
 - ii. **Experience** (useful for academic future)
 - iii. **Executive roles** (easier acceptance into the executive team)

SPARK HQ is constantly working hard to develop resources and answer questions to ensure that our goals' impact is spread. Through working with us and many more clubs across high schools, we collect data on lessons, results, etc, to further improve.

Tips to Manage a Team

1. Set clear goals with timelines
2. Make sure duties are clear
 - Every member should understand their tasks to avoid overlap
3. Build a positive and respectful environment
 - Helps encourage communication and more ideas
4. Hold meetings before school visits. This ensures that everyone is up to date.
 - [Use When2Meet](#)

Resources and Where to Find Them

SPARK offers a variety of resources to support teaching, collaboration, and community engagement. For instructional purposes, [slideshows](#) and [material lists](#) are available to guide lesson planning and classroom activities. In addition, a collection of media resources is provided to enhance learning experiences; this can also be accessed through a separate [link](#).

- To stay informed about **current projects, initiatives, and opportunities**, members can visit the [SPARK](#) website or visit our official [Linktree](#) site.

Science Projects and Research for Kids

<https://www.spark4edu.org/home/> | @spark4edu



- Our official [Instagram](#) page provides regular **updates, highlights, and community stories**.
- For direct communication and networking, SPARK's [Discord](#) server serves as the hub for **questions, announcements, and further discussions**.
- Those interested in expanding SPARK's reach can start a branch by completing the [Google Form](#). If you would like to contribute to the work of SPARK Headquarters, please fill out the [official application form](#).
- For **inquiries, collaborations, or additional support**, SPARK can be reached via email at spark.reachout@gmail.com.