

The SHPE logo is a stylized orange outline of a star with a jagged, irregular shape.

SHPE

Several decorative stars are scattered around the main text: a large blue outline star in the top right, a solid blue star behind the letter 'E' in 'NOCHE', a solid orange star behind the letter 'H' in 'NOCHE', a solid orange star behind the letter 'I' in 'CIENCIAS', and a solid light blue star behind the letter 'C' in 'CIENCIAS'.

NOCHE de CIENCIAS

ENGAGING COMMUNITIES IN STEM

A large, light blue outline of a star is positioned in the bottom right corner of the page.

MANUAL



Society of Hispanic Professional Engineers
13181 Crossroads Parkway North, Suite 450
City of Industry, CA 91746
(323) 725-3970
www.shpe.org

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NOCHE DE CIENCIAS MANUAL

Conducting a Noche de Ciencias requires a strong commitment from your SHPE Chapter. This leadership experience will prove to be incredibly rewarding for you and your peers. Follow this manual to learn the best practices and step-by-step approach to plan and execute a successful Noche de Ciencias event. The manual includes practical checklists and details to help you execute an impressive event and maximize your impact in the community.

INTRODUCTION TO SHPE & NOCHE DE CIENCIAS

About SHPE

For over 40 years, Society of Hispanic Professional Engineers (SHPE) has been dedicated to increasing the number of Hispanics pursuing careers in science, technology, engineering, and math (STEM). SHPE works to address the demonstrated need for increased Hispanic representation in higher education and careers in STEM and is committed to empowering Hispanic youth to realize their fullest potential.

About Noche de Ciencias (NdC)

NdC's purpose is to engage and inspire Hispanic youth (and their parents) to pursue STEM degrees and careers and ultimately advance SHPE's mission and vision. NdC's objectives are aligned with high-quality STEM afterschool programs that have proven to yield STEM-specific benefits with continued STEM education and career paths later in life. These objectives are grouped into three (3) main categories: 1) improved attitudes towards STEM fields and careers; 2) increased STEM knowledge and skills; and 3) higher likelihood of graduation and pursuing a STEM career.

Learning Objectives

1. **STEM Awareness and Interest: I KNOW STEM.** Increase students' awareness of and interest in STEM so that they can properly identify the different degrees, careers, and industries within the STEM field.
2. **SELF-EFFICACY IN STEM: I CAN DO STEM.** Empower and strengthen students' self-confidence in pursuing and achieving STEM degrees and careers.
3. **SELF-IDENTITY IN STEM: I AM STEM.** Provide students opportunities to think and act as STEM professionals.

Why Noche de Ciencias?

Aside from bringing awareness and education to the next generation of STEM leaders nationwide, some key benefits of attending Noche de Ciencias include:

- **Interactive STEM Activities:** Students have an opportunity to engage with professional and university student leaders in their community and participate in fun, hands-on STEM activities. Activities are designed for students to learn about the scientific process and terminology, while learning about STEM education and careers.
- **Bilingual Parent Workshops (Required):** Workshops on college options, financial aid, and how to prepare children for college will be available to all participants.
- **Networking Opportunities:** Parents and students have the opportunity to interact with college students and/or professionals in the STEM field to answer questions about college life and fields of study.

- **SHPE Overview:** Students will learn more about how to get involved with a SHPE Jr. Chapter, become a SHPE Jr. Chapter at-large member, and participate in the Pre-College Conference at the National Convention.
- **NdC is a great kick-off event if your SHPE Chapter is looking to establish a SHPE Jr. Chapter.** As it's often held in partnership with a SHPE Jr. Chapter or a school looking to start a SHPE Jr. Chapter, the event is also a great way to recruit and showcase the SHPE Jr. Chapter to parents, volunteers, and school administration and grow membership if you already have a SHPE Jr. Chapter established. It also provides leadership experience and a way for students and professionals in your SHPE Chapter to pay it forward and give back to your community. Whether you are establishing or sustaining a SHPE Jr. Chapter, NdC creates the momentum and reach you need to get to the next level. For SHPE chapters interested in establishing a SHPE Jr. Chapter or growing their Jr. Chapter's membership, an NdC event offers a great kick-off or recruitment opportunity. The event is a great way to showcase Jr. Chapters to parents, volunteers, and school administration, generating crucial support. It also provides leadership experience and a way for students and professionals in your SHPE Chapter to give back to your community!

