

The background of the top half of the page is a dark, slightly blurred image of the cover of the 'Journal of Youths in Science'. The cover features the title 'JOURNAL of Youths in Science' at the top left, 'VOLUME 5 ISSUE 1' at the top right, and a list of articles with their page numbers: 'OUR GENES, OUR CHOICES, OUR FUTURE' (16), 'SHEDDING LIGHT ON: BIOLUMINESCENCE' (18), and 'ROLLER COASTER DESIGN' (25).

2019 – 2020 CHAPTER PACKET

Journal of Youths in Science

www.journys.org

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Introduction to JOURNYS

JOURNYS Overview

The Journal of Youths in Science (JOURNYS) is a burgeoning community for high school students, dedicated to reigniting their interest and involvement in STEM (science, technology, engineering, and math). JOURNYS aims to provide a platform for young scientists, mathematicians, and engineers to share their findings for a broad peer audience, bridge student research and activities in STEM with the expertise of professional scientists, and promote lifelong interest and involvement in STEM among high school students.

JOURNYS's publications seek to unite different academic disciplines by providing opportunities for student artists, designers, editors, and writers to work alongside one another. Additionally, organization of JOURNYS activities provides a valuable opportunity for students to understand the operations of a non-profit and gives students experience with leadership and communication in a professional environment.

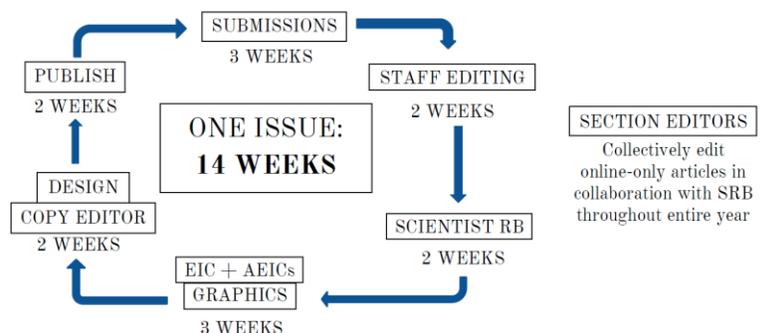
During the 2019-2020 school year, approximately 50 San Diego-area high school students will be directly involved in production of Volume II of JOURNYS by writing, peer-editing, and evaluating articles; creating issue artwork and design; and managing internal deadlines and expectations. An additional 15-20 students will coordinate issue publicity and distribution efforts, and approximately 20 science professionals affiliated with institutions from across the nation will be screening issue content for scientific accuracy.

We believe that, through JOURNYS, we can create a community of dedicated high school students interested in using both the sciences and the humanities to create a publication that is accessible to any high school student in the world. By expanding into chapter schools, we aim to make our organization a global effort: an effort that unites students with each other and with the bountiful world of science in their communities.

The Publication

A typical JOURNYS publication cycle involves the following components:

- I. **Writing Period:** Each issue begins with a writing period during which JOURNYS is open for submissions. Writers submit articles that generally fall into one of the following categories:
 - a. Review: A review is a balanced, informative analysis of a current issue in science that also incorporates the author's insights.
Word count: 750-2,000
 - b. Original Research: This is a documentation of an experiment or survey that you did yourself. You are encouraged to bring in relevant outside knowledge as long as your clearly state your sources.
Word count: 750-3,000
 - c. Op-Ed: An op-ed is a persuasive article or a statement of opinion. All op-ed articles make one or more claims and support them with evidence.
Word count: 750-1,500
 - d. DIY: A DIY piece introduces a scientific project or procedure that readers can conduct themselves. It should contain clear, thorough instructions accompanied by diagrams and pictures if necessary.
Word count: 500-1,000
- II. **Staff Editing:** After the Editor-In-Chief (EIC) and the Assistant Editors-In-Chief (AEICs) review submissions, articles selected to continue in the publication cycle are matched with editors. Editors are expected to collaborate with authors to improve the articles to the best of their abilities for a second round of review. Editors should focus on checking mechanics and content.
- III. **Scientist Review Board:** Articles are then matched with scientists from various institutions. Scientists are asked to monitor articles for scientific accuracy and may contact writers for clarifications.
- IV. **Graphics:** Summaries and copies of articles are sent to artists, who create graphics related to article content.
- V. **Copy Edits:** The copy editor does one final review of articles for mechanics.
- VI. **Design:** Designers combine article text with graphics to produce visually appealing articles for publication.
- VII. **Publication:** After all article layouts from the designers are combined, the entire issue is pieced together and sent to the publishing company for printing and distribution!



Chapter Schools

JOURNYS was founded eleven years ago when students noticed that there was a gap in the complexities of mainstream science publications. There were plenty of science journals available for researchers requiring the technicality of scientific publications, as well as many articles written for a lay audience unfamiliar with science, but nothing available for high school students in between those audiences – students who had already begun their science education and wanted to learn more. We hope that through JOURNYS, we can create a platform to bridge that gap, to promote curiosity and discovery among students in STEM, and to connect young scientists across the globe.

Chapter schools allow us to fulfill this vision: they give us the opportunity to reach out to local communities and encourage more participation among a diverse range of students

Chapter requirements

In order to become an official JOURNYS chapter, you must meet a few basic requirements, listed below. If you're unable to meet these requirements, but are still interested in starting a chapter, please don't hesitate to contact us at president@journys.org.

Official JOURNYS chapters must...

