

NOVA[®]

NOVA scienceNOW[™]

**For more information on each of the video segments plus information
for informal science educators
and science enthusiasts, please visit:
www.pbs.org/nova/sciencenow**

For more information contact
NOVA scienceNOW Educational Outreach at:
getinvolved@wgbh.org

Document current as of 2/14/11

One Guest Street
Boston, MA 02135

Tel 617 300 4340
Fax 617 300 1003
pbs.org/nova

Funding for NOVA is provided by
David H. Koch, the Howard Hughes
Medical Institute, the Corporation
for Public Broadcasting, and public
television viewers.

Produced for PBS by
the WGBH Science Unit





Welcome to NOVA scienceNOW!

Our story begins with one of television's longest running programs: NOVA. During that time NOVA has grown to encompass a robust library of media-rich resources for both the general public and the nation's educators. Now in its 37th season, NOVA is the most-watched primetime science series on American television, reaching more than four million viewers weekly.

From the same award-winning producers of NOVA, comes NOVA scienceNOW, the critically-acclaimed, magazine-style science program. Hosted by renowned astrophysicist, author, and Director of the Hayden Planetarium at the American Museum of Natural History, Neil deGrasse Tyson, NOVA scienceNOW covers four timely science and technology stories per one-hour episode. The series is packed with provocative new stories from the frontlines of science, technology, and medicine.

"In an era when the innovations made possible by science and technology often resonate on a global scale and rapidly change the way we live, NOVA scienceNOW is there to inform, engage, and inspire viewers about all of the exciting possibilities and help them understand how these latest developments will affect their daily lives," said Senior Executive Producer Paula Apsell.

The series is particularly successful at reaching younger adult audiences, including teenagers and the 18-35 year old media demographic. From its inception NOVA scienceNOW has reached beyond television broadcasts with a continuously expanding treasure trove of online media resources, and educational outreach programs supporting formal and informal science educators, including the country's growing community of science cafés

NOVA scienceNOW resources

www.sciencecafes.org and network.sciencecafes.org

Science cafés are live events that feature a conversation between a scientist and the general public, usually held in casual venues such as pubs and restaurants. Visit this site to find a science café near you, learn more about presenting at cafés, and start your own event series. If you are a café coordinator, join the network! Connect with other coordinators to share ideas.

www.pbs.org/nova/sciencenow

Every NOVA scienceNOW story lives on beyond the initial PBS broadcast with its own page on this site. All stories can be watched here as streaming video, and many are downloadable. Each story is also accompanied by resources such as video extras, interactive features, interviews with researchers, classroom activities, and suggested links.

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www.pbs.org/nova/mailing

Sign up here to receive a weekly email with the latest news related to NOVA and NOVA scienceNOW. You can also “stay tuned” by following NOVA scienceNOW on Facebook, Twitter, iTunes, or YouTube.

www.pbs.org/nova/secretlife

NOVA’s “The Secret Life of Scientists” is a web-only series that shows what happens when the lab coats come off. The series introduces a new scientist every two weeks with short videos revealing how their surprising secret lives fuel their science.

www.pbs.org/nova/teachers

Teacher guides, classroom activities, viewing suggestions, show descriptions, student interactives, and suggestions from other teachers are all cataloged here. These features are also accessible from each story’s individual webpage.

Using NOVA scienceNOW in Informal Science Education Settings

NOVA scienceNOW stories are well-researched, timely, and short (under 15 minutes), making them ideal additions to a wide range of informal science education programs. Incorporating free video into your programming will accommodate different learning styles, and succinctly provide background information. Host Neil deGrasse Tyson and the team of NOVA scienceNOW correspondents find creative and entertaining new ways to bring viewers four current stories on the most intriguing discoveries and biggest breakthroughs from an array of scientific fields—ranging from biomedicine and technology to archeology, astrophysics, natural history, and more.

Video is often better than any other medium at helping an audience quickly grasp a topic’s range of implications, whether by presenting a visual model of a difficult concept, transporting viewers to new places, or putting a human face on an issue.