HOSTING SHPE CHAPTER EXPECTATIONS

To plan the event, the hosting SHPE Chapter should first establish an NdC Committee in order to delegate the key leadership roles needed. In addition to the roles defined below, it is suggested you recruit 15-20 volunteers to help with specific tasks during the program.

Reminder: NdC may also be executed by a SHPE Jr. Chapter. It is best practice to partner with the SHPE Student and Professional Chapter to maximize your impact and leverage the expertise they can offer. This practice exemplifies our core values of Familia and community.

Helpful definitions below:

- **SHPE Jr. Chapter** – an official SHPE chapter in a middle/high school that participates in a NDC
- **Target School** – a middle/high school that is participating in NDC but does not have a SHPE Jr. school established yet
- **Partner School/Chapter** – a partner university/professional chapter that supports NDC planning and resources
- **Host School** – essentially the host venue for NDC; this may be the middle/high school or the university of the partner school as well

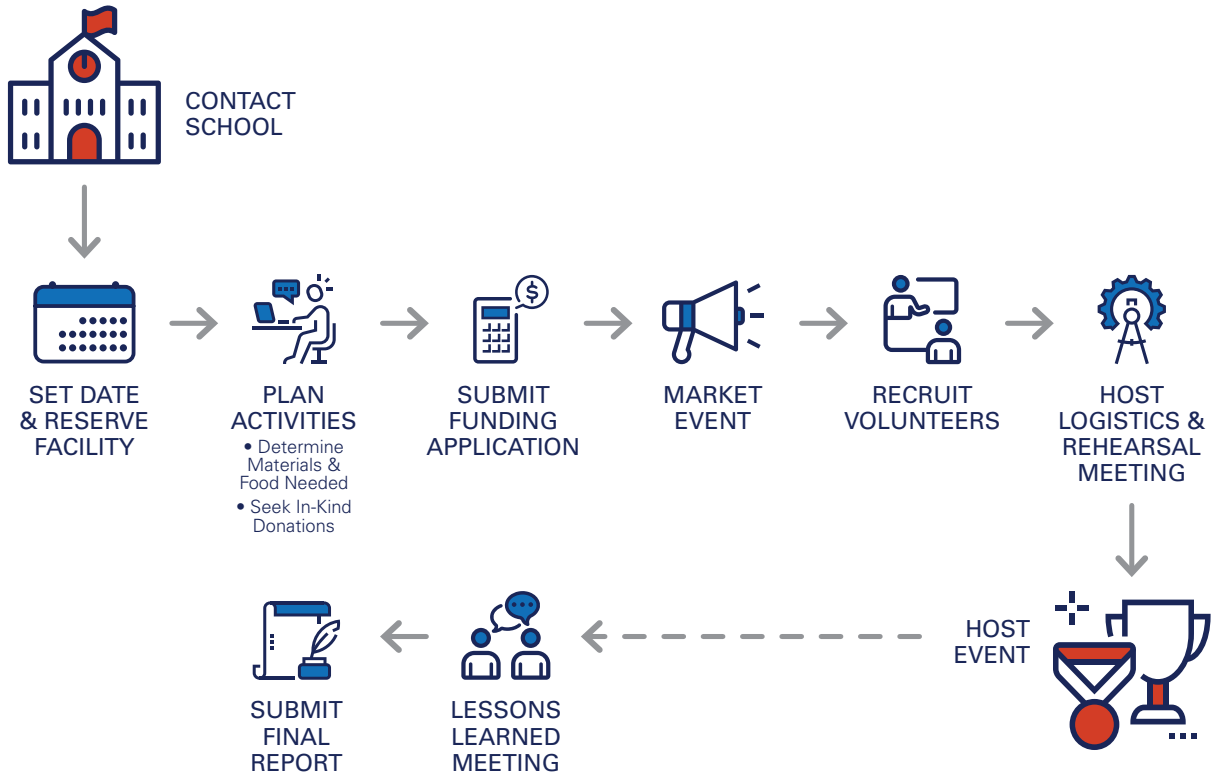
Noche de Ciencias Committee

Identify members in your SHPE Chapter to support NdC.

Committee members include:

- Noche de Ciencias Lead
- Noche de Ciencias Marketing and Fundraising Lead
- Noche de Ciencias Volunteer Lead
- Hands-on STEM Activities Leads
- Parent Workshop Leads
- Noche de Ciencias Report Lead
- Survey Monitor Lead

Noche de Ciencias Key Tasks:



Committee Roles and Responsibilities

<p>Noche de Ciencias Lead</p>	<ul style="list-style-type: none"> • Compiles and submits Final Report to SHPE (receipts, event photos, completed surveys, etc.) • Ensures adherence to SHPE’s timeline and reporting requirements • Initiates and maintains contact with high school administrators • Leads the event planning and logistics execution • Obtains School Participation Agreement signed by host school administration • Submits application to SHPE host
<p>Noche de Ciencias Marketing and Fundraising Lead</p>	<ul style="list-style-type: none"> • Develops Noche de Ciencias flyer and promotional materials • Distributes printed materials and/or electronic communications to invite targeted community, media, and general community to attend the Noche de Ciencias • Manages social media channels • Promotes Noche de Ciencias to students, teachers, administrators, community leaders, media, etc. • Seeks in-kind and monetary support from local businesses and corporations in the community • Sends thank you notes to community partners • Tracks success of outreach efforts and students/parents interested in attending