- Have at least 5 members, with leadership (president, managing editor) as well as staff (authors, graphic designers, and editors).
- Be an official organization on campus with a staff advisor
- Contribute at least 2 articles and 2 graphics each school year.
- Update JOURNYS headquarters regularly via email, phone conferences, etc. according to the guidelines in this packet (See *Communication, Inter-Chapter Meetings*)
- Uphold the vision and mission of JOURNYS

Note: Being a chapter school does not mean that your submissions will be automatically accepted, but don't worry - we're just looking for students that are passionate about contributing to our magazine.

Members from chapter schools will have the chance to apply for higher positions within the main Torrey Pines HS organization, such as Coordinator and Assistant Editor-In Chief.

Getting Started

Now that you know what we're all about, it's time to begin building a new chapter! To make things easier, we've broken it down into a step-by-step process. Don't worry if it all seems overwhelming at first; it's simpler than it looks.

1. Contact JOURNYS Headquarters.

If you haven't already done so, register online (<https://www.journys.org/chapter-schools>) and fill out the chapter school request. Once we have your contact information, we can schedule a meeting with you to discuss the specifics.

2. Obtain copies of JOURNYS.

We can send these to you, along with other flyers/handouts, in the mail. Use these materials when you explain the program to interested students, teachers, and administrators at your school. Having printed material in hand makes it easier to describe and promote the program. Show these issues to all of your friends and classmates, even if you think they "wouldn't be interested in this sort of thing." You might be surprised at their responses.

3. Find a Teacher/Advisor.

Every chapter must have a teacher or advisor. Your teacher/advisor will be in attendance at chapter meetings and help provide valuable advice to your chapter. He/she is your link to the school administration as well as our link to your school and can help with outreach and publicity. Make sure that he/she will actively work with you and not just provide an official signature whenever one is needed.

If you are having trouble finding a teacher/advisor, your science department chair, counselor, principal, or activities director may be able to help you. Some teachers may feel that they have too little time to devote to JOURNYS. Emphasize that it is a student-run organization and most of the work will be done by you and the other student leaders.

4. Organize a Founders' Meeting.

Call a well-planned meeting of all interested students to organize your chapter. This "Founders' meeting" should include your teacher/advisor and 3-4 people who will help you put the chapter together. At this meeting be sure to discuss possible ways to recruit more JOURNYS members and expand the branch.

5. Promote JOURNYS at your school and look for potential members.

(For more detailed information on Recruitment/Advertising, see *Publicity*.)

Get other student leaders at your school interested in JOURNYS. Speak to science and art classes at your school and tell them about your new chapter. Approach the Science Olympiad, Journalism Staff, Art Club, Student Body, and other potential groups on campus. Ask your teachers to make announcements in class and recommend students that would be interested.

Be sure not to only recruit one kind of member—aim for diversity. While JOURNYS more directly caters towards students interested in science, our publication also provides great opportunities for artists, graphic designers, web designers, and photographers. Remember, all students have talents and can contribute to your chapter, so try to get students of every type to join. Getting rid of the idea that JOURNYS is only for a certain type of student can be difficult later, so it is best to achieve diversity from the outset.

Make recruiting a constant effort throughout the year, not just in your chapter's early stages. Regardless of the month or season, there is always room for additional members.

6. Assign staff and officer positions.

(For detailed description of each role, see *Leadership and Staff Positions*.)

Once a substantial number (15-20) of students have joined, you should begin determining official leadership and staff positions, either by election or appointment. If you have multiple people that are interested in the same position, a written application may be useful (see *Leadership and Staff Positions, Applications*); however, this is usually more suited to larger chapters in their second or third year of operation.

If you've decided to hold elections, make sure that all your members are aware that they can run for any position. Allow each candidate 4-5 minutes to give a brief speech explaining why they would be the best candidate for the position. Remind all members to vote based on the qualifications of the candidates, not their popularity or their personal relationships with them.

7. Organize your first chapter meeting.

(For more information, see *Communication, School Meetings*)

Call a well-planned meeting of all your new members and officers. This meeting should be designed to promote your new JOURNYS chapter and also get the chapter organized for the year to come. Make sure that this meeting is interesting and productive so that potential members can see that you are organized.

At the meeting, consider discussing recent breakthroughs in science, the going-ons in different science classes on campus, current events in the science community, and other applicable news.

Also, remember to take care of any necessary business (e.g. deadlines for articles, delegating specific editing tasks, reviewing artwork/graphic designs) while all your members are present. These messages can also be reinforced with email reminders. Finally, be sure to make the meetings brief and concise. It will keep your members interested and encourage them to attend more often.

8. Begin writing, editing, and illustrating articles!

(For more information, see *Journal Processes*)

Encourage your members to take advantage of the great opportunity that your chapter provides. Getting an article published in JOURNYS means having it read by students nationwide and even in a few places internationally!

Once articles have been written and turned in (you may find it useful to set a deadline for final drafts), they should be edited by content editors of the appropriate subject (physics, biology, chemistry, etc.) These editors should focus on checking the accuracy and organization of the articles. After this has been done, the editing manager at your school will review all the articles and make any other necessary adjustments.

All good articles that are published in journals are accompanied by even better graphics—this is where your graphic designers come in. As editors revise articles, the graphics team should begin their work as well, ensuring sure that each article has at least one piece of artwork to go along with it. This original artwork should be directly relevant to the article.

To learn how article-writing, editing, and graphics are all coordinated in each chapter, please read over the *Journal Processes* section.

9. Keep the momentum going & keep us informed!

Now that you have things running smoothly, be sure to keep your school's JOURNYS chapter alive throughout the year by organizing activities, regular meetings, and chapter bonding events. Never let your members lose interest. The key to being successful is to have members who are excited about JOURNYS.

Also, keep in touch with the JOURNYS headquarters throughout the year—remember, over-communication isn't a bad thing! Not only will regular updates give us the chance to provide you with support and advice, but it will also give you a sense of how far you have come.

