



NanoDaysTM

The Biggest Event for the Smallest Science!

2012
NanoDays
Planning Guide

Credits and Rights



This guide was prepared with funding from the National Science Foundation under Award Nos. 0532536 and 0940143. Any opinions, findings, and conclusions or recommendations expressed in this document are those of the authors and do not necessarily reflect the views of the Foundation.

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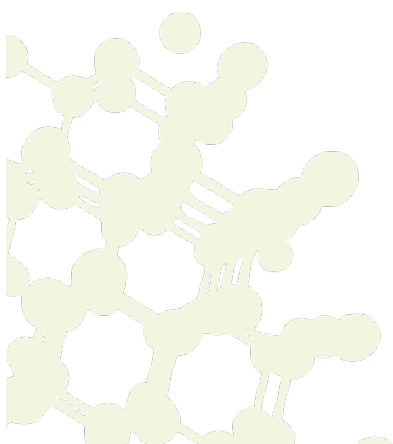


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Introduction

NanoDays

NanoDays is a nationwide festival of educational programs about nanoscale science and engineering and its potential impact on the future. NanoDays events are organized by partners in the Nanoscale Informal Science Education Network (NISE Net), and take place at over 200 science museums, research centers, and universities across the country from Puerto Rico to Hawaii. NanoDays engages people of all ages in learning about this emerging field of science, which holds the promise of developing revolutionary materials and technologies.

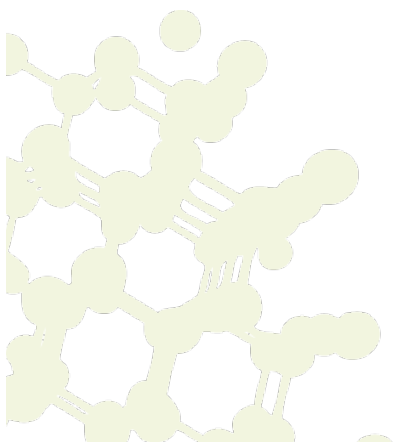
The first nationwide NanoDays events took place in 2008 with more than 100 institutions participating. Since then, NanoDays has grown to over 200 events, and continues to grow; NISE Net is distributing 225 physical kits in 2012.

NISE Network

The Nanoscale Informal Science Education Network (NISE Net) is a national community of researchers and informal science educators dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology.

In 2005, the Network was funded for an initial five-year period through a cooperative agreement from the National Science Foundation (NSF). In 2010, NSF funding was renewed for a second five-year term. During the first five years, the NISE Network built a nationwide collaborative network of informal science educators and research outreach specialists that work together to raise public awareness, understanding, and engagement about nano. The Network has created a range of educational products including: educational programs for a diverse range of audiences; exhibits; media (videos, posters, books and multimedia experiences); a website with an online catalog of freely downloadable activities (*nisenet.org*); a public website (*whatisnanano.org*); and NanoDays, an annual public outreach event that reaches hundreds of thousands of people each year.

In the next several years, the Network will continue to increase the capacity of the informal science education community to engage the public in nanoscale science, engineering, and technology, and to form partnerships with research centers. At the same time, the NISE Network will continue to develop and distribute educational products designed to raise public awareness and understanding of nanoscale science, engineering, and technology.



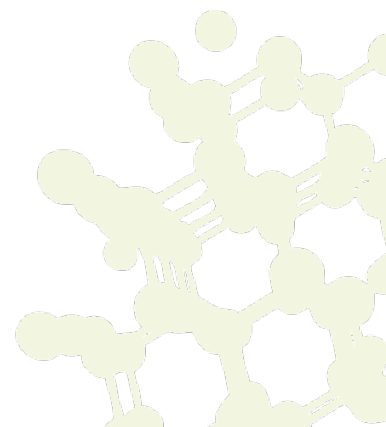
How to Participate in NanoDays 2012

Being part of NanoDays is easy: all you need to do is host a day or a week of activities on the theme of nanoscale science, engineering, and technology during NanoDays: March 24 - April 1, 2012. The NISE Network has developed a variety of resources to help you, including NanoDays kits and other products in our online catalog.

Every year, over 200 NanoDays events are held across the country, including hands-on activities and demos, speaker events, theater presentations, art shows, lab tours, lectures, deliberative forums, and science cafes. Through NanoDays, the NISE Network reaches audiences across a diverse geographic distribution as well as people with disabilities and under-represented audiences in STEM (science, technology, engineering, and math).

Many NanoDays celebrations combine simple hands-on activities with events exploring current research. In addition to the materials provided in the NanoDays 2012 kit, there are many more educational experiences in the NISE Net online catalog (www.nisenet.org/catalog). One popular activity involves visitors working together to build a giant balloon model of a carbon nanotube. Other activities explore unexpected nanoscale materials and properties: sand that won't get wet even under water, water that won't spill from a teacup, and a liquid that acts like a magnetic solid.

Some NanoDays participants host science cafés or public forums with discussions about the risks and benefits of particular applications of nanotechnology. Some participating universities host public tours of their laboratories that work with nanoscale science and technology. For more ideas about what you could do for NanoDays, please read through this guide and browse our online catalog.



NanoDays Kits

Each year, the NISE Network develops and distributes kits with hands-on activities and other educational materials designed to introduce the public to basic concepts of nanoscale science, engineering, and technology. NanoDays kits are ready to use, and include all the materials you need to hold a successful event. Each year, the NanoDays kits include new activities and a few returning favorites.

Physical and Digital Kits

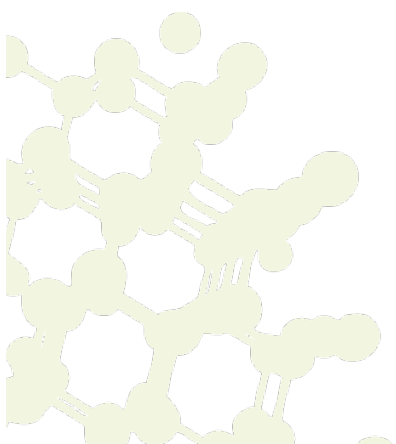
NISE Net produces two kinds of NanoDays kits: the physical kit and the digital kit. Both kits provide the same information about hands-on activities, and include guides and tips to help you stage your NanoDays events. The physical kit contains all materials and supplies for each activity and includes physical signage; digital kits include downloadable guides and printable graphic files.

Physical Kit Eligibility: These kits are designed for informal science educational institutions (such as museums and research center outreach programs) within the United States.

Digital Kit Eligibility: Free online download is available to anyone who registers on nisenet.org. The digital kit is designed particularly for international locations outside the United States, K-12 educators, libraries, and other educational organizations. Most NanoDays activities use inexpensive, readily-available supplies.

Physical kits are distributed annually on an application basis to informal science educators and research education specialists within the United States, who deliver these programs and activities to public audiences. Kit recipients are expected to provide feedback about their NanoDays events using an online report. Kit recipients also receive support and advice from regional coordinators that are located at key institutions, or hubs, across the country.

This planning guide prescribes very little about the exact nature of your NanoDays event—for a good reason. NanoDays events reflect the capacity, needs, and resources in each community. There is no one kind of event that is most successful, and each community is encouraged to discover what is best for its own situation and public. Enjoy these materials as you help to celebrate NanoDays, the biggest event for the smallest science!



Key Concepts for Engaging the Public in Nano

Nanoscale science, engineering, and technology (or “nano,” for short) is a new, interdisciplinary field of research and development. Just within the past couple decades, scientists have developed methods and tools that allow them to explore some of the most fundamental aspects of our natural world, and to develop new materials and technologies. Some experts think that nanotechnologies may transform our lives—similar to the way that the automobile and personal computer changed the way we live and work.

The great potential of nanotechnology comes from its tiny size. Nano research and development happens at the scale of atoms and molecules. Some things have different properties at the nanoscale, which allows scientists and engineers to create new materials and devices.

But nano isn’t just in the lab—we can already find it in our homes, stores, and hospitals. In the next 10 years or so nanotechnologies and materials will become even more present in our lives. We’ll find nano in everyday products, such as computers, food, cosmetics, and clothing. Nano might also be part of solutions to big problems, helping address needs such as clean energy, pure water, and cancer treatments.

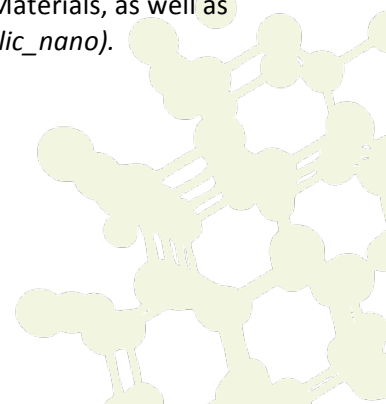
It’s important for everyone to be informed about nanotechnologies, because they’ll be an important part of our future. Like any technology, nanotechnologies have costs, risks, and benefits. Since nanotechnologies are still developing, we can influence what they are and how they’re used. We all have a role in shaping how nanotechnologies become part of our future.

Nano is a big and exciting field of study, and there’s a lot to know. But the most important concepts of nanotechnology are also some of the most important concepts for understanding our natural world, the process of science and engineering, and the ways that society and technologies are interconnected.

To begin to understand nano, we can explore four key concepts:

1. **Small and different:** Nanometer-sized things are very small, and often behave differently than larger things do.
2. **Studying and making tiny things:** Scientists and engineers have formed the interdisciplinary field of nanotechnology by investigating properties and manipulating matter at the nanoscale.
3. **New technologies:** Nanoscience, nanotechnology, and nanoengineering lead to new knowledge and innovations that weren't possible before.
4. **Part of our society and our future:** Nanotechnologies have costs, risks, and benefits that affect our lives in ways we cannot always predict.