<p>Noche de Ciencias Volunteer Lead</p>	<ul style="list-style-type: none"> • Ensures volunteers are prepared and understand their responsibilities at event • Identifies a key note speaker and STEM panelists • Invites a local university’s admissions and financial aid department to conduct the College Workshop • Maintains contact with volunteers throughout planning process • Recruits volunteers to support Noche de Ciencias • Sends thank you notes to volunteers
<p>Hands-on STEM Activities Leads 2 committee members needed (1 for each activity)</p>	<ul style="list-style-type: none"> • Answer questions during activities • Clean classroom after activities • Make sure activities stays on track with time • Make sure to use the vocabulary words and engineering connection for each activity • Recruit additional volunteers to support the implementation of Hands-on Activities • Set up stations for activities
<p>Parent Workshop Leads 2 committee members needed (1 for each activity)</p>	<ul style="list-style-type: none"> • Answer questions during event • Clean up classroom after workshop • Make sure workshop stays on track with time • Bilingual volunteer conducts workshop in English and Spanish, or two unilingual volunteers (one English-speaker and one Spanish-speaker) conduct the workshop in separate, concurrent sessions
<p>Noche de Ciencias Report Lead</p>	<ul style="list-style-type: none"> • Collects pre- and post-surveys for at least 80% of attendees to ensure eligible report submission • Ensures ALL receipts are collected, copied, and saved for reporting • Must make sure all required materials are printed and available for event: sign-in sheets, Accident & Media Liability Release waivers, surveys found on Tools & Resources page • Submits final report to SHPE
<p>Noche de Ciencias Survey Monitor Lead</p>	<ul style="list-style-type: none"> • Ensures surveys are disseminated to the participants at the start of the event • Oversees the administration and collection of surveys • Sets up SHPE survey delivery method (print or online) • Submits surveys to Noche de Ciencias Report Lead

Volunteer Roles and Responsibilities

One exciting aspect of planning a Noche de Ciencias is involving the members of your SHPE Familia in the process. There are many opportunities for volunteers to be involved the day of the event. The following describes the roles and responsibilities of the volunteers needed to ensure a successful Noche de Ciencias.