Congratulations on starting a new chapter of JOURNYS at your school. We hope that your hard work and dedication will pay off!

Leadership and Staff Positions

As your chapter expands, it will become impossible to take care of everything by yourself. To make things easier, delegate responsibilities among a group of capable staff members. Their duties will inevitably be diverse, so ensure that every staff or leadership member knows exactly what is expected of them.

Basic positions

Staff Author

- Submits 1-2 articles per year to JOURNYS
- Collaborates with content editor and graphic designer
- Collaborates with scientist review board member(s) (Please be respectful!)
- *Qualifications:* Strong background and interest in science and writing; willing to explore a diverse range of article types and topics

Graphic Artist

- Submits 1-2 quality graphics per year to accompany JOURNYS articles
- Collaborates with staff author to determine how to illustrate article and ensure that graphic effectively conveys article content

Content Editor

- Edits articles pertaining to designated subject
- Collaborates with authors to revise articles (initiates in-person meetings with authors to discuss revisions)

Leadership positions

Chapter President

- Manages and executes vision of JOURNYS at chapter school, along with Managing Editor
- Leads/facilitates club-wide meetings and leadership meetings
- Emails all staff members regularly about upcoming meetings, deadlines, updates, etc.
- Serves as a representative for chapter school during inter-school JOURNYS collaborations (Sends biweekly (every two weeks) email updates to TP JOURNYS; attends all scheduled meetings)
- Plans/coordinates distribution, outreach, and recruitment efforts of JOURNYS within chapter school
- *Qualifications:* Excellent leader; confident and professional in interpersonal skills; comfortable approaching teachers, administration, students, etc.; prompt and organized; JOURNYS is top priority

Managing Editor

- Manages and executes vision of JOURNYS at chapter school, along with Chapter President

- Leads/facilitates editing meetings, as well as editor training and article writing workshops
- Emails all staff members regularly about upcoming deadlines, updates, etc.
- *Qualifications:* Excellent leader; excels at writing and editing; prompt, organized; competent interpersonal skills; JOURNYS is top priority

Graphics Manager

- Leads graphics team of chapter school in designing graphics for journal (contacts graphics designers to assign them articles and helps to determine how articles should be illustrated)
- Enforces deadlines and expectations of graphics
- Leads graphics meetings
- Responsible for quality of all graphics
- *Qualifications:* Strong leader; proficient artistic skill; prompt and organized; comfortable approaching graphic artists/authors via phone, email, or in person

Optional positions

No set of staff members will be identical. As your chapter expands, you may decide to increase the number of openings based on your individual school's needs. You can also offer more positions from the list below:

Chapter Vice President

- Assists Chapter President in coordinating distribution, outreach, and recruitment efforts of JOURNYS within chapter school
- Attends all club-wide and leadership meetings
- *Qualifications:* Excellent leader; confident and professional in interpersonal skills; comfortable approaching teachers, administration, students, etc.; prompt and organized; JOURNYS is top priority

Assistant Managing Editor

- Assists managing editor in leading editing team and enforcing all journal deadlines
- Helps to lead editing meetings, editor training, and article writing workshops
- *Qualifications:* Excellent leader; excels at writing and editing; prompt, organized, and competent in interpersonal skills; JOURNYS is top priority

Communication & Inter-Chapter Organization

The secret to a successful JOURNYS chapter? Communication, communication, communication... This simple but effective tool will keep everyone informed, including you, your staff members, and other chapter representatives.

School meetings

In addition to communicating with staff via email, school meetings should be a regular event. At these meetings, take the opportunity to remind members of upcoming deadlines, make announcements, and bolster club spirit! Check out the tips below:

1. Designate a certain time, day, and place to meet together with all the members of your chapter.
2. In addition to meetings with the entire chapter staff, you can also schedule smaller meetings to communicate with specific groups, like the leadership board, staff editors, graphic editors, etc.
3. Before each meeting, send out email reminders to JOURNYS members at least several days in advance.
4. Be organized. Know what you will be discussing at the meeting beforehand so you don't run out of time.
5. Just relax! While being productive, these meetings should also provide a fun, informal environment to discuss ideas and connect with other members. Make these meetings an event that JOURNYS members look forward to.

Inter-Chapter meetings

These meetings are truly the core of the collaboration, promoting inter-chapter camaraderie and enabling us to make plans that benefit the entirety of JOURNYS. It is very important that your school is up-to-date with events, administrative decisions, changes in the journal schedule, etc. throughout the year.

Below is an outline of meeting schedules and other communication that chapters should maintain during the year:

Local chapters (within San Diego County):

- Email updates to president@journys.org biweekly and/or when requested
- Phone and/or Skype/Google+ meetings (bimonthly and/or when requested)
- Face-to-face meetings (1-2x a year)

National/international chapters (outside of San Diego):

- Email updates to president@journys.org biweekly and/or when requested
- Phone and/or Skype/Google+ meetings (bimonthly and/or when requested)

Journal Processes

The publication process is the core of the chapter's activity. Everything—from writing and editing articles, to making graphics and distributing issues—is entirely student-run, which is what makes JOURNYS so unique. As a JOURNYS chapter, you'll have the one-of-a-kind opportunity to experience this process in action.

Overview

1. **Topic selection** (1 wk): Managing editors send complete forms to eic@journys.org.
 2. **Article-writing** (3 wks): Authors send first drafts to [chapter-designated email](#).
 3. **Chapter editing** (2 wks): Authors work with their assigned editor to improve article and send revised version to eic@journys.org.
 4. **Article assignments**: Graphics are assigned
- Article finalization** (3-4 wks): Finished articles (incorporating edits from Scientist Review Board) and graphics due to eic@journys.org.