These ideas are presented in more detail in the document *Engaging the Public in Nano: Key Concepts in Nanoscale Science, Engineering, and Technology*, which can be found in the Training Materials, as well as in the NISE Net online catalog (www.nisenet.org/catalog/tools_guides/engaging_public_nano).



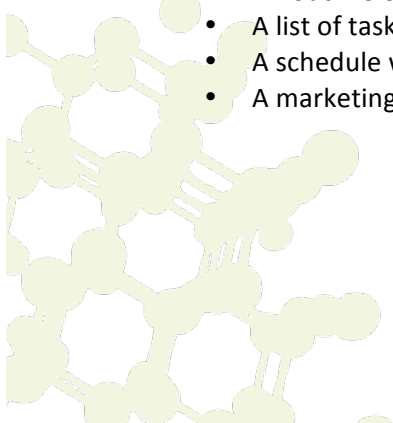
Planning Timeline

October-December

- ☐ Apply for your NanoDays kit. Applications open in October.
- ☐ Award of NanoDays physical kits is typically made in December. You should expect to hear about the status of your kit application toward the end of the calendar year.
- ☐ Subscribe to the monthly *Nano Bite* electronic newsletter:
<http://www.nisenet.org/community/nanobite>
- ☐ Find your regional hub contact and introduce yourself:
<http://www.nisenet.org/community>
- ☐ Make contact with the individuals and institutions that might be interested in organizing a NanoDays event in your community.
- ☐ Schedule a kickoff meeting to organize your event. Topics for the agenda include:
 - What are your goals for holding a NanoDays event?
 - Who is your target audience?
 - What kinds of events and activities would reach this audience and meet your goals?
 - Who will lead the planning of the event? Who else will be involved?
 - How will the collaborators communicate?
 - What dates will you hold your event?
 - Do you need funding to support the event? If so, where will it come from?
- ☐ Choose a date and add your NanoDays event to institutional calendars.

January

- ☐ Your NanoDays kit will arrive in January. Explore the materials in the kit with your staff and your collaborators.
- ☐ Finalize the decision about the type of event to be conducted, and create a plan. This can include:
 - A brief description of the event (type of activities, dates, times, location)
 - A budget (and local fund-raising plan, if necessary)
 - An outline of the event goals (and a plan for evaluating how well the event meets the goals)
 - A list of tasks and identification of who is responsible for what
 - A schedule with the major milestones for preparation
 - A marketing strategy



- ☐ Review your plans with your facility manager and/or health and safety officer. Many facilities have guidelines or restrictions that might affect the logistics of your event, or the demonstrations and activities you can include. You might ask about:
 - Restrictions related to use of water, open flames, chemicals, or hanging or suspended objects
 - Parking for visitors
 - Cleaning and sanitation service schedules
 - Security needs

February

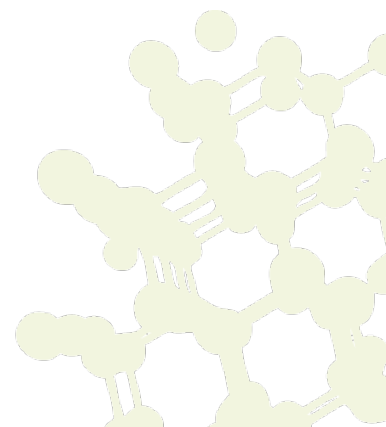
- ☐ Talk with collaborators about potential sources of staff and volunteers for the event.
- ☐ Draft an activity floor plan. Keep in mind that some activities need water, some can be messy, and some are better with a place to sit down.
- ☐ Identify, invite, and finalize speakers and presenters.
- ☐ Work with your colleagues to create final marketing materials. Customize the sample NanoDays press materials, flyers, and ads for your event.
- ☐ Implement your marketing plan and begin promoting your event. Coordinate efforts among your own institution's marketing and promotional staff, and your collaborators'.

March

- ☐ Continue to implement your marketing plan.
- ☐ Create additional tabletop signs (if you are adding activities beyond those provided in the kit).
- ☐ Consider creating signs or handouts listing activities by time or location.
- ☐ Do a test run of any activities you are uncertain about.
- ☐ Hold a staff/volunteer training event in advance or on the day of the event.
- ☐ Meet with guest speakers about your audience and expectations. Make final preparations for evaluation of your event (staffing, supplies, floor plan, schedule)

NanoDays week

- ☐ Hold your NanoDays event!

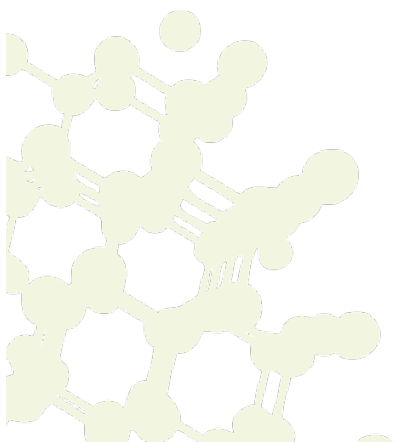


After NanoDays

- ☐ Celebrate your work!
- ☐ Debrief your NanoDays event with your planning team. Identify elements of your event that were successful, as well as things you might want to change next time.
- ☐ Fill out your NanoDays event report form (www.nisenet.org/nanodays). The Network uses this information to report back to NSF about project activities and to inform the development of future materials and activities.
- ☐ Document your event for your future use. Save copies of programs, posters, and any newspaper or media coverage of your event.
- ☐ Share information and images using the NISE Net links on social networking outlets, such as the Network's Facebook page (www.nisenet.org/community). Other ways to share are described on www.nisenet.org/nanodays.
- ☐ Write a short thank you note with a summary of your successes and send it to your collaborators, as well as sponsors and volunteers.
- ☐ Discuss future plans with collaborators and colleagues. Choose an event date for next year and get the date on relevant community and organizational calendars.

Year-round

- ☐ Incorporate the NanoDays materials into other activities. Many NISE Net partners use the kit materials in seasonal camps, afterschool clubs, science festivals, and other outreach activities.
- ☐ Check out additional resources in the online catalog to try (www.nisenet.org/catalog)
- ☐ Contact your regional hub coordinator to find out about any additional professional development opportunities that may be happening in your region.
- ☐ Leverage new collaborations you have made through NanoDays for other purposes.
- ☐ Look for next year's kit application in the Fall! Every year, the NanoDays kit has new activities to help you engage the public in nanoscale science, engineering, and technology.



Finding Collaborators

We strongly encourage you to collaborate with at least one other institution in your community to plan and conduct your event. We encourage partnerships among informal science educators, scientists, and engineers because these relationships can form a potent combination: a sophisticated understanding of how to engage the public, paired with a deep background in the science and technology of nano. Even if you already have some established collaborators in your area, it is a good opportunity to make some new friends and long-term relationships.

Possible collaborators for your NanoDays event

- Museums
- Nano research centers
- Individual nanoscientists at a local college or university
- High school science teachers
- Local technology or nanotechnology businesses
- Libraries
- Community organizations involved in youth development and out-of-school programs for the public (Boys and Girls Clubs, Girl Scouts, 4H, afterschool programs)
- Schools
- Local government agencies

Potential sources of volunteers

- College students, classes, or clubs with community service requirements
- High school science clubs, or students suggested by local high school science teachers
- Local chapters of professional science and engineering groups such as:
 - American Chemical Society (ACS) (<http://www.acs.org>)
 - Materials Research Society (MRS) (<http://www.mrs.org>)
 - National Society of Black Engineers (NSBE) (<http://www.nsbe.org>)
 - Society for Advancement of Chicanos and Native Americans in Science (SACNAS) (<http://www.sacnas.org>)
 - Society of Women Engineers (SWE) (<http://www.swe.org>)
- Drama and theater students
- Local industry staff and retirees

More Resources

Regional Hub Contacts can help suggest collaborators:

<http://www.nisenet.org/community>

Small Steps, Big Impact: A Guide for Science Museum Leaders Developing Education Outreach Partnerships with University-Based Research Centers:

http://www.nisenet.org/catalog/tools_guides/small_steps_big_impact

Bringing Nano to the Public: A Collaboration Opportunity for Researchers and Museums:

http://www.nisenet.org/catalog/tools_guides/bringing_nano_public_collaboration_opportunity_researchers_museums

Resources for researchers:

<http://www.nisenet.org/rise>



Training Staff and Volunteers

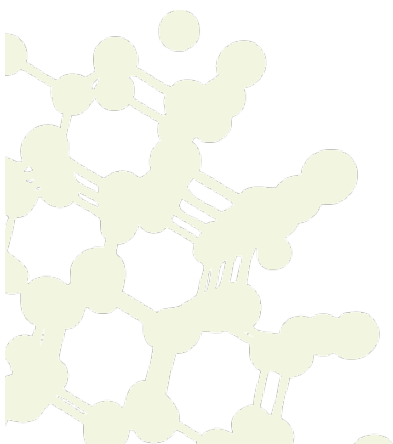
The 2012 NanoDays kit includes training materials you can use with the staff and volunteers who will be helping make your event a success. Many local NanoDays events include a variety of partners, including museum staff and volunteers, researchers, students, and others.