Volunteers may serve in more than one role if appropriate. Remember to make use of everyone involved (for example, a volunteer can serve as a workshop lead as well as the Master of Ceremonies (MC) if time permits; the MC can also be part of the clean-up committee, etc.).

Role	Volunteers Needed	Arrive	Responsibilities
Set-up Committee	3-4	2 hours before event	<ul style="list-style-type: none"> Collects pre- and post-surveys for at least 80% of attendees to ensure eligible report submission Ensures ALL receipts are collected, copied, and saved for reporting Must make sure all required materials are printed and available for event: sign-in sheets, Accident & Media Liability Release waivers, surveys found on Tools & Resources page Submits final report to SHP
Food and Beverage Committee	3-4	1.5 hours before event	<ul style="list-style-type: none"> Ensure food and beverages are set up Keep food and beverages stocked during event Clean food and beverage station
Master of Ceremonies (MC)	1	1 hour before event	<ul style="list-style-type: none"> Spokesperson for event Deliver opening and closing remarks Deliver announcements and instructions
Greeter	1	1 hour before event	<ul style="list-style-type: none"> Point of contact for presenters Confirm presenters before event Greet presenters at the event
Keynote Speaker	1	1 hour before event	<ul style="list-style-type: none"> Deliver a short speech about a relevant STEM topic, education, or career in the STEM field
STEM Panelist Moderator	1	30 minutes before event	<ul style="list-style-type: none"> Facilitate discussion and encourage students to ask questions of STEM panelists
STEM Panelists	3-4	30 minutes before event	<ul style="list-style-type: none"> Serve on a panel responding to questions about STEM education and careers Provide insights of an average day in a STEM career or university setting

Role	Volunteers Needed	Arrive	Responsibilities
College Workshop Facilitators	2-3	30 minutes before event	<ul style="list-style-type: none"> • Provide insights on financial aid, college admissions, and university life
Survey Monitors	2-3	1 hour before event	<ul style="list-style-type: none"> • Set up surveys • Ensure every family completes a survey • Send completed surveys to SHPE
Floater	2-3	1 hour before event	<ul style="list-style-type: none"> • Provide directions and answer questions • Assist presenters during workshops • Take photos
Clean-up Committee	3-4	Stay 1 hour after event	<ul style="list-style-type: none"> • Clean up general session and workshop rooms • Take down directional signs and banners at venue • Pack up materials, sign-in sheets, food, etc.

Volunteers can do more than one task during the event. For instance, you can ask the Set-up Committee to also serve as the Food & Beverage Committee. At the end of the event you can ask all volunteers and attendees to help with clean up.

EVENT OUTREACH: FUNDRAISING & MARKETING

Fundraising

Fundraising is a critical component to conduct a successful Noche de Ciencias. A typical event can cost between \$500-\$1,500 depending on the participation size. Most of the funds are used towards STEM activity supplies, equipment, food, etc. Below are some fundraising ideas your Noche de Ciencias Committee may want to consider:

- **Raffle:** Request donations from local businesses and sell raffle tickets.
- **Car Wash:** Schedule a car wash on a weekend in your community. Consider pre-selling car wash tickets in advance to maximize revenue.
- **Dinner or Lunch:** Many restaurants offer fundraising programs. These fundraising programs typically offer a profit sharing opportunity on a specific day or timeframe for the business brought in by the SHPE NDC group.
- **Bake Sale:** Host a bake sale at your place of employment or university.
- **Host a Breakfast:** Invite friends, family, peers, and colleagues to a homemade breakfast at your place of employment or school. Ask for a \$5-\$10 donation for breakfast.

There are many other creative fundraising ideas to help fund Noche de Ciencias. Consider working with your school's student government, your college's student government, or your employer to understand fundraising guidelines at your school or place of employment.