Working with NOVA scienceNOW

If you are interested in using NOVA scienceNOW resources in informal science education settings, be sure to contact our Educational Outreach staff. We can help you determine which story is right for your purposes, mail you a free DVD of an episode, and connect you to regional partners that will help make your programming a success. Plus, we always love to hear how NOVA scienceNOW is being used.

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Common uses for NOVA scienceNOW Video

Science Cafés

A short (3-5 minute) video clip pulled from a NOVA scienceNOW story related to the café topic is a great way to get a noisy crowd's attention and kick off café events. It can also ensure that your event controls the venue's televisions. More on using video in a science café event can be found at: www.sciencecafes.org/video.html

Public Outreach Events and Science Festivals

A short video presentation before or during an event like a public lecture can help break up the event agenda and keep things lively. Looping video of NOVA scienceNOW at festivals and fairs will draw visitors to your booth and provide a starting point for conversation. Linking to relevant NOVA scienceNOW stories in pre-event correspondence can energize your audience's interest in a topic.

Museum Galleries and Exhibitions

Several science centers make use of downtime for televisions in exhibit galleries by presenting looping video of NOVA scienceNOW stories (made even easier by available captioning). Some museums have even incorporated NOVA scienceNOW video into permanent exhibitions.

Find the Video You Need

This document lists information on every story that NOVA scienceNOW has broadcast on PBS. These stories are listed by topic. Short descriptions are provided for each of the stories, which may help you quickly find what you're looking for.

Once you have found a story of interest, be sure to visit the page online that supports that episode, where you can watch each clip and explore many other resources related to story topics.

[Health & Biosciences](#) | [Natural & Human Worlds](#) | [Physics & Space Science](#) | [Technology & Math](#)

Health & Biosciences

[1918 Flu - Nov. 2006](#)

A virus that killed up to 50 million people is brought back to life to decipher its deadliness.

[Aging - Jan. 2007](#)

Will research into "longevity genes" help us live longer and healthier lives?

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[**Anthrax Investigation - June 2009**](#)

The new science of microbial forensics reveals the source of the anthrax used in the deadly attacks of 2001.

[**Artificial Life - Oct. 2005**](#)

Are scientists on the verge of making living things from little more than dust?

[**Autism Genes - July 2009**](#)

Researchers have begun to zero in on genes that might be responsible for autism.

[**Bird Brains - July 2008**](#)

Clues to the origins of human language are turning up in the brains of birds.

[**Brain Trauma - July 2008**](#)

Even so-called "mild" head injuries turn out to be anything but.

[**Epiogenetics - July 2007**](#)

Our lifestyles and environment can change the way our genes are expressed, leading even identical twins to become distinct as they age.

[**Fish Surgery - Oct. 2005**](#)

Veterinary medicine has caught up with Americans' love for their number one choice of pet: the fish.

[**Frozen Frogs - Apr. 2005**](#)

The common wood frog freezes solid every winter and then, come spring, defrosts and mates.

[**Killer Microbe - July 2008**](#)

A relatively benign bug becomes a highly lethal pathogen, known to U.S. soldiers as Iraqibacter.

[**Lab Meat? - Jan. 2006**](#)

Scientists can grow edible meat in culture from a few animal cells. Bon appétit?

[**Leeches - July 2008**](#)

A century after falling out of favor among doctors, medicinal leeches are back in hospitals, sucking away on patients' wounds.

[**Marathon Mouse - July 2009**](#)

With an "exercise pill," researchers turn couch-potato rodents into champion runners.

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[*Of Mice and Memory - June 2008*](#)

Mice placed in enriched environments can recover lost memories, giving hope to those who study Alzheimer's.

[*Mirror Neurons - Jan. 2005*](#)

A recently discovered system in the brain may help explain why we humans can get so worked up watching other people.

[*Obesity - Oct. 2006*](#)

Examine the biology behind the compulsion to eat.

[*Pandemic Flu - Jan. 2006*](#)

Will the virus that causes bird flu develop the ability to move from person to person?

[*Personal DNA Testing - July 2008*](#)

Genetic testing to assess risk factors for a handful of serious illnesses is now commercially available. But is it a good idea?

[*RNAi - July 2005*](#)

A wayward petunia leads to the discovery of modest little molecules with enormous medical promise.

[*The Science of Picky Eaters - July 2009*](#)

Don't like broccoli? Your DNA may explain why.