The 2012 NanoDays kit includes volunteer and staff training materials:

- *NanoDays Orientation* slideshow and notes
- *A Museum Presentation* videos and guide
- *Tips for Engaging Visitors* worksheet

These resources can help give both new and experienced staff and volunteers an overview of the event and suggestions for engaging their audience in nano. The NanoDays training materials are all available in the online catalog:

http://www.nisenet.org/catalog/tools-guides/training_materials



Tips for Engaging Visitors

Greet visitors

Say “hello,” make eye contact, and smile. Simply looking like you’re available and friendly will bring visitors to your station.

Let visitors do the activity

As much as possible, let visitors do the hands-on parts of the activity, and let them discover what happens. (If your activity has a surprise, don’t give it away!)

Share what you know

Use clear, simple language. Focus on one main idea—don’t feel that you need to tell them everything at once! Keep the information basic for starters, and be willing to expand on an idea for interested learners.

Use examples from everyday life

Familiar examples can help explain abstract concepts. Be aware of visitors’ abilities, keeping in mind that children do not have the same skills or vocabulary as adults.

Ask questions

Help visitors observe and think about the activity. Try to use questions that have more than one answer, such as:

- What do you see happening?
- Why do you think that happened?
- What surprised you about what you saw?
- Does this remind you of anything you’ve seen before?

Be a good listener

Be interested in what visitors tell you, and let their curiosity and responses drive your conversation forward.

Offer positive and encouraging responses

When visitors haven’t quite grasped a concept, you might say, “That’s a good guess,” or “Very close, does anyone else have something to add?” Don’t say, “No” or “Wrong” to visitors’ observations or explanations.

Share accurate information

If you aren’t sure about something, it’s OK to say, “I don’t know. That’s a great question!” Suggest that visitors go to whatisnano.org to learn more about nanoscale science, engineering, and technology.

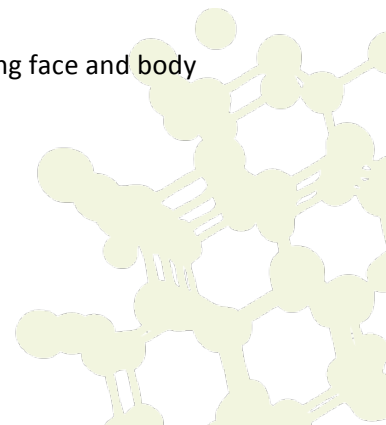
Remain positive throughout the interaction

Remember that nonverbal communication is important, too. Try to maintain an inviting face and body language.

Thank visitors

As your interaction ends, suggest that they explore other NanoDays activities.

HAVE FUN! ☺ A positive experience will lead to learning.



Guest Presentations

Expert speakers can be a wonderful addition to your NanoDays event. With extra preparation and support, guest presentations can be a great experience for both the speaker and the audience.

Here are some suggestions to help make things go smoothly:

- When inviting scientists to participate, be clear about their role and type of experience you're seeking.
- Familiarize invited guest speakers with your expected audience, including anticipated ages, level of background knowledge, and expectations about audience involvement.
- Discuss the content and length of the planned presentation.
- If possible, share some of the NanoDays training materials, such the videos or presenter tips.
- Encourage your invited speaker to use plain language, and avoid jargon and technical expressions.
- Discuss details about your facility, including room size, seating style, and AV equipment.
- If possible, ask to review a draft slideshow or notes in advance and discuss the planned presentation together.
- Schedule time before the presentation to work out any audio visual and technical issues.
- Prepare questions that may help stimulate audience discussion.

Tips for guest speakers

Public audiences find emerging science and technology interesting. Keep in mind, however, that only a small percentage of the population knows much about this topic. Here are a few pointers for communicating with the public about nanoscale science, engineering, and technology.

Know your audience

The more you know about your audience, the better you can adapt your presentation to their interests. Keep in mind the diversity of your audience's experience and backgrounds. Remember that many people attend events in family groups, which can include a wide range of ages.

Keep the message simple

Come up with one "big idea" you want the audience to take away from the experience, and make sure your presentation reiterates and reinforces it in different ways. Define your terms, avoiding jargon and acronyms as much as possible. Check in with your audience periodically to see if they are following you.

Use familiar analogies

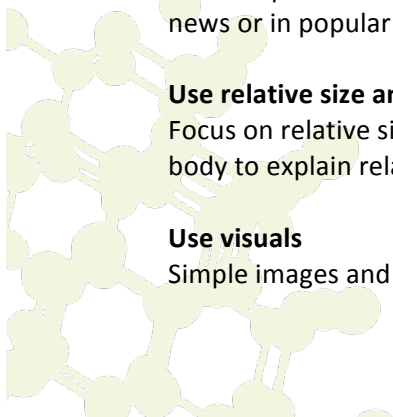
Use comparisons to everyday experiences. Explain how the topic relates to something that's been in the news or in popular culture.

Use relative size and scale

Focus on relative size and scale rather than exact measurements. Consider using parts of the human body to explain relative scale.

Use visuals

Simple images and models will reinforce and clarify your message.



Use several modes of presentation

In addition to talking, you can include demonstrations, videos, and pictures. You can involve the audience by providing objects to pass around, asking questions, doing brief experiments, providing hands-on activities, and playing games.

Involve the audience in the processes of science

Encourage your audience to observe, predict, and explore by asking them questions:

- What do you think will happen when . . . ?
- Were you surprised?
- Why do you think that happened?
- What if you tried . . . ?
- Can you think of any practical uses for this?
- What about unintended consequences?

Be friendly and approachable

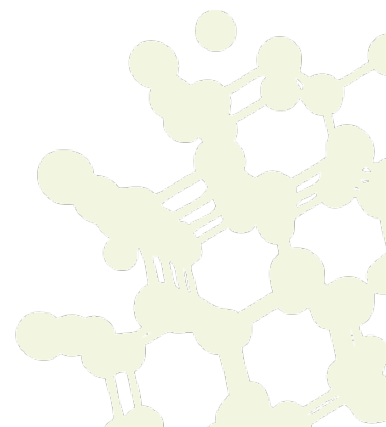
Remember to make eye contact, smile, and let the audience know who you are. If you're a scientist, consider including personal stories about your work life and your career decisions.

Be prepared to answer common questions

But don't be afraid to let your audience know if you don't know the answer to their question.

Share ways to learn more

Remember that your presentation is only one exposure that people will have to nano—it's not the end of their learning. Help the audience connect to other opportunities for more exploration. A good place for them to start is *whatisnano.org*.



More Training Resources

Some of the volunteers and staff for your event may be unfamiliar with nanoscience and engineering, and would benefit from a basic introduction to nano. The NISE Network website features a catalog of online resources for professionals. We also have a public website *whatisnano.org* with direct-to-public resources created by the NISE Network and other institutions, which we encourage you to share with your staff, volunteers, and public audiences.

There are many training resources available through *nisenet.org*, including some that may be more appropriate for existing museum staff and volunteers who may be unfamiliar with nano content.

Below is a list of useful training materials:

Public Website

<http://www.whatisnano.org>

Nano 101 for Staff slide presentation

http://www.nisenet.org/catalog/tools-guides/training_materials

Introductory materials

A collection of videos, cart and stage presentations, and articles introducing nano:

<http://www.nisenet.org/catalog/tools-guides/intro-to-nano>

Guidelines for creating accessible programming

<http://www.nisenet.org/catalog/tools-guides/universal-design-guidelines-programs>

Web seminar

The National Science Teachers' Association archived web seminar on nanoscale science, led by Dr. Lisa Regalla:

http://learningcenter.nsta.org/products/symposia_seminars/NSDL4/webseminar2.aspx

DECIDE discussion game

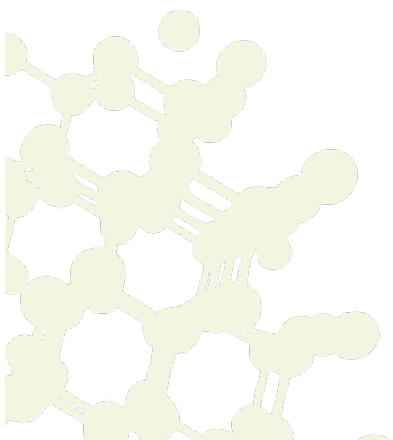
This game can be used to train staff to talk about controversial topics:

<http://www.playdecide.eu/play/topics/nanotechnology>

NanoVenture board game

This game can be used to help staff consider the relationship between nanotechnology and society:

<http://www.nisenet.org/catalog/programs/nanoverventure>



Ideas for Your NanoDays Event

NISE Net partners have contributed many ideas that might inspire you as you start to think about your NanoDays event. In general, the more you can tailor your event to the unique strengths and resources of your community, the more compelling it will be to your audience.