Corporate Sponsorships

SHPE Chapters are encouraged to contact local businesses and organizations in their community for monetary or in-kind support. Chapters and Jr. Chapters should not limit their outreach to STEM-related businesses and organizations.

Often many local companies are willing to donate supplies, refreshments, or other incentives as an in-kind donation. Consider contacting your local grocery store or restaurant to request donations. The more companies you contact, the more likely you are to receive support. Most companies need a formal letter requesting the donation. It is best to contact the manager and be diligent about follow-up. Although many larger chain restaurants will support events like Noche de Ciencias, you may have better luck reaching out to local restaurants or leveraging any personal connections you or your SHPE Chapter may have to local businesses.

In addition to in-kind support, some corporations will consider a monetary donation. If you are associated with a SHPE Professional Chapter, you may want to ask if any member's company would consider sponsoring Noche de Ciencias. The monetary support can cover event expenses. Depending on the level of monetary support provided, a company can be recognized through marketing materials as the official sponsor of the event. The company benefits as they receive positive recognition in the community for their support of the event.

Be sure to recognize your sponsors at Noche de Ciencias, and always follow up with a personal thank you note recognizing their contribution and photos from the event.

Marketing Noche de Ciencias

Marketing Noche de Ciencias will be critical to reach the target of 50 attendees. When hosting a Noche de Ciencias, every sponsoring Chapter will have to reach out to local media, their partner school, and the community in order to have the best turnout for the event. Promotion is a key factor to get the attention of the audience you wish to reach, so please strategize your outreach implementation.

School and Community Outreach

SHPE Chapters have compiled some of the most successful marketing tactics:

- ❑ If there is a SHPE Jr. Chapter at the school, involve them in the planning process. The more invested they are in the event, the more likely their attendance. They will also know the best way to reach their peers to encourage attendance.
- ❑ Research the school district's contacts and reach out to them; they may be able to put you directly in contact with schools that have shown high interest or need.
- ❑ Visit the target school's website to compile emails of STEM teachers and inform them of the event.
- ❑ Conduct online or in-person registration for parents and students, and gather their phone numbers and/or email addresses. Send out reminders prior to the event.
- ❑ Consider offering the first 40 registered attendees entrance in a giveaway drawing to be held at the event.
- ❑ Partner with existing organizations/clubs with similar interests within the school to promote the event.
- ❑ Invite parents to attend through the PTA and/or Parental Involvement Office.
- ❑ Seek assistance in marketing from the college counseling department or the activities director.
- ❑ Visit the school and set up an information/registration table to recruit students.
- ❑ Visit STEM classes and give a brief explanation of what SHPE is and the benefits/highlights of attending the Noche de Ciencias.
- ❑ If the host school allows, use the above methods to invite surrounding middle and high schools to gain interest in the event and boost attendance. In addition, you can promote this at local community centers.
- ❑ Promote event in school announcements (school newsletter, principal's communication, school website, and social media).

- ❑ Send a letter to local organizations, community centers, and companies to ask them to spread the word of the Noche de Ciencias to their members.
- ❑ Promote your event via social media, including Facebook, Instagram, Twitter, etc.
- ❑ Leverage your personal social media presence to promote the event to your peers.
- ❑ Contact attendees from last year's Noche de Ciencias to encourage them to attend again.
- ❑ Ask teachers to give extra credit for attending the Noche de Ciencias.
- ❑ Post flyers in community boards at restaurants, coffee shops, community centers, libraries, churches, supermarkets, etc. If possible, create both Spanish and English content for wider reach.
- ❑ Contact local media to post event information in their community events.

Marketing with Media

Here are a few suggestions as you begin your outreach to media outlets and with the use of social media outlets:

Identify your media sources

- Radio – Local and Hispanic radio stations
- Television – Local news, commercials
- Social Media – Facebook, Instagram, Twitter, YouTube
- Community Centers – Churches, city/town hall meetings, local community centers with recurring events, etc.