Topic Selection

Topic selection is a process that takes place before authors write and submit their articles. The purpose is to approve of authors' proposed article content and to make sure everyone is on the right track before a huge amount of time and effort is expended to write articles. When you're done with this step, don't forget to send your final topic submissions list to JOURNYS headquarters!

The managing editor is primarily responsible for leading topic selection at each chapter; however, the help of other leadership staff, such as senior editors or the chapter president, may be necessary as well.

Creating the Form

To make the process as efficient and uniform as possible, managing editors should create a topic submission form that includes the following fields:

- Proposed article topic
- Article type:
 - Research review / Topic review / Media review / Experience review / Original research / Op-Ed / DIY
- 1-3 sentence description about proposed content
- Article subject:
 - Biology / Chemistry / Physics / Math / Other

The exact layout of this form is up to the managing editor; emailing a form via Google Forms is generally a good option.

The topic submission form should be sent to authors in the chapter about 1 to 1.5 weeks before the scheduled article writing period.

Approving Topics

After authors submit their topic choices, the managing editor and other chosen staff will approve or deny topics and notify authors accordingly. Two major issues that arise during topic selection are addressed below:

- Often, a proposed topic will be the same as that of an article already published by JOURNYS (e.g. global warming and green technology are both popular topic proposals that have been the focus of previous articles). As long as the proposal is not entirely similar to preexisting articles, it can be approved; however, this decision is at the discretion of the managing editor.
- The topic proposals of several authors may be the same as well. However, it is often not necessary to force these authors to reselect topics. In fact, topic overlap can be beneficial, as it provides an opportunity for authors to co-write articles, or it generates friendly competition among authors to write the best article.

Just remember to notify the authors involved that multiple people are writing about the same topic, and allow them to decide whether they'd like to continue with the topic or choose something different.

Notifying Headquarters

To keep track of every article, it is crucial that topics are sent to JOURNYS headquarters before article-writing begins.

After topic submissions at their school, the managing editor will email the final list to the Editor-in-Chief at JOURNYS headquarters. The list must contain the following elements in a single spreadsheet (as you go along, update it with assigned editor names and assigned editor emails):

- Author name
- Author email
- Topic
- Article type/subject

Writing Articles

Writing articles for publication is the heart of JOURNYS, and will be crucial to your success as a chapter. To provide your staff members with detailed guidelines on article-writing, see *How to Write a Stunning Article* in the Appendix.

WHO writes them: The staff authors in your chapter are primarily responsible for writing articles, but there may be other students at your school, JOURNYS and non-JOURNYS alike, that have scientific writing to contribute. Via advertising, announcements, teacher emails, etc., encourage as many people as possible to submit their articles. If they have just written a paper for a science class, or compiled a lab report for science fair, their work could easily be published as a JOURNYS article.

WHAT types of articles: Articles are classified into review (research, topic, media, policy, and personal), original research, op-ed, and DIY. For more information, see the article type descriptions below (a more detailed version is included in the Appendix):

- **Review:** A balanced, informative analysis of a current issue in science that also incorporates the author's insights.
 - **Research review:** Presents new research, developments, or advances in the scientific community
 - **Topic review:** Educates readers about a scientific concept or issue
 - **Media review:** Features discussion of books, films, or exhibitions of scientific nature
 - **Policy review:** Highlights scientific issues that have potential or realized implications in politics, the economy, etc.
 - **Experience review:** Relates the author's own experience participating in a science fair, competition, or internship, or other program
- **Original research:** Presents the author's own experimentation and findings. Includes abstract, introduction, methods, results/conclusion, and discussion
- **Op-Ed:** A persuasive article or a statement of opinion on a scientific topic
- **DIY:** A do-it-yourself piece introduces and provides instruction for a project or procedure of interest to readers.

WHEN to submit: Within your own chapter, you should set article submission deadlines for staff authors, allowing plenty of time for editing. Consider making a shared calendar so everyone stays on schedule.

WHERE to submit: All first drafts of articles must be sent as Microsoft Word/Google Doc attachments to a submission email set up by your chapter.

HOW to write a good article: High-quality articles are thorough, well-researched, interesting, and scientifically sound. While maintaining a degree of formality, they should not sound overly-technical or encyclopedia-like. Remember, the best articles are accessible and engaging for a high school student audience.

Having trouble with writer's block? For inspiration, authors can stay up-to-date with the latest science news by browsing through professional journals and other periodicals (online news sites, magazines, etc.) There are also plenty of article ideas to be found in a science class, lab, or research project. Encourage authors to be creative with article-writing. The most successful articles are the ones in which the author has a genuine interest in the topic. For more resources, see the Appendix.

Editing Articles

Once all your articles are completed, it is time to start the editing process. The JOURNYS editing process is one of its most unique aspects, as it provides a great opportunity for interaction between staff members.

Assigning Editors

While approving topics, *it is the managing editor's responsibility to assign a content editor to each article during topic selection.* Ideally, each content editor should be assigned articles within his/her area of knowledge (chemistry, biology, physics, etc.). However, the distribution of editors and articles is flexible so do what you can manage.

Chapter editing:

1. **Article submission:** All first drafts of articles should be submitted to a chapter-designated submission email, and distributed from there to the assigned editor. The editor receives a copy of the submitted article, as well as editing instructions.
2. **General review:** Editors should check for quality and accuracy of content, correct source citation, organization, format, and clarity.
3. **Editor-Author meetings:** These can be arranged for the whole chapter, or editors can initiate them on their own. The editor prepares several printouts of each article and meets with the 2-4 authors for a peer review session. After the editor has shared his/her feedback for each article, every member of the group will read the article and provide additional feedback. (Optional)
4. **Continued revisions:** Based on the suggestions from the editor and an assigned SRB member, the author individually revises his/her own article. Editors work with them along the way, and the article is passed between editor and author (via email, Google docs, etc.)
5. **Submit to eic@journys.org:** Authors submit their edited articles by the journal-wide deadline, as Microsoft Word attachments.