[*Sleep - July 2007*](#)

Why do we need sleep? Part of the answer may be to strengthen memories.

[*Stem Cells - Apr. 2005*](#)

What are they, and how do we find a balance between hope for cures and respect for life?

[*Stem Cells Breakthrough - July 2008*](#)

Three separate teams overcome a biomedical hurdle—creating stem cells without the use of human embryos.

[*Stem Cells Update - Jan. 2006*](#)

A new technique for creating stem cells may ease ethical concerns.

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Natural & Human Worlds

[Asteroid - Oct. 2006](#)

Will a doomsday rock the size of the Rose Bowl hit Earth in 2036?

[Bird Brains - July 2008](#)

Clues to the origins of human language are turning up in the brains of birds.

[Booming Sands - Jan. 2005](#)

Scientists look into a generations-old conundrum: how and why do certain sand dunes produce mysterious noises?

[Capturing Carbon - July 2008](#)

An 8th-grader's science project prompts her scientist father to develop a new way to pull excess CO2 out of the atmosphere.

[Diamond Factory - June 2009](#)

Visit a laboratory where entrepreneurs are growing perfectly pure diamonds.

[Dinosaur Plague - July 2009](#)

Insects caught in amber spark a controversial theory about what killed the dinosaurs.

[Emergence - July 2007](#)

How does the "intelligence" of an ant colony or the stock market arise out of the simple actions of its members?

[Fastest Glacier - July 2005](#)

A glacier moving way too fast reveals how unpredictable the effects of global warming can be.

[First Primates - July 2008](#)

Our most distant primate ancestors, which took the stage shortly after the dinosaurs left it, were tree-dwellers the size of mice.

[Frozen Frogs - Apr. 2005](#)

The common wood frog freezes solid every winter and then, come spring, defrosts and mates.

[Hurricane Katrina - Oct. 2005](#)

Our January 2005 segment on New Orleans' risk from hurricanes proved sadly prescient, as this update reveals.

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[Hurricanes - Jan. 2005](#)

Predicting a hurricane's intensity is notoriously difficult, but new tools may make it easier.

[Ivory-Billed Woodpecker - Jan. 2006](#)

An enchanting bird believed extinct mysteriously reappears ... maybe.

[Leeches - July 2008](#)

A century after falling out of favor among doctors, medicinal leeches are back in hospitals, sucking away on patients' wounds.

[Lightning - Oct. 2005](#)

Experts still aren't sure what triggers it, but they suspect cosmic rays from outer space.

[Little People of Flores - Apr. 2005](#)

The remains of three-foot-tall humans are discovered on a remote Indonesian island.

[Mammoth Mystery - July 2008](#)

A pair of mammoth skeletons is found locked together by their tusks. What happened?

[Mass Extinction - Nov. 2006](#)

What caused the mother of all extinctions 250 million years ago?

[Maya - Jan. 2007](#)

NASA archeologists use satellites to pinpoint ancient ruins buried deep in the jungle.

[Papyrus - Nov. 2006](#)

Scraps of writings from a garbage dump in ancient Egypt reveal what life was like 2,000 years ago.

[The Search for ET - July 2008](#)

Astronomers have their radio telescopes tuned to receive signals from alien worlds. But is anybody out there?

[Secrets in the Salt - July 2009](#)

Salt deposits that formed 250 million years ago hold tantalizing hints of early life.

[Smart Sea Lions and Talking Walruses - July 2009](#)

Marine mammals are wowing researchers with more than just circus tricks.



[Space Storms - July 2008](#)

Behind the dazzling display of the aurora borealis are space storms that could turn the lights off here on Earth.

[Stronger Hurricanes - Jan. 2006](#)

Is global warming making hurricanes more intense?

[T. Rex - Apr. 2005](#)

An astonishing adolescent growth spurt accounts for T. rex's enormous size.

[T. Rex Blood? - July 2007](#)

Preserved soft tissue, including possible blood vessels and red blood cells, are turning up in dinosaur fossils. [\[back to list\]](#)

Physics & Space Science

[10th Planet - Jan. 2006](#)

A stunning discovery at the far reaches of our solar system raises questions about what makes a planet a planet.