Prepare a toolkit and message for each of the identified sources

- Message: Identify your audience and your message to reach them
 - » Radio: The message needs to be concise. Reach out to local radio stations and ask them to say one or two lines about the Noche de Ciencias. The best thing would be to ask them to interview you.
 - » Television: You will need to send a press release to their newsroom. Follow up with a phone call, and try to reach out directly to journalists who cover human interest pieces for the community.
 - » Social Media: Prepare a number of tweets or posts that you will promote throughout a timeline before the event. (i.e., three weeks prior, two weeks prior, and one week prior)
- Audio/visual aids: Flyers, YouTube videos linked to your tweets or Facebook posts. You may want to add these links in any promotional material sent to radio stations or news outlets.

How to reach out to media

- The best contact would be any newsroom staff within the radio or television station. Ensure you reach out to them via email as well as on the telephone; do not underestimate the value of initiative shown by making a phone call.
- Social media: Post the NdC information on the SHPE page or on your own chapter page. You can also use Twitter and Instagram.

Here are Some Texts You Could Use for Tweets, Instagram, or Facebook Posts:

- JOIN US January 21st @WestHighSchool at 5pm for our #NochedeCiencias! #STEM activities for students & bilingual parent workshops! @SHPEnational
 - » ÚNANSE! 21 de Enero @WestHighSchool at 5pm: #NochedeCiencias! Actividades estudiantiles #STEM y talleres bilingües para los padres! @SHPEnational
 - » Don't miss out: #NochedeCiencias @WestHighSchool 1/25 - 5pm! #STEM Student activities & parent workshops; guaranteed fun for all! @SHPEnational
 - » OJO: 1/25 #NochedeCiencias @WestHighSchool - 5pm! Actividades estudiantes #STEM y talleres para los padres! Diversión garantizada! @SHPEnational
- Pitch idea: It is a family science night through which Hispanic students in our community will be a part of hands-on activities and view STEM in different and exciting ways outside of the classroom. Parents will learn how to help their kids get into and afford college with workshops in Spanish and English, so that they can see these are attainable goals as well! Remember to go to these media sources and physically present your pitch if you can.

Key Messages

When promoting the event, some key messages to highlight could be:

- Event is FREE and open to all interested students
- Interactive, hand-on STEM activities
- Free scholarship and college workshops will be provided along with handouts
- Opportunity to meet college students and STEM professionals
- FREE food!
- Drawing for giveaways (if applicable)
- Parents welcomed and encouraged to attend – there will be a special session for parents in English and Spanish

EVENT PLANNING CHECKLIST

Preliminary Tasks:

- SHPE Chapter establishes a Noche de Ciencias Committee and elects Leads.
- Noche de Ciencias Committee reviews Noche de Ciencias Manual.
- Noche de Ciencias Committee and Noche de Ciencias Lead identify a target school to partner with and host event. If the SHPE Chapter has an established Jr. Chapter, it is recommended to partner with that school. Provide school with a personalized Outreach Letter to School, if needed.
- Noche de Ciencias Lead contacts school to secure commitment from school administrators.
- Noche de Ciencias Lead sets the date, time, and location of event with school.
- Noche de Ciencias Lead recruits partners for Noche de Ciencias activities and volunteers.
- Noche de Ciencias Marketing and Fundraising Lead contacts community partners about in-kind donations.
- Noche de Ciencias Marketing and Fundraising Lead contacts potential partners about event sponsorship.
- Noche de Ciencias Lead maintains a budget for Noche de Ciencias.
- Noche de Ciencias Lead involves SHPE Jr. Chapter Executive Board in the planning process, if applicable.
- Noche de Ciencias Report Lead reviews SHPE's Programs Reports & Funding webpage for further information.

Logistical Tasks:

- Volunteer Lead ensures volunteer roles have been filled.
- Volunteer Lead requests involvement of keynote speaker, STEM panelists and community partners.
- Volunteer Lead requests volunteers to sign Accident & Media Liability Release Waivers.
- Noche de Ciencias Marketing and Fundraising Lead partners with SHPE Jr. Chapter Executive Board, if applicable, to begin promoting Noche de Ciencias within the school and/or community.