Offer a day or week of activities

In addition to the materials contained in your NanoDays kit, ideas for programs and demonstrations can be found online:

<http://www.nisenet.org/catalog>

Host a public presentation or demonstration by a nanoscientist

If you don't already have a local connection, your regional hub leader can help you find appropriate scientists or student groups:

<http://www.nisenet.org/community>

Host a theater presentation

Work with local actors or theater students to do a creative performance addressing nano themes. NISE Net has theater programs designed for families, as well as programs that focus on issues suitable for adult audiences. Scripts and videos are available online:

http://www.nisenet.org/catalog/programs/museum_theater

Host a science café

A science café is an event that brings scientists and an adult audience together in an informal setting like a restaurant, pub, or coffee shop:

<http://www.nisenet.org/catalog/tools-guides/science-cafe-guide>

Host a forum

Invite an adult audience to learn about nanoscale science and engineering, and then participate in small-group discussions about the societal implications of nanotechnology:

<http://www.nisenet.org/forums>

Set up a magnification station

Set out interesting objects for visitors to explore with magnifying glasses and microscopes. Share images of a world too small to see with just our eyes. A collection of images is available here:

http://www.nisenet.org/viz_lab/image-collection

Create a reading area

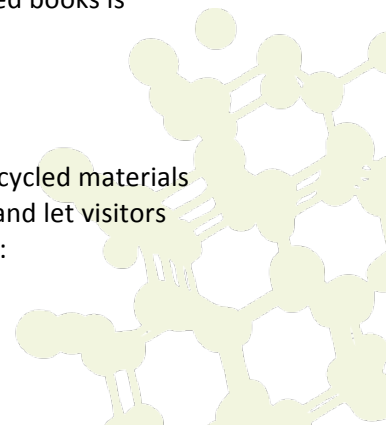
Create a small quiet spot at your event displaying books for children and adults on nano topics; some children's books are suitable for read-aloud storytime presentations. A list of suggested books is available here:

http://www.nisenet.org/category/catalog/tools_guides

Make imaginary “nanobots” from scrap materials

Encourage visitors to create models of future nano inventions. Supply discarded or recycled materials (cardboard, paper, containers) along with craft materials (scissors, glue, string, tape) and let visitors imagine the possibilities. You can use the following program to help guide the activity:

http://www.nisenet.org/catalog/programs/shrinking_robots



Show fun, educational videos

There are many great videos available for public audiences:

<http://www.nisenet.org/catalog/media>

<http://pbskids.org/dragonflytv/nano>

Host an open house at a nano research center

This event could include tours of laboratories, demonstrations and lectures by research faculty, and group activities led by students and faculty.

Display images of the nano world created by nanoscientists

Many scientists have created beautiful images of the nano world. You can invite a scientist or a lab to display their artistic imagery.

Sit with a scientist

Create a space at your event where visitors can talk informally with a real nanoscientist and ask questions. Prepare some signage and questions to help get discussions started.

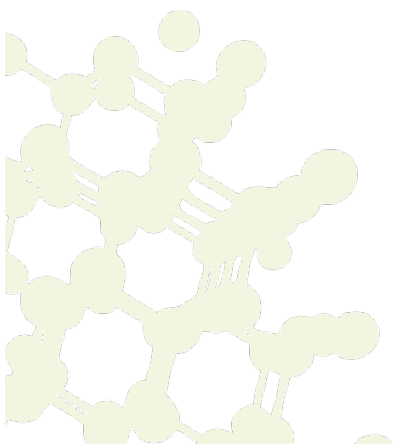
Create a collaborative nano stained glass artwork

Create a collaborative stained glass window with pre-made nanoparticle solutions containing silver or gold and have visitors create a take-away stained glass card. The program is available as both a cart program or group program formats, also listed below is an example of a large collaborative project:

http://www.nisenet.org/catalog/programs/nanoparticle_stained_glass_cart_program

http://www.nisenet.org/catalog/programs/nanoparticle_stained_glass_classroom_program

http://www.nisenet.org/blogs/network_news/nano_stained_glass_collaboration_madison_wi



Additional Resources

The NISE Network website features a catalog of online resources designed for professionals. The online catalog includes educational experiences for you to implement with the public, as well as resources to prepare you and your staff. We also have a public website (*whatsnano.org*) with resources created by the NISE Network and other institutions, which we encourage you to give to your public audiences.

NISE Network Online Catalog

Educational resources for professionals

Programs and activities:

<http://www.nisenet.org/catalog/programs>

Training materials:

http://www.nisenet.org/catalog/tools-guides/training_materials

Intro to nano for educators:

<http://www.nisenet.org/catalog/tools-guides/intro-to-nano>

Tools and guides:

http://www.nisenet.org/category/catalog/tools_guides

Spanish translations of NanoDays and other educational products:

<http://www.nisenet.org/catalog/spanish>

Guide for museums partnering with researchers:

http://www.nisenet.org/catalog/tools_guides/small_steps_big_impact

Adult programs:

<http://www.nisenet.org/catalog/forums>

Resources for K-12 teachers:

<http://www.nisenet.org/community/k-12-teachers>

Promotional materials:

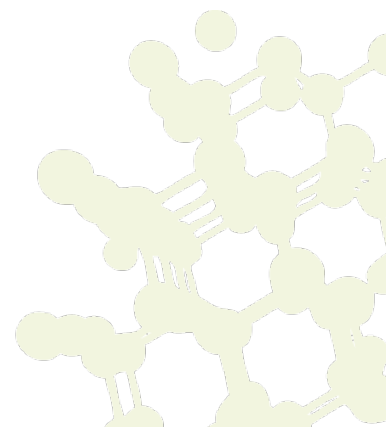
<http://www.nisenet.org/PRmaterials>

Media, including videos, images, print materials, and podcasts:

<http://www.nisenet.org/catalog/media>

Frequently Asked Questions about the online catalog:

<http://www.nisenet.org/faq>



Public Websites

whatisnano.org

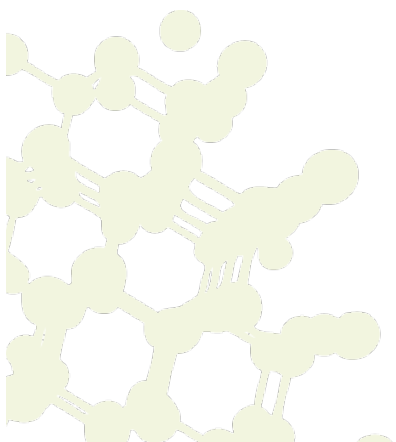
The NISE Network public website is a great place to send your visitors for more information about nano that they can explore after attending your event:

<http://www.whatisnano.org>

DragonflyTV Nano

This kid-friendly site includes online television episodes, interviews with nanoscientists, online games, and activities to try at home:

<http://pbskids.org/dragonflytv/nano>



Evaluating Your Event

The activities and materials included in your NanoDays kit have been evaluated with public audiences and reviewed by scientists and informal science educators.

The NISE Network also evaluates the impact of NanoDays as a national event. The evaluation team examines the reach of NanoDays nationally, and studies the impact of NanoDays on public awareness and understanding of nano. Findings from NISE Network evaluation studies are used to improve NanoDays materials, and to inform the Network of its impact on the public. Full reports are available online at www.nisenet.org/catalog/eval.

You may want to evaluate your local NanoDays event against your own event goals. Evaluating your local NanoDays event has several benefits. It can help clarify your goals, provide information that you can use to improve your event next year, gain funding or sponsorship for projects, and inform your understanding of your audience and the impact of your work.

If you're interested in learning more about evaluation, here is a selection of resources to help you get started.

NISE Network Program Evaluation Tools

The NISE Network program evaluation tools package includes guidelines and templates:

http://www.nisenet.org/catalog/tools_guides/nise_network_program_evaluation_tools_package

More about NISE Network evaluation efforts:

<http://www.nisenet.org/evaluation>

Informalscience.org

This site has a variety of useful resources, including a searchable annotated bibliography and museum-related evaluation reports:

<http://www.informalscience.org/knowledge/index.html>

http://www.informalscience.org/tools/case_studies.html

The National Science Foundation

NSF has a guidebook on project evaluation for researchers called *The User-Friendly Handbook for Project Evaluation*:

http://www.nsf.gov/pubs/2002/nsf02057/nsf02057_1.pdf

The University of Wisconsin Extension

This source created a number of guides designed to help their faculty better plan and implement useful evaluations:

<http://www.uwex.edu/ces/pdande/evaluation/evaldocs.html>

Their *Planning a Program Evaluation* guide in particular may be useful:

<http://learningstore.uwex.edu/Planning-a-Program-Evaluation--P1033C0.aspx>



NanoDays Reporting

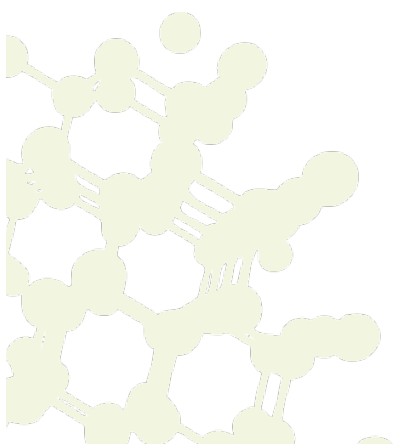
If you host a NanoDays event, we ask you to provide a brief report about your event and your experience. You are required to report on your event if you receive a physical kit from the Network. You'll find a link to an online reporting form on www.nisenet.org/nanodays. You typically have a month following NanoDays to fill out your report form.

Both the evaluation team and the NanoDays development teams use the NanoDays report to assess the current year's event, and to plan for NanoDays in coming years. Information from past NanoDays evaluations have led to changes in the kit's educational materials and in the other kinds of resources NISE Net provides. If you've participated in NanoDays before, you may have filled out a NanoDays report in the past. A new report is required each year you participate.

Only one report needs to be submitted per NanoDays event. If you co-hosted an event with another organization, using a single kit, only one organization needs to fill out the online report.

While the NanoDays report changes slightly from year to year, we are generally interested in learning what your NanoDays event was like, whom you collaborated with to plan and host the event, and how we might improve NanoDays in the future. In past years, questions have included: which activities you included in your event (including those from the kit, from other sources, and those you developed yourself), how long your event lasted, which other organization you worked with to host NanoDays, what goals your institution had for your NanoDays event, and how the NISE Net might help you meet those goals.

If you have more information about an event that you think was particularly successful, or a lesson learned, we're always interested in sharing those stories with the wider Network. Please contact your regional hub leader or info@nisenet.org to let us know more about your event.