[Asteroid - Oct. 2006](#)

Will a doomsday rock the size of the Rose Bowl hit Earth in 2036?

[Booming Sands - Jan. 2005](#)

Scientists look into a generations-old conundrum: how and why do certain sand dunes produce mysterious noises?

[CERN - July 2007](#)

Beneath the Alps, the mother of all particle accelerators nears completion.

[Dark Matter - June 2008](#)

Turns out most of the universe is held together by a mysterious, invisible substance.

[Don't Ask the Expert: Neil deGrasse Tyson - Oct. 2005](#)

Neil deGrasse Tyson has a bone to pick with Hollywood aliens.

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[*Hunt for Alien Earths - July 2009*](#)

Astronomers may be on the brink of finding Earth-like planets beyond our solar system.

[*Hurricanes - Jan. 2005*](#)

Predicting a hurricane's intensity is notoriously difficult, but new tools may make it easier.

[*Island of Stability - Oct. 2006*](#)

Follow the decades-long quest to create the elusive element 114.

[*Lightning - Oct. 2005*](#)

Experts still aren't sure what triggers it, but they suspect cosmic rays from outer space.

[*Moon Smasher - July 2009*](#)

A NASA satellite called LCROSS heads to the moon in the hope of finding buried water.

[*Phoenix Mars Lander - July 2008*](#)

NASA's latest robot has already found frozen water and is looking for more signs that the Red Planet could support life.

[*Profile: Arlie Petters - July 2007*](#)

A boy from a rural village in Belize grows up to become a world-class mathematician and cosmologist.

[*Saving Hubble - July 2008*](#)

Two teams of spacewalkers take on the risky mission of reviving the ailing Space Telescope.

[*The Search for ET - July 2008*](#)

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[*Space Elevator - Jan. 2007*](#)

Can we build a 22,000-mile-high cable to transport cargo and people into space?

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Technology & Math

[Art Authentication - July 2008](#)

See how clever computer algorithms can distinguish a master fake from a masterpiece.

[Auto-Tune - June 2009](#)

Can't carry a tune? Andy Hildebrand's pitch-correction software can help you sing like a star.

[Capturing Carbon - July 2008](#)

An 8th-grader's science project prompts her scientist father to develop a new way to pull excess CO₂ out of the atmosphere.

[CERN - July 2007](#)

Beneath the Alps, the mother of all particle accelerators nears completion.

[Fuel Cells - July 2005](#)

Hydrogen fuel cell cars promise pollution-free driving, but will we see them anytime soon?

[Island of Stability - Oct. 2006](#)

Follow the decades-long quest to create the elusive element 114.

[Kryptos - July 2007](#)

A coded sculpture at CIA headquarters has yet to be fully broken.

[Lab Meat? - Jan. 2006](#)

Scientists can grow edible meat in culture from a few animal cells. Bon appétit?

[Maya - Jan. 2007](#)

NASA archeologists use satellites to pinpoint ancient ruins buried deep in the jungle.

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Genetic testing to assess risk factors for a handful of serious illnesses is now commercially available. But is it a good idea?

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[Smart Bridges - July 2008](#)

Can we engineer bridges that tell us what's wrong with them before it's too late?

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[Stem Cells Update - Jan. 2006](#)

A new technique for creating stem cells may ease ethical concerns.

[The Search for ET - July 2008](#)

Astronomers have their radio telescopes tuned to receive signals from alien worlds. But is anybody out there?

[Twin Prime Conjecture - Jan. 2006](#)

New insight into a 2,300-year-old mystery surrounding prime numbers inspires a song.

[Wisdom of the Crowds - June 2008](#)

Ask enough people to estimate something, and the average of their guesses will get you

surprisingly close to the right answer.

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Downloading a video

All of these stories are downloadable from the website. The files may be saved on your computer to be used during your event.

Obtaining a DVD

In addition, DVDs of NOVA scienceNOW video content are available to use for educational purposes only. This includes screenings of NOVA scienceNOW stories in both formal and informal educational settings as long as a fee is not charged specifically for the viewing. To obtain a free DVD for use in informal education settings (such as science café events, public lectures, and museum galleries) please contact Education Outreach at: getinvolved@wgbh.org