Quality Assurance Tasks:

- Noche de Ciencias Marketing and Fundraising Lead reaches out to local media and sends messaging to be disseminated.
- Hands-on STEM Activities Leads and Noche de Ciencias Lead review and establish activities.

- ❑ Parent Workshop Leads and Noche de Ciencias Lead review and establish parent workshop.
- ❑ Noche de Ciencias Survey Monitor Lead and Survey Monitors review SHPE surveys (print & electronic).
- ❑ Noche de Ciencias Lead identifies promotional incentives, giveaways, and additional materials to purchase.
- ❑ Noche de Ciencias Lead makes required purchases and selects food vendor (if applicable).
- ❑ Noche de Ciencias Report Lead makes sure to track all purchases and save all receipts.
- ❑ Hands-on STEM Activities Leads practice facilitating STEM activities.
- ❑ Parent Workshop Leads practice delivering Parent Workshop presentation.
- ❑ Volunteer Lead ensures volunteers have signed and returned **Accident & Media Liability Release Waivers**.
- ❑ Noche de Ciencias Lead identifies A/V needs and communicate to event venue.
- ❑ Noche de Ciencias Marketing and Fundraising Lead partners with SHPE Jr. Chapter Executive Board, if applicable, to continue to promote Noche de Ciencias within the school, community, and media.
- ❑ Noche de Ciencias Marketing and Fundraising Lead follows up with community partners about in-kind donations.
- ❑ Noche de Ciencias Marketing and Fundraising Lead follows up with potential partners about event sponsorship.

The Week of Noche de Ciencias:

- ❑ Noche de Ciencias Lead makes additional copies of materials, if needed.
- ❑ Noche de Ciencias Lead confirms that rooms and A/V needs are in place.
- ❑ Parent Workshop Leads confirm they have the materials needed for the workshop and save presentations to local computer to ensure they are available for event.
- ❑ Hands-on STEM Activities Leads confirm they have the materials needed for the workshop and save presentations to local computer to ensure they are available for event.
- ❑ Volunteer Lead ensures CollegeWorkshop Facilitators have the materials they need for the workshop.
- ❑ Volunteer Lead confirms with and reminds volunteers of their roles and responsibilities.
- ❑ Noche de Ciencias Survey Lead confirms delivery method for SHPE surveys and makes sure Survey Monitors are prepared.

- ❑ Noche de Ciencias Marketing and Fundraising Lead partners with SHPE Jr. Chapter Executive Board, if applicable, to remind students and parents about Noche de Ciencias.
- ❑ Noche de Ciencias Marketing and Fundraising Lead confirms outstanding in-kind donations.
- ❑ Noche de Ciencias Lead confirms food vendor and places order for event.

NOCHE DE CIENCIAS EVENT FLOW AND LOGISTICS

Suggested Event Agenda

The following event agenda is to help with time management and provide an example to best structure a Noche de Ciencias event. Since the event is designed for both students and parents, there will be several sessions occurring at the same time. The Master of Ceremonies (MC) will begin the event with a short welcome address, ask parents and students to complete the pre-survey, if applicable, and provide instructions about the event. While the students are participating in the hands-on STEM activities, the parents will attend bilingual workshops about paying for college and helping a child go to college. If possible, it is highly recommended to offer a term-appropriate College Workshop for 11th and 12th grade students during the second activity. This session is usually facilitated by college representatives from the admissions and financial aid departments or SHPE members.

The students and parents come back together at the conclusion of the event for the STEM panel and closing remarks by the MC. It is important that both students and parents complete both the pre-survey and post-survey. This is an essential component of the event that allows SHPE to demonstrate impact to funders.