Published Article Procedures:

To finalize articles that were selected for publication, several processes take place in the last 2-3 weeks.

1. Articles are forwarded to members of the Scientist Review Board, who review them and respond with feedback within several days.
2. Managing editors at each chapter assign graphic designers to illustrate the selected articles.
3. Authors will receive feedback from SRB reviewers. They will spend 1-2 weeks making necessary changes and *finalizing* their articles for publication.

Submission and Publication:

All finished articles and corresponding graphics are submitted to eic@journys.org. These will be published in the upcoming issue.

Graphics

As the articles are turned in, each graphic designer is assigned 1-2 articles to illustrate. Upon completion, graphic designers send their work to the graphic editor for review. Graphics should be finalized and ready for submission to graphics@journys.org when the articles are polished.

Graphics can include hand-drawn pictures, photos, and computer images that relate to the assigned article. They *must* be the work of the students in JOURNYS; images from the internet or other copyrightable/non-individual work are prohibited.

Guidelines:

- Photos should be taken at the highest resolution.
- Drawn artwork should be scanned and sent to the graphic editor.

- Computer-created images can utilize Paint, Photoshop and other image-creating software.
- Make sure that the illustrations relate to the corresponding article.
- Be creative, and use your imagination! The purpose is to enhance the appeal of the article, so keep in mind what would attract a reader’s attention.

Distribution

Effective distribution is an integral part of a successful chapter. It is arguably as important as the articles themselves. After all, what would a science journal be without its readers? Therefore, when each issue is released, take the time to distribute copies throughout your school and local community. The more, the better!

JOURNYS headquarters will also publish print issues 1-2 times each school year. Upon release, a large number of these will be mailed to your chapter for distribution. These paper issues can be distributed throughout the year, but use your discretion in “rationing” these issues, keeping in mind upcoming outreach events (e.g. science fair, club day, etc).

The number of paper issues and newsletters that are mailed to you depends on the size of your school, as well as the number that you request (taking into account local events, etc.) However, there is no strict limit on the number of issues that each chapter receives. If you run out of issues at any time, just contact JOURNYS headquarters, and we will send as many as you need.

Tips for distribution:

- When distributing at school, consider strategic, high-traffic locations such as the media center and science classrooms. Contact science teachers and ask them to make an announcement to their classes about the latest issue. Inquire if they would also like several class copies to supplement their teaching.
- When distributing in your community, reach out to your target audience—go to local middle schools, libraries, and other student-filled locations.
- Keep an eye out for local science-related competitions and events such as expos, science fairs, Science Olympiad, etc. These events can be the perfect distribution and outreach venue.
- Whenever you distribute outside of your school, be sure that you have the organization’s approval. This may entail contacting an event coordinator in advance, speaking to a librarian or school administrator, etc.
- Make an active effort to ensure that issues end up directly in the hands of readers. For example, instead of leaving an ineffectual stack of issues by the door, have staff members pass them out during lunch.
- If necessary, delegate these responsibilities to staff members (such as vice presidents). You may find it useful to have one person in charge of internal distribution (on campus), and the other responsible for external distribution (within the local community).

The Scientist Review Board (SRB)

The scientist review board (SRB) is a panel of professionals in science—researchers, professors, teachers, etc. Following selection decisions, articles accepted for publication in print/online are

submitted to members of this board for review. The feedback from these scientists will be used by authors to further enhance their articles.

How it Works:

The scientist review process is facilitated by SRB student coordinators at Torrey Pines High School. The coordinators send a copy of each article to a board member who specializes in that article's focus. After reviewing the article, the scientist adds suggestions and comments to the article, and the author makes revisions accordingly.

We do realize that some scientists and students like to get in direct touch to discuss opportunities outside of JOURNYS, such as internships, collaborations, etc. Therefore, the SRB student coordinators are glad to provide contact information on request, providing that both parties are willing to disclose it.

Recruitment:

JOURNYS is constantly seeking to diversify its scientist review board to include individuals from all over the world and from a variety of disciplines. Recruiting new scientists ensures that all types of articles will receive expert attention and input.

All JOURNYS members are invited to contribute to the scientist recruitment effort; doing so not only benefits the journal overall but makes members' involvement much more meaningful and enjoyable. Encourage members to ask any adults involved in science (relatives, teachers, mentoring professors, etc.) if they'd like to become reviewers for the board, and have members send the contact info of anyone interested to president@journys.org.

Publicity

An ongoing goal of every chapter is to maintain and promote JOURNYS's image on campus, spreading the word among students and staff alike. Follow these tips to become a thriving, dynamic organization in your school.

Recruitment events

Recruitment gives more students the chance to join JOURNYS at your school, and is a great opportunity to expand your club. Recruitment usually takes place at large school events, such as your school's club day or back-to-school night. These large recruiting events should be well-coordinated and planned at least several weeks in advance.

1. Schedule the place and time your club will be showcasing at club events. Sign up with the appropriate faculty (ASB, Principal, etc.) when necessary.
2. At the event, set up a "booth" that showcases your club. This can consist of posters, display boards, banners...anything that looks professional and will easily attract the attention of passerby.
3. Make a sign-up sheet so that new members can provide their contact information. Be sure to print multiple pages!
4. Prepare extra copies of JOURNYS to hand out to interested students and parents.
5. Share your thoughts about JOURNYS and persuade others to join as well. While JOURNYS is a science journal, there's something for everyone. It includes art, technology, leadership, public-speaking and relations, spirit, and many other skills as well.

