An official website of the United States government Info



WORLD QUANTUM DAY 2023



World Quantum Day is an international, community-driven event on **April 14** to spark interest and generate enthusiasm for quantum mechanics. Whether you are new to quantum concepts, a teacher looking for educational materials, or a professional wanting to get more involved, there are resources for you!

The National Quantum Coordination Office, part of the White House Office of Science and Technology Policy, is excited to participate in World Quantum Day, along with agencies across the Federal government.

Why Quantum, Why Now?

Quantum mechanics is the science of atoms and particles–the building blocks of the world. Using quantum mechanics, scientist and engineers have created revolutionary technologies that impact our everyday lives. For example, the semiconductor chips in our smartphones and computers operate in part using quantum mechanics. LASERS, LED lights, and LED monitors were

developed based on our understanding of quantum mechanics. The Global Position System (GPS) that helps us navigate the world relies on the quantum mechanics of ultra-precise atomic clocks. Magnetic Resonance Imaging (MRI) scanners in hospitals use quantum mechanics. Future technologies such as quantum computers, quantum sensors, and quantum communication devices may offer new and disruptive applications as well. You are invited to be a part of the quantum revolution!

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WAYS TO ENGAGE

Below are some ideas for how you can participate in World Quantum Day on April 14, 2023.

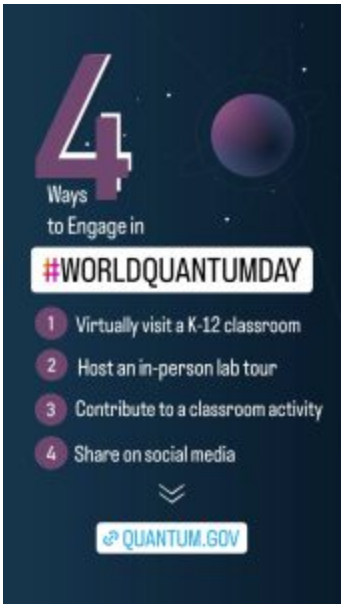
Students & Teachers

- Learn about quantum by exploring the Resources Section.
- Teach a short lesson on quantum scien



Ways to Engage Flyer

ce by signing up for Quan Time. The activities are designed for K-12 and are a fun way to introduce middle and high school students to quantum information science.



MOV file for social media stories.

Note: The hashtag and link stickers may need to be replaced in the social media app in order for them to be interactive/clickable.

- Have a quantum scientist (virtually) visit your classroom by signing up at Quantum2Go.org.
- Take a field trip to visit a quantum laboratory by signing up at Quantum2Go.org.
- Participate in an international event; visit WorldQuantumDay.org for a list.
- Browse #WorldQuantumDay to see what the community is doing.
- Share how you're celebrating using #WorldQuantumDay.

Quantum Scientists, Universities, Companies, and Laboratories

- Virtually visit a K-12 classroom by signing up at Quantum2Go.org.
- Host a K-12 class for a private in-person lab tour by signing up at Quantum2Go.org.
- Host public lab tours by signing up at Quantum2Go.org and advertising your tours at WorldQuantumDay.org.
- Contribute a quantum activity that K-12 students can complete in a single class period at QuanTime.
- Post about your quantum story, your quantum research, or your quantum organization using #WorldQuantumDay.
- Post about quantum using the materials in the Resources Section.
- Issue a press release highlighting some of the quantum research, or the people doing quantum research, at your organization.

- Post quantum-themed content on your home page or create a special banner or doodle.
- Share information about careers in quantum.
- Encourage your colleagues to engage in World Quantum Day.

Journalists, Science Communicators, and Content Creators

- Learn about quantum by exploring the Resources Section.
- Highlight quantum content that you have already produced.
- Create new content about quantum science or quantum scientists and their diverse careers. Consider avoiding language like “spooky” and “weird” and instead focus on how students can connect and learn about quantum.
- Make a playlist for learning quantum.
- Share quantum content on social media using **#WorldQuantumDay**.

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RESOURCES

Here are some resources to learn about quantum, which you are free to share for #WorldQuantumDay.

Videos

What YOU Can Do With Quantum Science

What YOU Can Do With Quantum Science is a new video produced by the National Q-12 Education Partnership for World Quantum Day 2023. It is narrated by LeVar Burton and features quantum scientists and students, as well as NASA Astronaut Josh Cassada.



This is Quantum

This is Quantum is a marquee video made by the National Q-12 Education Partnership for World Quantum Day 2022, but is timeless and can be shared again for 2023 and beyond. It features the Former Acting Science



Advisor to the President Francis Collins and Deputy NASA Administrator Pamela Melroy.

Video Shorts

Several Federal agencies created video shorts for World Quantum Day 2022, and they can be reshared for 2023. The shorts feature real quantum scientists answering the following questions:



- “Explain what you do in quantum.”
- “What excites you about quantum?”
- “How does quantum show up in your everyday life outside of work?”