Note: You can host your Noche de Ciencias event during the day (i.e. Saturday or Sunday morning or afternoon), or start or end at different times, if necessary. Just make sure to take into account what works in your community and helps with the recruitment of volunteers.

Example of a Suggested Agenda

Time	Students	Parents
6:00 pm – 6:30 pm	Welcome Address/Keynote Speaker/Student and Parent Pre-surveys	
6:30 pm – 7:25 pm	Hands-on STEM Student Activity #1	Bilingual Parent Workshop #1 – Paying for College
7:25 pm – 8:20 pm	Hands-on STEM Student Activity #2 – College Workshop for Students (optional for 11th and 12th graders)	Bilingual Parent Workshop #2 – Helping your Child
8:20 pm – 9:00 pm	STEM Panel/Closing Address/Student and Parent Post-surveys	

Keep in Mind DURING your Noche de Ciencias

The Noche de Ciencias Report Lead and volunteers should gather information about the event that will be helpful when submitting final report. Some items include the following:

- **Required Materials:** Keep track of all the materials you will need to submit your report.
 - » SHPE Program Surveys

- » Receipts
- » Program Sign-in Sheets
- » Accident & Media Liability Release Waivers
- Photos of attendees during the welcome, workshops/activities, closing (minimum of ten images)
- Transcribed quotes from attendees about their experience at the Noche de Ciencias
- Notes about lessons learned and best practices

Noche de Ciencias STEM Activities

Children learn through experiences, and the earlier they are exposed to STEM hands-on learning experiences, the better. Noche de Ciencias activities inspire innovation and excitement as students discover their inner engineer and become lifelong STEM learners. The activities that are recommended here teach students thinking and reasoning skills. Students will understand how to apply the roles and views of STEM professionals and analyze real-world STEM problems as they incorporate relevant STEM content, skills, and practices. The NdC activities are designed to engage students with support and encouragement from their table leaders (university engineering students) to “think and be” engineers in order to improve their understanding of fundamental concepts in a way that capitalizes upon their design, visualization, planning, creativity, and teamwork skills.

The suggested Hands-on STEM Student Activities come from a variety of resources listed below:

Teach Engineering – <https://www.teachengineering.org/curriculum/browse?Collection=Activities>

PBS Learning Media – https://ca.pbslearningmedia.org/search/?q=&selected_facets=supplemental_curriculum_hierarchy_nodes%3A8353&selected_facets=media_type_exact%3ALesson+Plan

Jane Goodall Institute- Roots & Shoots Program – https://www.dropbox.com/s/ys0u61t5a2pq7ye/DigitalCommunityMappingTool_FinalDraft_LR.pdf?dl=0

Supporting the Learning

Identify volunteers during welcome so attendees can approach them if they have any questions. Keep in mind that each activity should take approximately one hour, depending on the age group. For additional support, it is important to have a table leader at each table to prompt conversation, using phrases such as:

- Do you agree/disagree with this step/process? Why?
- How else can we make this possible?
- What would happen if we tried it this way?
- Why do you think it is not working?

Bilingual Parent Workshop Recommendations:

There are multiple studies that indicate that parent engagement in a child's education yields positive results – children stay in school longer, they perform better, and have better school experiences. We've identified some important areas to support parents with understanding college access, funding, STEM career pathways, and the fundamentals of STEM:

INSERT LINK TO J. NAREY'S PRESENTATION

Keep in Mind AFTER your Noche de Ciencias

- In order to apply for funding and record your outreach event submit your report via our [Reports & Funding](#) page.
- Thank your volunteers and sponsors for their involvement in your Noche de Ciencias.
- Highlight your event, including students, parents, participating schools, volunteers, committee members, and corporate sponsors on social media.
 - » Be sure to tag @SHPEnational and use #NochedeCiencias for a chance to be highlighted on SHPE National's social media pages.
- Celebrate the success and recognize your outreach efforts!
- Discuss lessons learned from event and action plans for future ones. Let SHPE know how they can help improve the process!
- Start planning your next NdC event!