Advertising

Always be prudent and professional with advertising, but feel free to have fun as well. After all, your audience members are high school students.

Advertising methods:

- Flyers and handouts: Print these in bulk to distribute among the student body at recruiting events. Or, post them on bulletin boards, hallways, doors, and other strategic locations with lots of traffic.
- Mass email: Your school has an email notification system for sending out newsletters, events, messages from the administration, etc. This is an easy way for the school to email the entire student body at once. Contact the person in charge of these email notifications, and ask if you can have an email sent out about JOURNYS.
- Emailing teachers: Email science teachers at your school introducing yourself and JOURNYS. Ask if they can make announcements in class, encourage their students to submit articles and/or get involved in JOURNYS. Teachers may also offer extra credit for submitting an article to JOURNYS, which is a great way to receive quality writing.
- Morning announcements: Have an announcement sent out over your school's PA system in the morning. If that is unavailable, put it in the daily bulletin or some other news system at your school.
- Social media: Take advantage of the times we live in! Use Facebook, Twitter, Google+, and other forms of social media to spread the word about JOURNYS. **Contact leadership before creating a new Facebook page, Twitter, or other account representing JOURNYS.**

Other Activities

Chapter spirit

While recruiting people is important, maintaining spirit is just as essential to create a valuable experience for JOURNYS members. Establishing a positive, energetic environment will not only encourage them to stay, but will also attract more people to the club. Here are a couple ideas for boosting chapter spirit.

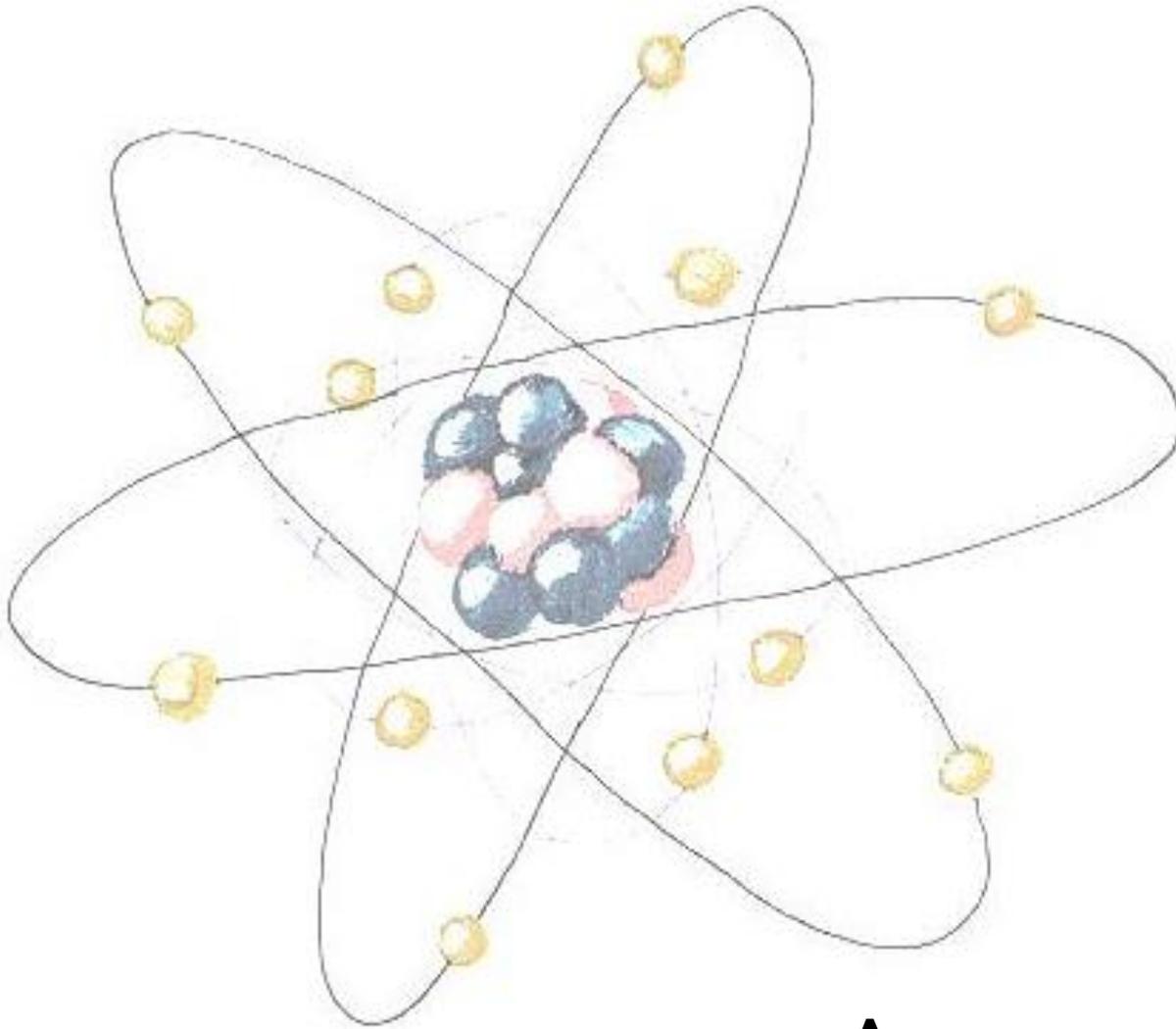
- **The first impression:** Being in a science journal is fun, so emphasize this at your first meeting. Discuss science expos, fundraising events, recognitions, and many other exciting and eye-opening events they might participate in as JOURNYS members. Speak loudly and clearly (avoid monotone!). Your audience will become more interested if they see that you are passionate and excited about the science journal.
- **Make meetings fun:** Be creative in capturing your audience's attention. Experiment with different ways to be fun and dynamic.
 - **Music:** Keeping music on before the meeting starts can ease up the environment and reduce awkwardness among new members.
 - **Food:** Everyone knows that high schoolers will come to meetings that have free pizza. If used sparingly, this can be effective in maintaining regular attendance. Be sure that you check with administration and your staff advisor before bringing food to a meeting.
 - **Chat sessions:** Splitting into groups at the end or middle of the meeting is also a great way to get to know each other and meet new people. This is especially useful if you have a large number of staff. By splitting into smaller chat sessions, meetings become more personal and comfortable. Group leaders can ask questions about member's goals, objectives, interests. They also can take any suggestions/ideas, answer specific questions, and conduct ice breaker games.
 - **Environment:** Keep your meetings casual. Ultimately, your JOURNYS chapter should be like a family, and meetings are the ideal time for bonding.
- **T-shirts and spirit gear:** Consider designing club shirts or sweaters with the JOURNYS logo (and perhaps a witty slogan). To spice things up a bit, hold a design/slogan contest and vote for the best T-shirt. Also, make sure you contact JOURNYS headquarters before getting the shirts made.
- **End the year with a flourish:** As your chapter expands, you can compile pictures into a humorous end-of-the-year slideshow or make a video montage of your chapter's progress over the years. These types of fun media projects are great for attracting new members too!