Promotional and Marketing Materials

We've put together a collection of resources to help you promote and market your NanoDays event and other nano educational activities. We've designed everything to be as easy to use as possible, by creating templates, common software platforms, and simple instructions for adding your information and logos to generate attractive posters, banners, T-shirts, and other marketing materials.

We hope that you will use these resources so that your event helps us build a national awareness and a common "brand" for NanoDays and nano public outreach that we can all benefit from. However, if you'd rather use your own established materials and logos, that's fine, too.

All of the artwork and images shown on the following pages are available in electronic format on the USB thumb drive included in your Kit or online at www.nisenet.org/nanodays. We've provided bilingual (Spanish and English) options to help promote bilingual events. For questions regarding the usage of the NanoDays logo or other marketing materials, please send an email to nanodays@nisenet.org.

Writing Guidelines

We use "NanoDays" courtesy of the North Carolina State University, which owns the trademark for this term. When referring to NanoDays in writing, please use the capital "N" and the capital "D," with other letters lower-case, and include the "TM" as appropriate.

If you refer to the Nanoscale Informal Science Education Network (NISE Net) in writing, please capitalize the "NISE" and the "N" in Net: NISE Network, or NISE Net.

Color Specifications

Green, purple, and white are the primary colors of the NanoDays color palette. Tints from 100% to 10% work well, and give you a range of design options.



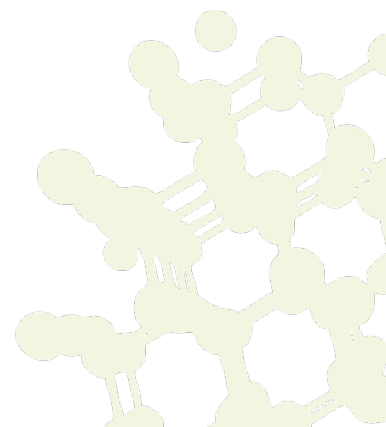
PMS 2627

C	77	R	73
M	100	G	23
Y	0	B	109
K	31		



PMS 390

C	22	R	193
M	0	G	205
Y	100	B	35
K	8		



Logos

We have created a new set of logos, which we prefer you use when creating new materials of your own. The new logos are included on the USB thumb drive. If you already have existing materials with the old logos, please feel free to continue to use them as-is.

New Logos



Old Logos



If you use the old version of the NanoDays logo, please keep the elements (the molecule and the "NanoDays" text) together as a unit, and try to match the green and purple (see color specs listed above). For black-and-white printing, the logo reproduces well in grayscale (100% black and 50% gray, or 100% black).

Web Icons

We have created a set of web icons for the NISE Net website (*nisenet.org*) and the public website (*whatisnano.org*) for your use. Please use these embeddable widgets to link to our websites from your institution's page.

Embeddable widgets are available at: <http://www.nisenet.org/PRmaterials>

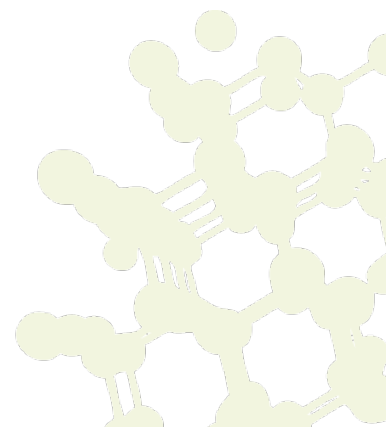
110 x 30 pixels



50 x 50 pixels



40 x 40 pixels



Sample Tag Lines

Here are some examples of tag lines you may want to use to promote your events and activities:

- The Biggest Event for the Smallest Science
- Big Nano Fun!
- Celebrating the Science of the Small
- Hey, Wait a Nanosecond!
- Imagine, Discover, and Explore a World Too Small to See
- The Next Big Thing is Super Small!
- Size Matters!
- Small is Different. Small is Beautiful. Small is Surprising.
- Small, Smaller, Nano!
- Zoom into Nano

Fonts

The NanoDays font is Calibri. Arial is a suggested alternative.

Calibri (regular)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Calibri (bold)

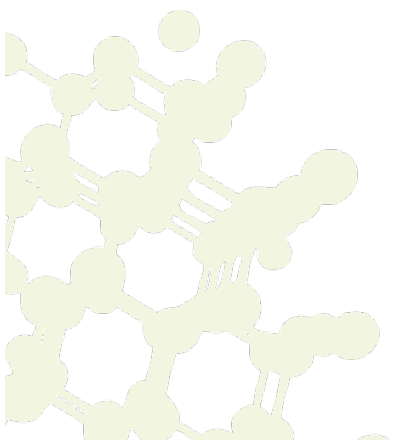
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Arial (regular)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

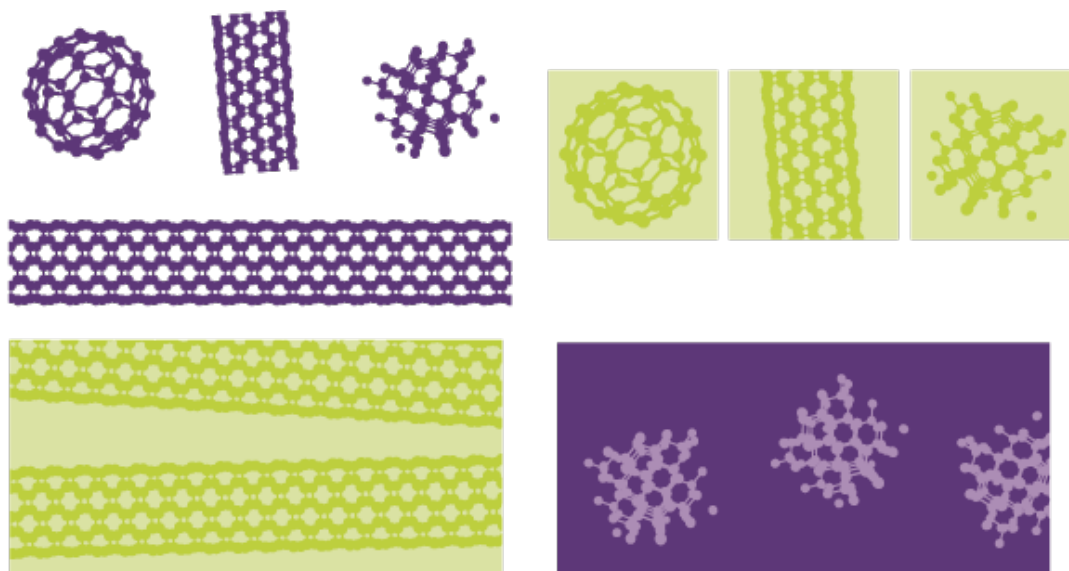
Arial (bold)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz



Additional Graphic Elements

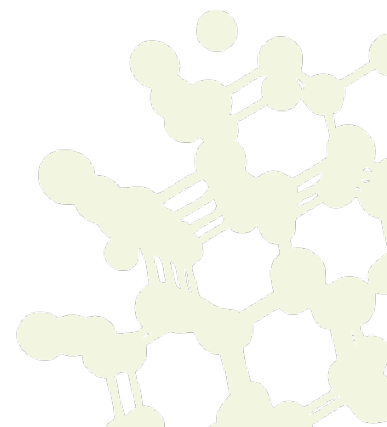
These buckyball, carbon nanotube, and silicon molecule line art elements can be used in many ways. They can add visual interest to backgrounds, headers, and layout templates. When using these elements, use the NanoDays color palette where possible. These graphic elements are included on the USB thumb drive. Other molecules or molecular structures can be rendered in a similar manner.



Banners

Two large NanoDays banners are included in your NanoDays kit (English and bilingual Spanish-English). You can use adhesive vinyl lettering to customize the banner with your event date, times, location, etc.

If you would like to print additional banners with your customized event information, it's easy to do. Use the banner template on the USB thumb drive, then send your art to one of the many online banner-printing companies or take it to your local printer. A 3' x 5' banner (vinyl, with grommets) should cost about \$100.



NSF Acknowledgement of Support

The NISE Network, NanoDays, and the creation of this kit are all funded by the National Science Foundation under Award Nos. 0532536 and 0940143. Although your event might not receive direct NSF funding, if you use our kit materials or produce deliverables based on the kit materials, you should follow NSF guidelines for acknowledging NSF support.

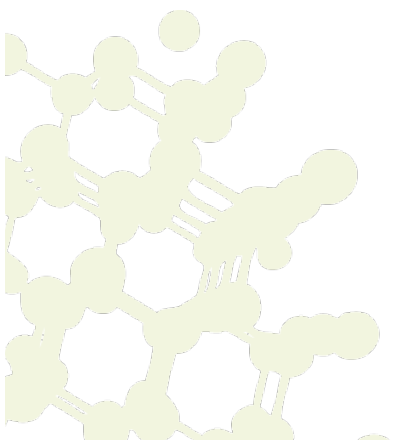
Statement for deliverables:

This project was based on work supported by the National Science Foundation under Award Nos. 05322536 and 0940143.

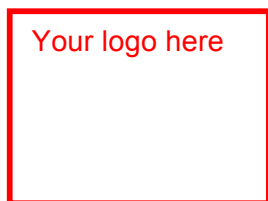
Additional statement for publications:

Any opinions, findings, and conclusions or recommendations expressed in this work are those of the authors and do not necessarily reflect the views of the Foundation.

The NSF logos are available in a variety of colors and file formats that can be downloaded from: <http://www.nsf.gov/policies/logos.jsp>. Here are two basic NSF logos:



Sample Press Release



Date: Contact:
Phone:
Email:

Celebrate NanoDays at [Name of your organization]

Celebrate NanoDays™ 2012

[Insert your local NanoDays location, dates, and specific activity information here].