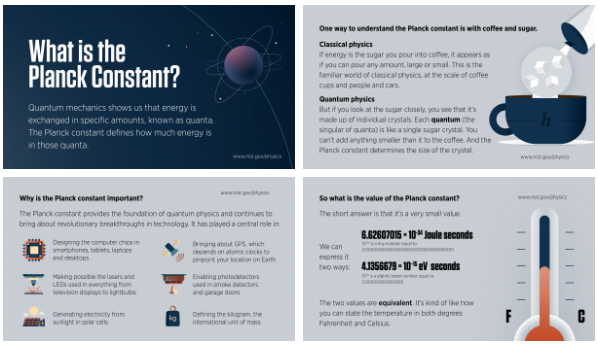
Posters and Factsheets

Planck’s Constant Poster

April 14th was chosen for World Quantum Day because of Planck’s constant, a very important number in quantum mechanics. For World Quantum Day 2023, NIST created an poster about Planck’s constant, which you are free to print. For World Quantum Day 2022, NIST created a four-image infographic about Planck’s constant for sharing on social media.



Printable 18″x24″ Poster



Separate Images (for Social Media)

National Quantum Initiative Factsheet

The NQCO and NSF, with input from other agencies, created a factsheet about the National Quantum Initiative, which is a whole-of-government approach to ensuring American leadership in quantum information science. This factsheet was originally created in celebration of World Quantum Day 2022, but it can be shared again for 2023 and beyond.



Printable 8.5″x11″ Factsheet

Quantum Science in Agency Missions

For World Quantum Day 2023, several Federal agencies participated in a social media conversation, highlighting how quantum science and technology impacts their missions. While not a "factsheet," it provides an overview of agency engagement in the field.



Graphics, Backgrounds, and Images

World Quantum Day 2023 Graphics

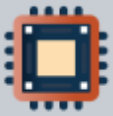
Public domain graphics to promote World Quantum Day 2023 are available below, in a variety of sizes:



Where is Quantum in Your Everyday Life?

New for World Quantum Day 2023, NIST took their Planck's constant infographic and extracted places that quantum appears in your everyday life. Individual graphics are below, which you are free to share:

Where is quantum in your everyday life?



Providing the semiconductor properties that make possible modern electronics such as smartphones, tablets and laptops

www.nist.gov/physics

Where is quantum in your everyday life?



Bringing about GPS, which depends on atomic clocks to pinpoint your location on Earth

www.nist.gov/physics

Where is quantum in your everyday life?



Making possible the lasers and LEDs used in everything from television displays to lightbulbs

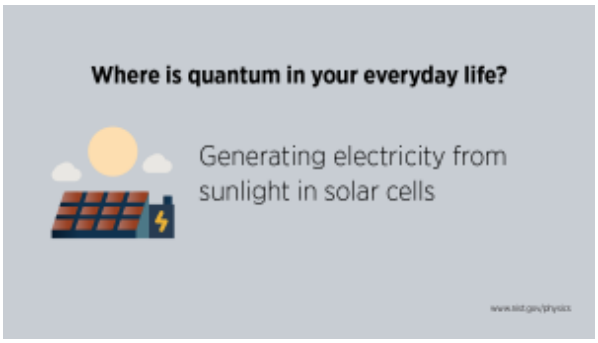
www.nist.gov/physics

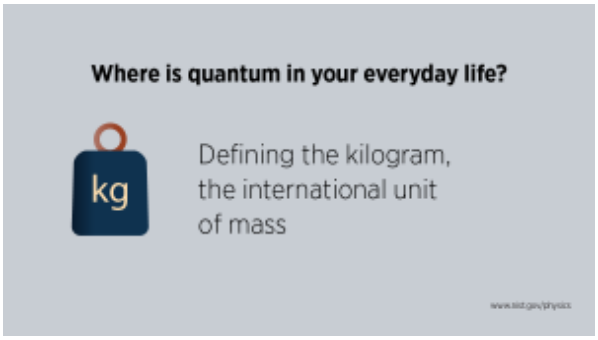
Where is quantum in your everyday life?



Enabling photodetectors used in smoke detectors and garage doors

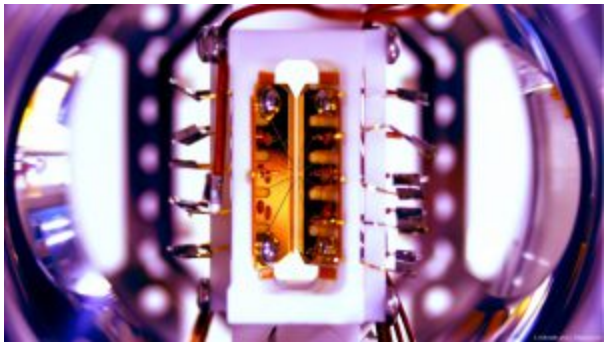
www.nist.gov/physics





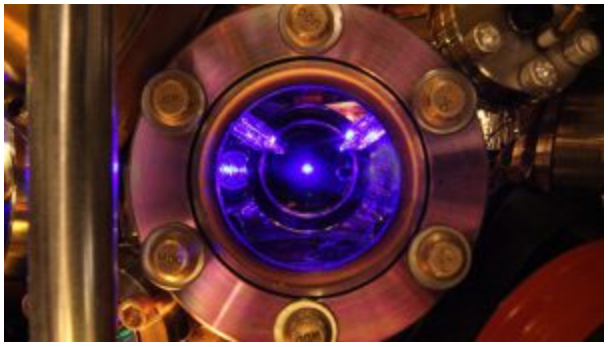
Background Images

Background images, sized at 1920×1080 pixels, can be used for video conferencing are available below:



Quantum Image Gallery

A gallery of quantum images, curated by Federal agencies, is available below:



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World Quantum Day 2022

For an overview of 2022 activities, please see this whitehouse.gov blog post.

Free graphics for World Quantum Day 2022 are available below:



World Quantum Day 2022 Graphics

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