Fundraising*

While fundraising within a chapter is optional, any money raised would greatly aid in covering the publishing, printing, and distribution costs for each issue. Your chapter may also opt to raise its own money for T-shirts, pizza at meetings, and other non-publishing activities. In either case, you can use fundraising as a great tool to raise both money and spirit.

Look for local businesses and restaurants that may be interested in hosting a fundraising event, and donating a percentage of the proceeds to JOURNYS. You can also try car washes, bake sales, and other similar events. When organizing any fundraising activity, contact JOURNYS headquarters and the administration at your school well in advance.

***NOTE:** In addition to fundraising, contact your school's administration or ASB. They may be able to sponsor your activities on campus.



Appendix

JOURNYS 2019-2020

Review

A review is a balanced, informative analysis of a current issue in science that also incorporates the author's insights. Reviews are classified into several categories, as listed below:

A **research review** presents new research, developments, or advances in the scientific community. It should be based on information from the experts and media but not merely summarize the research or combine multiple sources. A research review should also add a dimension of personal commentary, and it should discuss how the findings have broader significance within a field or in society. In addition, it should discuss material in a manner that is accessible and understandable to a high school student, providing detailed explanation of relevant principles, mechanisms, vocabulary, etc. as necessary.

A **topic review** educates readers about a scientific concept or issue. Rather than providing only surface-level information about the subject, it should provide in-depth discussion of the material and detailed explanation of relevant mechanisms, principles, vocabulary, experiments, etc. At the same time, a topic review should also be written in a manner that is accessible and understandable to a high school student.

A **media review** features discussion of books, films, or exhibitions of scientific nature. It should discuss the main points posed by the work, supplemented by key quotations and references. In addition, a media review should also include the author's own insightful analyses, evaluation of these ideas, and his or her response to the work.

A **policy review** highlights scientific issues that have potential or realized implications in politics, the economy, etc. It should provide comprehensive views of both sides of the issue and present them in a wholly unbiased manner. Additionally, a policy review should include detailed explanation of all scientific and political background necessary for the reader to comprehend the issue.

An **experience review** relates the author's own experience participating in a science fair, competition, or internship, or other program. While part of the article may be dedicated to the research or preparation done prior to the experience, the author should principally focus on details about the event itself.

Original Research

An original research article presents the author's own experimentation and findings. The paper must include the following sections (with subheadings or additional sections as needed): abstract, introduction, methods, results/conclusion, and discussion. The article should also include any supporting figures, graphs, pictures, etc. Background information and terminology necessary to understanding the experiment should be explained as well, but sources must be cited.

Op-Ed

An op-ed is a persuasive article or a statement of opinion. In an op-ed article, the author makes one or more claims and supports them well with evidence, arguments, quotations, etc. Depending on the topic discussed, an op-ed may require clear explanation of background information, principles, terminology, etc.

DIY

A DIY piece introduces and provides instruction for a project or procedure of interest to readers. The project can serve a variety of purposes, such as orienting the reader to a specific field or enhancing the reader's understanding of a concept. For example, an author involved in robotics could teach readers how to create a simple robotic contraption. A DIY piece should contain very clear, thorough instructions accompanied by diagrams or pictures if necessary. Outside sources may be used for inspiration in creating projects as long as they are cited.

Sample Article Topics

Sample Topics for Each Article Type:

Several ideas under each article type are listed. Hopefully, these examples make the distinctions between each category a bit clearer. There is also a list of recommended sources and tips at the end.

Feel free to use a topic that's listed here; in fact, we'd like to see many of these evolve into articles. However, you may be competing with other authors to see who writes the best article on the topic.

Research Review (recent developments)

1. Comet impacts may have provided source of water on Earth
2. Faster-than light neutrino? Background, experiments, implications
3. Cloning technique makes working stem cells

Topic Review (existing phenomenon, concept)

1. Anabolic steroids—mechanism of action and connection with effects (How do steroids work?)
2. Synesthesia and its speculated causes
3. Microfluidics

Media Review (scientific literature, films, etc.)