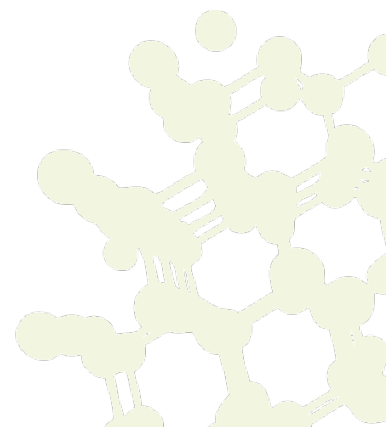
NanoDays at [name of your organization] is part of a nationwide festival of educational programs about nanoscale science and engineering.

NanoDays is organized by the Nanoscale Informal Science Education Network (NISE Net), and takes place nationally from March 24 - April 1, 2012. This community-based event is the largest public outreach effort in nanoscale informal science education and involves science museums, research centers, and universities from Puerto Rico to Alaska.

NanoDays celebrations bring university researchers together with science educators to create new and unique learning experiences for both children and adults to explore the miniscule world of atoms, molecules, and nanoscale forces. Most NanoDays events combine fun hands-on activities with presentations on current research. A range of exciting NanoDays programs demonstrate the special and unexpected properties found at the nanoscale, examine tools used by nanoscientists, showcase nano materials with spectacular promise, and invite discussion of technology and society.

The local community can experience many of these activities firsthand. Visitors will make some of their own nanomaterials using scotch-tape, investigate super thin materials used in solar cell technology, and change the color of a butterfly's wings! Other activities include an I Spy Nano game and real nano gold.

[Edit for your institution]



More about Nano and NISE Network

At the nanoscale—the scale of atoms and molecules—many common materials exhibit unusual properties. Our ability to manipulate matter at this size enables innovations that weren't possible before. Nanotechnology is revolutionizing research and development in medicine, computing, new materials, food, energy, and other areas.

Nano will affect our economy, environment, and our personal lives. Some scientists think that future nanotechnologies and materials could transform our lives as much as cars, the personal computer, or the internet! But the costs, risks, and benefits of this new technology can be difficult to understand, both for experts and for the general public. The NISE Network helps museums, research institutions, and the public learn from each other about this emerging field so that together we can make informed decisions.

The Nanoscale Informal Science Education Network (NISE Net) is a national community of researchers and informal science educators dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology. The NISE Network community in the United States is led by 14 organizations, and includes hundreds of museums and universities nationwide. NISE Net was launched in 2005 with funding from the National Science Foundation, and received a five-year renewal in 2010.

Through products like NanoDays, the NISE Network is actively building partnerships between science museums and research centers to increase their capacity to engage the public in learning about nanoscale science and engineering.

For more information about NISE Net or to download a digital NanoDays kit please visit:

<http://www.nisenet.org/nanodays>.

For more information about Nano please visit:

<http://www.whatisnano.org>



This project is based on work supported by the NSF under Award Nos. ESI-05322536 and 0940143.

NanoDays™ is trademarked by North Carolina State University and used by the NISE Network with permission.

Photo Release Form

Most institutions require that some kind of photo release form be signed in order for you to circulate photos from your event in any way. Whether or not this is a formal policy in your institution, you should always ask for permission before photographing participants, especially children. Getting signed releases gives you the flexibility to use your photos in newsletters, reports, and other settings.

We welcome you to share photos from your event with the network, with the following caveat: in order to be able to use and share photos of local NanoDays events, we must have a release signed by each person in the photo. In the NISE Network, photos are often shared and used by multiple institutions, so we need permission for not just your institution to use the image, but also for other institutions in the NISE Network to use the image. We understand that for many of our partners, it is not possible to get release forms from every person photographed or recorded. For this reason, the NISE Net does not require or expect photographs of your events.

The NISE Net photo release form is included on the next page. Fill in your organization's name in the second blank on the first line, then copy the form to use at your event. When you are asking visitors to fill out the form, be sure to explain that they can choose **not** to have their photograph or their child's photograph taken and still participate in the activity.

How do I make sure we have releases from every person?

Here are a few tips:

- If you are using a photographer for your NanoDays event, be sure to explain to them that they will need to get consent before taking photographs.
- It's helpful to have the releases and pens on a clipboard or two that you can hand to the visitor.
- In larger settings, or spaces with a lot of activity, consider assigning a staff person to join the photographer and ask visitors to sign the release before the photographer takes pictures. This person can ensure that no photographs are taken without consent, and can also ask the photographer to delete any pictures from their camera of visitors who did not consent.
- Jot down a description of the person on their release form (for example, "young girl, brown hair, yellow shirt"). This can help you match releases to photos later on.
- If you are hosting an event with nametags and registration, you can ask visitors to fill out the release when they register. If they have consented to have their photo taken, give them a sticker for their nametag. Then the photographer can take photos only of people with the stickers.

If you are able to get signed releases for your photos, please share them with us! You may send a CD with photos along with a scan of the releases to the Museum of Science at:

NISE Network
Museum of Science
1 Science Park
Boston, MA 02114

Questions regarding acknowledgements or credits can be directed to info@nisenet.org.



Museum of Science and NISE Network Photo Consent and Release

I, _____, hereby authorize _____ and the Museum of Science, Boston, MA (the "Museum") as agents acting for and on behalf of the Nanoscale Informal Science Education (NISE) Network, and its agents, representatives, assigns, successors in interest and licensees, to photograph, audiotape, and/or videotape me and grant the Museum and the NISE Network the irrevocable right to use my photograph, audio recording, video recording, or any reproduction or modification thereof (the "Photograph", "Audio, and/or "Video"), in any manner or medium throughout the world an unlimited number of times in perpetuity for advertising, trade, promotion, exhibition or any other lawful purpose.

I understand that I will not receive any monetary compensation for the permissions I am granting herein. I hereby waive any right of inspection or approval of the uses to which the Museum and the NISE Network may put the Photograph, Audio, and/or Video. I acknowledge the Museum and the NISE Network will rely on this permission and hereby release and discharge the Museum and the NISE Network from any and all claims and demands arising out of or in connection with the Photograph or the exercise of the permissions granted here, including any and all claims for libel, invasion of privacy or emotional distress.

I understand that I cannot withdraw my consent after I sign this form and that this consent and release is binding on me and my heirs, legal representatives and assigns.

YES NO (please check)

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | I grant permission for Photographs to be collected and used by NISE Network |
| <input type="checkbox"/> | <input type="checkbox"/> | I grant permission for Audio be collected and used by NISE Network |
| <input type="checkbox"/> | <input type="checkbox"/> | I grant permission for Video to be collected and used by NISE Network. |

Date: _____ Signature: _____

Address: _____

Telephone Number: _____

If the individual named above is under 18 years of age, please complete the following:

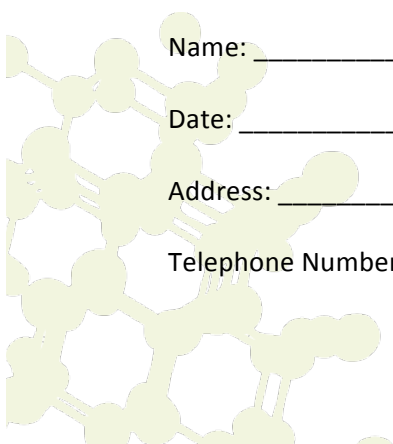
I am the parent or legal guardian of the individual named above, and I hereby sign this Media Consent and Release on behalf of such individual in accordance with the statements above.

Name: _____

Date: _____ Signature: _____

Address: _____

Telephone Number: _____

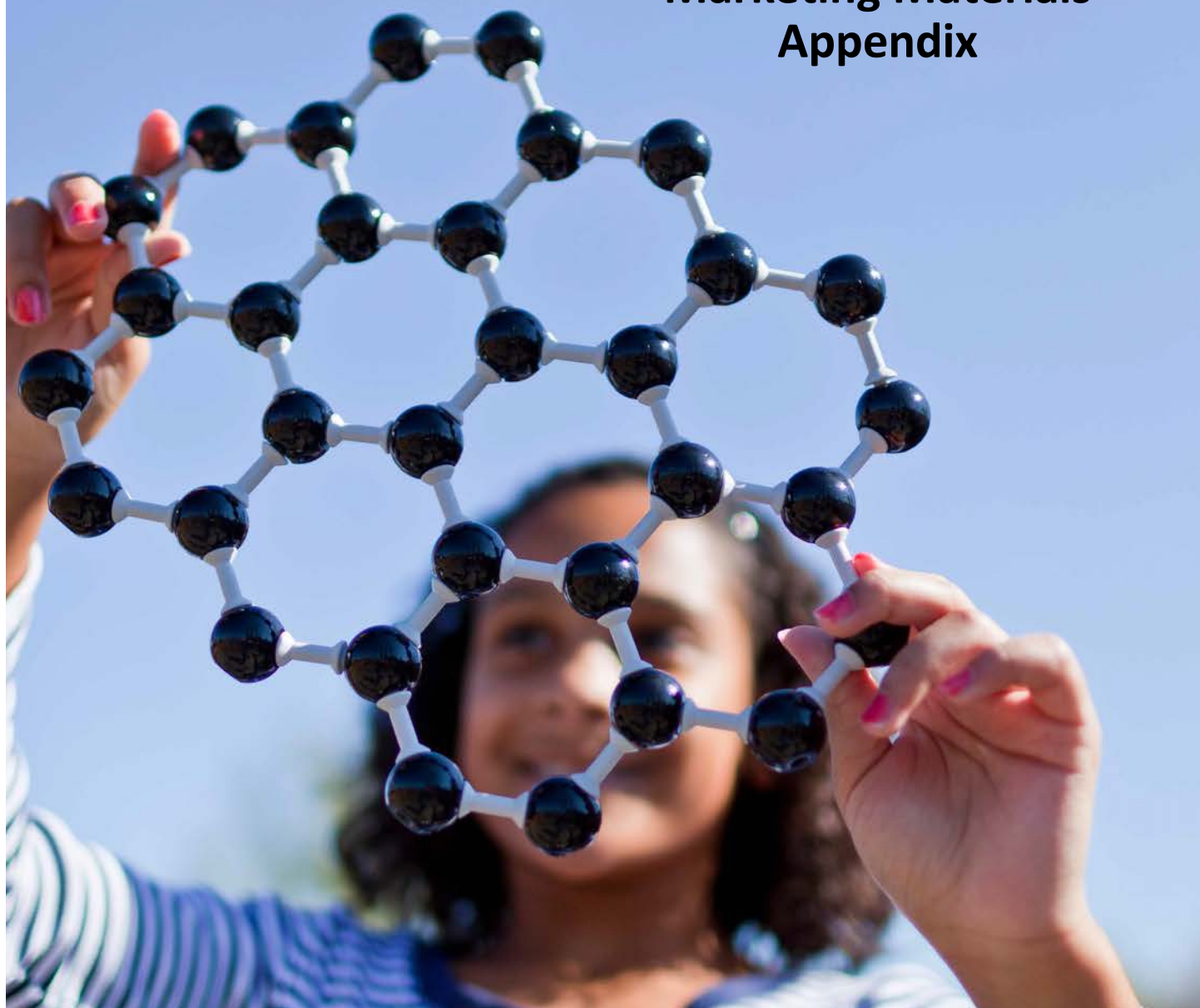


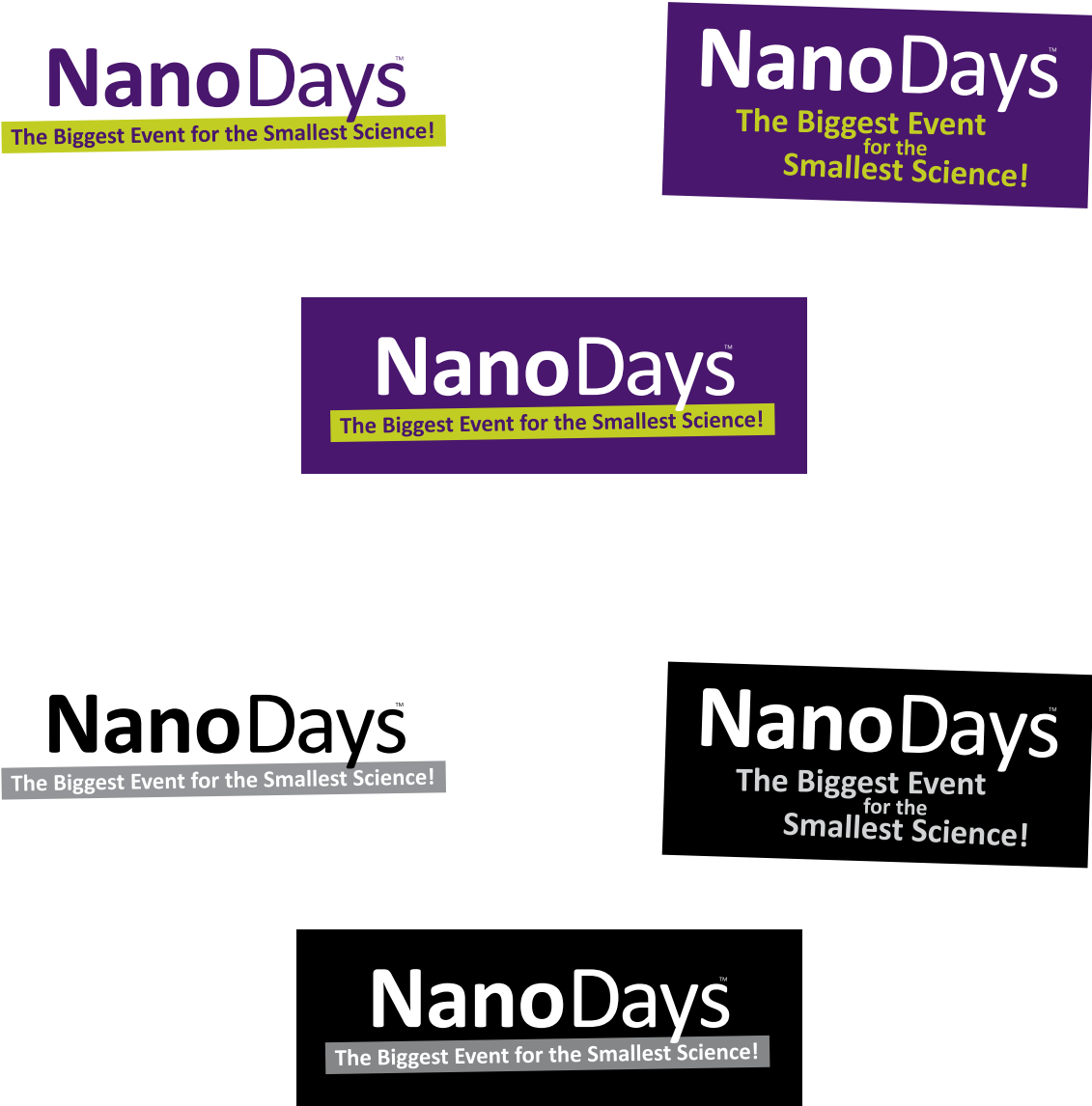
NanoDaysTM

The Biggest Event for the Smallest Science!

2012

**Marketing Materials
Appendix**





PMS 2627

C	77	R	73
M	100	G	23
Y	0	B	109
K	31		



PMS 390

C	22	R	193
M	0	G	205
Y	100	B	35
K	8		

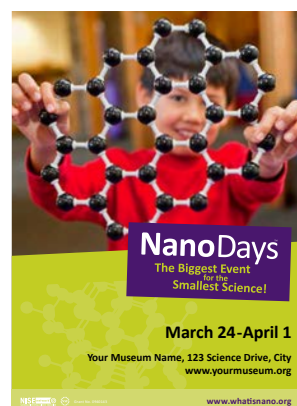
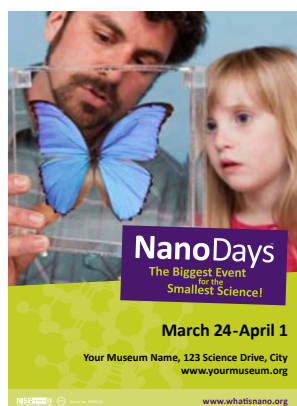
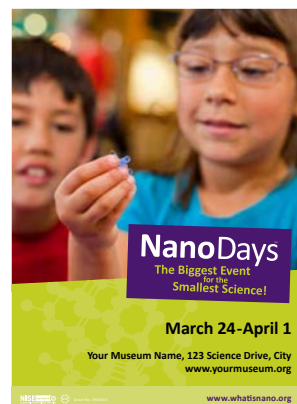
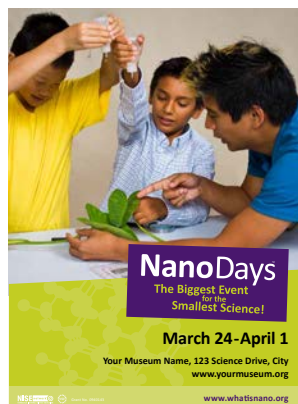
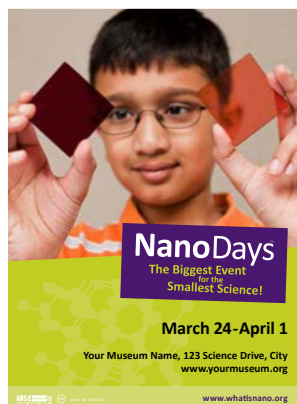
NanoDays Customizable Ads