Ideas to find a good source--

1. Topics that interest you
2. Recommended by science blogs/articles
3. Profiles of research projects or scientists

Look at <http://www.sciencemag.org/site/feature/data/books/index.xhtml> for sample media reviews

Policy Review (implication of science issue in law/politics)

In policy reviews, there is a balance between explaining the scientific concepts and terminology and describing the legal issues involved

1. Thorium and the future of nuclear energy
2. Levels of air pollutants/aerosols
3. Cosmetics regulation
4. Offshore drilling

Experience Review (scientific pursuit you were involved in)

1. What you learned at a science program or competition
2. What you learned in a science class or internship

Original Research (conducted by yourself)

1. Projects done in outside labs, with professors, etc. (for TP students, AP chem projects are good sources)
2. Research projects should be completely original and at a level that qualifies for high school-division science fair.

**To look at some requirements for a science fair-level project, please access the GSDSEF website:
<http://gsdsef.org/home.asp>*

Op-Ed (advocates and justifies a viewpoint on a scientific issue)

**You can discuss controversial topics, but you must research them extremely thoroughly. Common mistakes with op-eds include over-simplifying an issue, trying too hard to impose your stance on others, and failing to account for the other side.*

If you are interested in writing an op-ed, it is strongly recommended that you find someone who is willing to write for the other side, or at least review the article from the opposing viewpoint.

DIY (instructions for a mini-project, procedure, etc.)

1. Should be easy to follow; feel free to provide relevant diagrams/pictures
2. End product should teach us about something in science
3. How to make a simple robotic contraption, build a model for a process, etc.

Helpful places to look:

I. Starting points for interesting ideas:

- Websites:
<http://www.sciencedaily.com/>, <http://www.time.com/time/> (Science, Tech, and Health sections), news sites like Yahoo!, CNN, etc.
- Yourself:
What have you always been wondering about?
- Your classes, textbooks, teachers:
They might mention something interesting that you'll want to explore more. More reason to pay attention!
- Your extracurriculars

2. To access professional sources and reports on your idea:

Remember, you are not just paraphrasing what the sources listed above mention; you are also discussing the science involved and explaining it in-depth. So, you should be consulting professional scientific studies/journals, college textbooks, etc.

- Scientific journals:
<http://www.nature.com/nature/index.html> (Nature),
<http://www.scientificamerican.com/> (Scientific American),
<http://www.sciencemag.org/> (Science),
...there are many more out there!
- Databases:
Google Books, Google Scholar, PubMed (<http://www.ncbi.nlm.nih.gov/pubmed/> for medical research), etc.
- Libraries:
Some professional sources require a subscription to view articles. Don't pay; libraries in many universities have virtually universal access to these publications so you can take a trip there.

Or, try looking for relevant info through the Directory of Open Access Journals (DOAJ) (<http://www.doaj.org/>)

Other Tips:

*Make sure your chosen topic is original; you want to teach readers something new. If in doubt about the originality of a topic, feel free to ask. Or, check previous issues (www.journys.org).

*If your topic has already been discussed in a previous issue, just make sure you focus on something a bit different within the topic. Many topics are quite broad, so adjusting your focus is not hard. Alternatively, discuss new developments regarding your topic, or explain something a bit more in-depth.

*The following is a list of topics frequently used by authors. If you would like to write about any of these, please read the previous article in the listed issues to avoid focusing on entirely identical material.

GMOS/genetic testing/cloning (Spring 2009, Fall 2009)

Global warming/green technology (Fall 2009, Fall 2010, Spring 2011)

Effects of caffeine/energy drinks (Spring 2011)

Sleep deprivation/stress/aging (Fall 2009, Fall 2010, Spring 2011)

Medicinal properties of marine substances (Fall 2009, Spring 2011)

Potential Cancer/HIV cures (Fall 2009, Fall 2010, Spring 2011)

Synesthesia (Spring 2012, Spring 2013)

Flu/colds/immunizations (Winter 2009, Fall 2010)

Subconscious/manipulating the brain/psychological studies (Winter 2009, Spring 2011)

How to Write a Stunning Article

By Ling Jing

Choosing a topic

- Choose a **unique** subject. We want to teach people something new!
- Write about something that **interests you**.
- Go deeper and be more specific than the school textbooks.
- Look to newspapers or science magazines for inspiration.

Writing and editing the article

- Gather reliable resources. Use books and magazines as well as websites, and make sure you cite your sources as you go along.
- Take notes from your sources and work off of them as you write your article so you don't plagiarize, and so your article is more cohesive.
- Outline and plan out your article before you begin for better flow.
- Grab your reader's attention with the first line! Try an anecdote, witty remark, etc. But make it relevant.
- Write for your peers. Be appealing to the average student. Ask yourself, as an outsider, would I be interested, or would I be bored to tears?
- Sound professional and coherent, but don't use an overly scholarly and wordy style.
- Be understandable, clear, and insightful.
- Explain concepts from the way we learn it in class, but go really in depth.
- Use proper grammar. Be consistent with standards in your English class.
- Be accurate (of course). Every piece of info should have a reliable source.
- Look over your article several times before submitting it. As in English class, correct grammatical and spelling errors, clarify some info, work on phrasing and word choice, etc if needed.

Contact Information

Questions or concerns? Get in touch with us right away!

Questions about funding, interschool management, finances, outreach, SRB:

Jonathan Lu and Claire Wang

president@journys.org

JOURNYS Co-presidents

Questions about print issue production, editing processes:

Katherine Iz

eic@journys.org

JOURNYS Editor in Chief

Questions about graphics process, digital art, design:

Seyoung Lee

graphics@journys.org

JOURNYS Graphics Manager

Anna Jeong and Daniel Kim

design@journys.org

JOURNYS Design Managers