horizontal, 7" x 3", color, pdf and Illustrator CS5 files provided



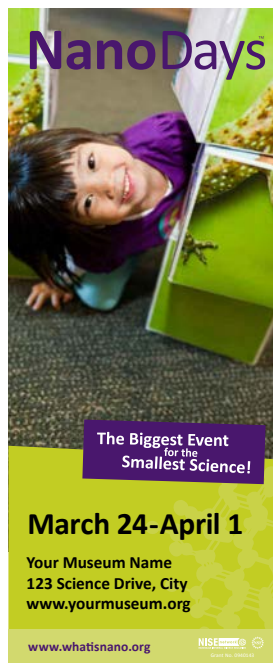
NanoDays Customizable Ads

vertical, 4" x 5.5", color, pdf and Illustrator CS5 files provided



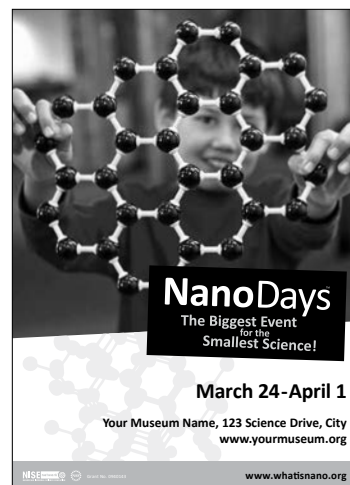
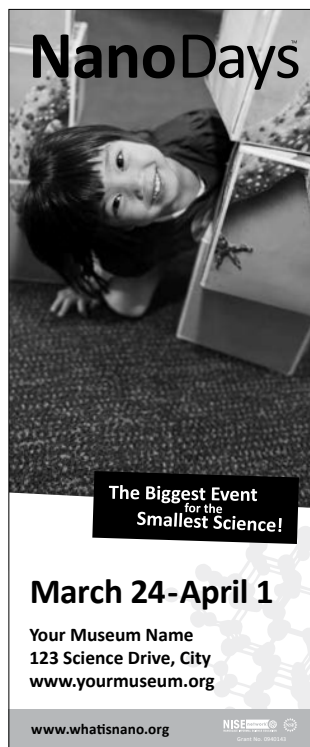
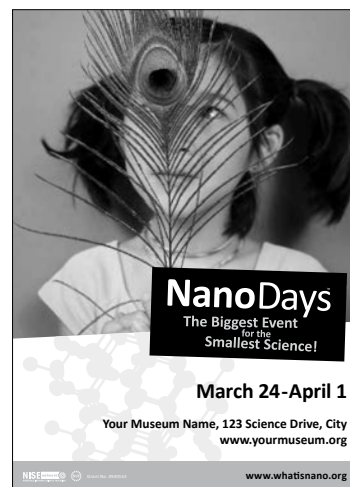
NanoDays Customizable Ads

vertical, 3.5" x 8.5", color, pdf and Illustrator CS5 files provided



NanoDays Customizable Ads

various sizes, black and white, pdf and Illustrator CS5 files provided



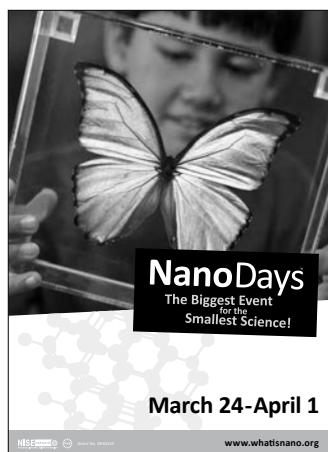
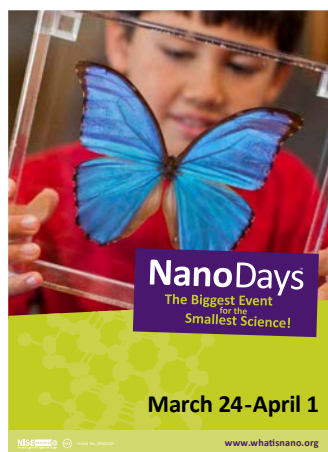
NanoDays Bilingual Customizable Ads

various sizes, color, pdf and Illustrator CS5 files provided

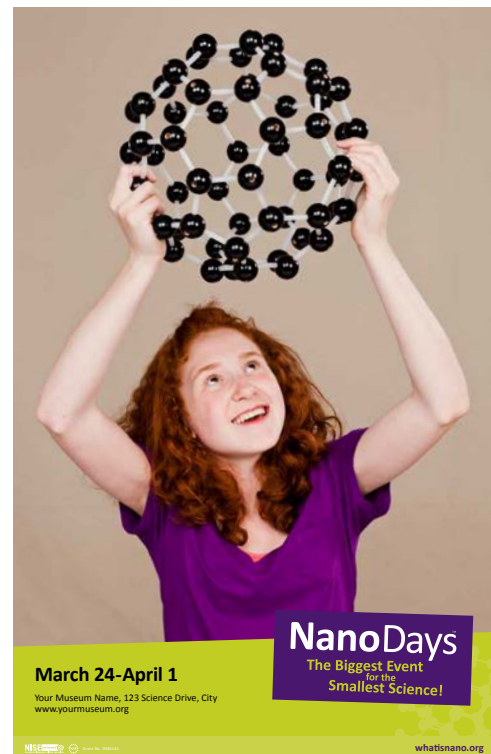


NanoDays Ready-to-go Ads

various sizes, color and black and white, jpeg and pdf files provided



11" x 17", color, pdf and Illustrator CS5 files provided



NanoDays Ready-to-go Posters

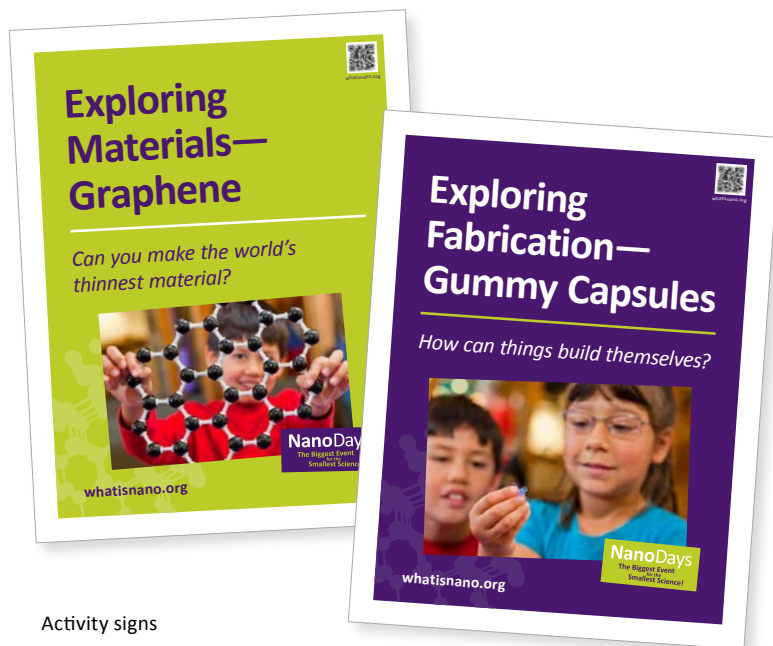
11" x 17", color, jpeg and pdf files provided



NanoDays Activities



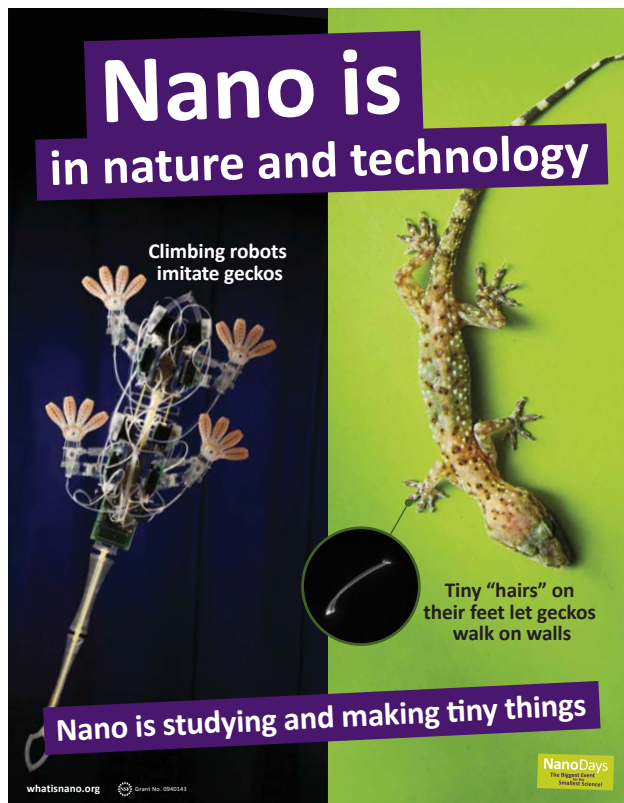
Mini cards



Activity signs



Posters



Web Icons

Professional educator website: www.nisenet.org

Public website: whatisnano.org

Widgets for website are available at: <http://www.nisenet.org/PRmaterials>

110 x 30 pixels



50 x 50 pixels



40 x 40 pixels



NanoDays Press Photos



NISE_Net_press_photo_0003.jpg



NISE_Net_press_photo_0005.jpg



NISE_Net_press_photo_0011.jpg



NISE_Net_press_photo_0012.jpg



NISE_Net_press_photo_0016.jpg



NISE_Net_press_photo_0017.jpg



NISE_Net_press_photo_0019.jpg



NISE_Net_press_photo_0020.jpg



NISE_Net_press_photo_0021.jpg



NISE_Net_press_photo_0022.jpg



NISE_Net_press_photo_0023.jpg



NISE_Net_press_photo_0025.jpg



NISE_Net_press_photo_0029.jpg



NISE_Net_press_photo_0032.jpg



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NISE_Net_press_photo_0041.jpg

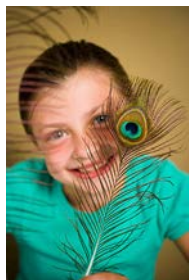


NISE_Net_press_photo_0042.jpg



NISE_Net_press_photo_0043.jpg

NanoDays Press Photos



NISE_Net_press_photo_0046.jpg



NISE_Net_press_photo_0049.jpg



NISE_Net_press_photo_0050.jpg



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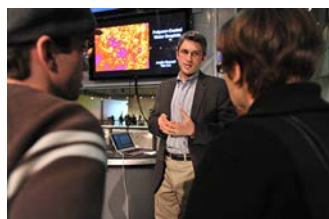
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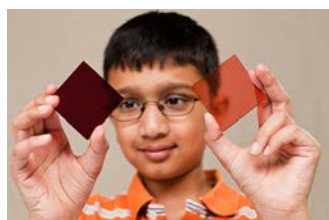
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NanoDays Press Photos - High Res



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