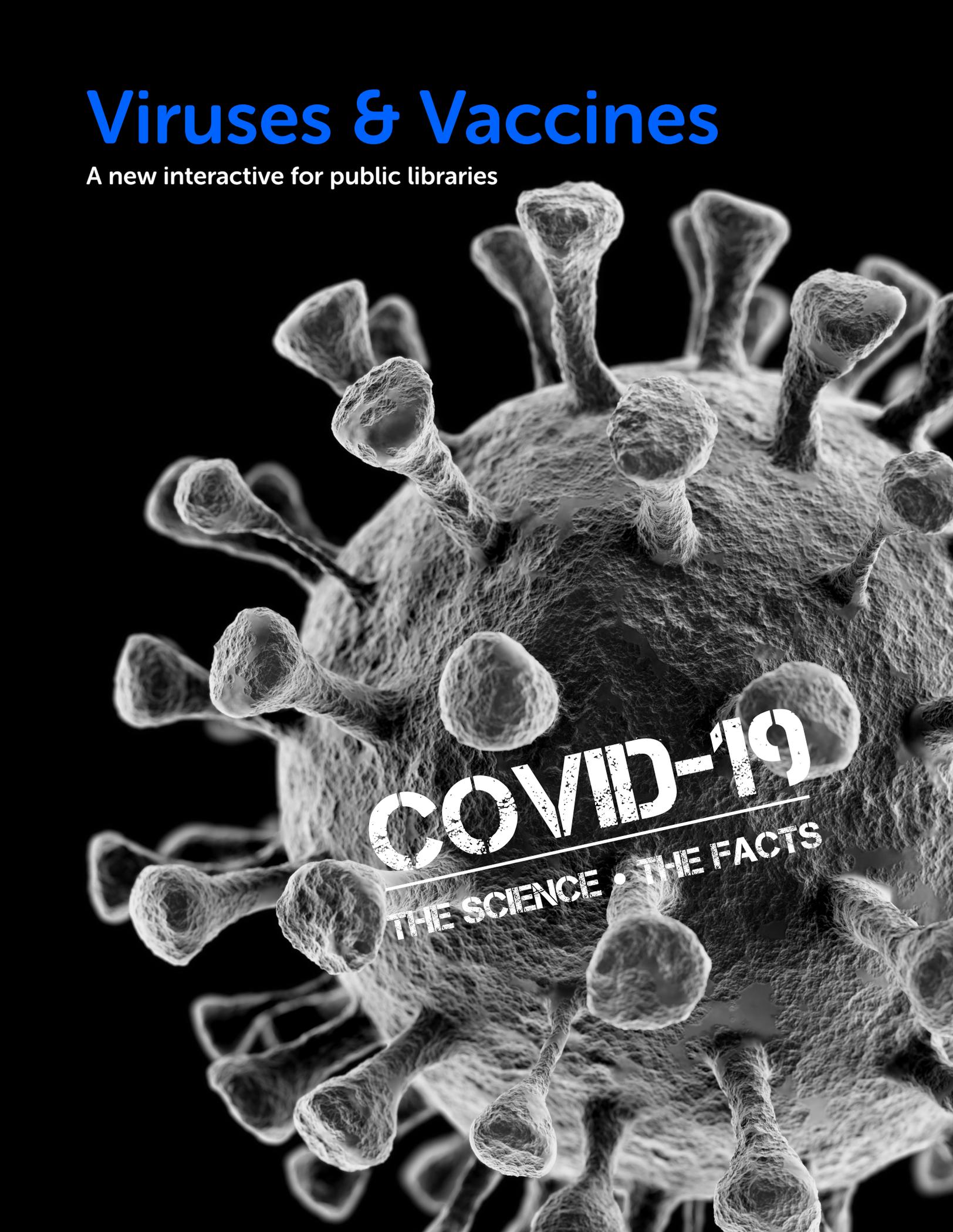


Viruses & Vaccines

A new interactive for public libraries



COVID-19

THE SCIENCE • THE FACTS

Introduction

The new Viruses & Vaccines interactive provides a quick and easy-to-understand overview of viruses and vaccines, divided into five sections:

- What are viruses?
- How do viruses work?
- How do vaccines work?
- COVID-19
- FAQs

Striking images, simple animations and straightforward explanations impart the basic facts.

Timely, accurate and engaging, Viruses & Vaccines answers basic questions, reflects the latest science and covers COVID-19 public health best practices.

The Science Advisor for V&V is **Dr. Lynn W. Enquist**, Emeritus Professor of Molecular Biology, Princeton University. Dr. Enquist is a coauthor of the leading textbook in the field, Principles of Virology.

On point, on mission, V&V gets to the heart of the most significant public health crisis in the last one hundred years: COVID-19. The more people understand about viruses—how they work, how they are transmitted—and the critical importance of vaccines, the better for everyone.

Viruses and Vaccines also covers how the new mRNA vaccines work (and why they are safe), so people can make informed decisions.

Rarely does a topic come along that fits so well into the educational mission of public libraries.

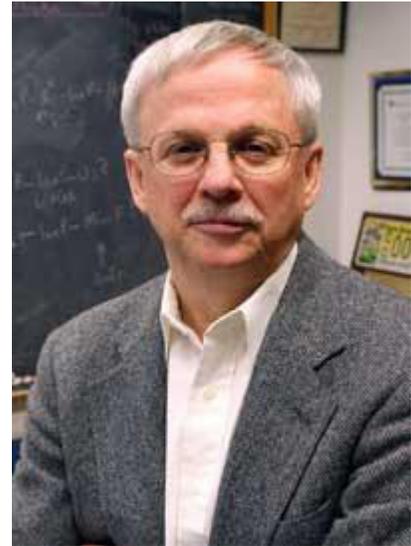
Viruses & Vaccines is an opportunity to take a proactive role in public health education during the COVID-19 pandemic, by delivering accurate, useful information based on the best science and the recommendations of leading health professionals.

Science advisor

Dr. Lynn W. Enquist, Emeritus Professor of Molecular Biology, Princeton University.

Dr. Enquist is the editor in chief of the Annual Review of Virology. He is a member and past president of both the American Society for Microbiology and the American Society for Virology, and a fellow of the American Academy of Microbiology and the American Association for the Advancement of Sciences.

He is a past member of the National Science Advisory Board for Biosecurity. Dr. Enquist has taught university courses in virology for over 25 years and is a coauthor of the textbook, Principles of Virology.



Dr. Enquist checks all content in V&V.

Easy to deploy, easy to understand

The interactive plays through a browser on any PC, Mac or smartphone. Just put the icon on your website and you're done. No install, no technical resources required to deploy.

It takes about 15 minutes to go through the interactive and it covers all the important aspects of viruses, vaccines and COVID-19, encouraging visitors to explore, discover and learn on their own.

There is a call-out on the first screen to encourage people who are hesitant about the new vaccines to learn more through a set of special FAQs. The entire experience is intuitive, easy-to-understand and engaging. It's a great way to inform the public and help fight COVID-19.

Sample screens

Concerned about COVID-19 Vaccines? Check out our FAQs.

Viruses & Vaccines

What are viruses? How do viruses work? How do vaccines work? COVID-19 FAQs

Most viruses are simple biological agents that have two main components

Outside Inside

1 Capsid (outer casing of protein)

2 Genetic Material (DNA or RNA)

Viruses attack by inserting their RNA or DNA into cells and then tricking the cells into making copies of the virus

1. Virus attaches to cell wall and inserts DNA or RNA.
2. Genetic material hijacks cell machinery and makes copies of itself.
3. The genetic material also codes for the capsid and assembles more viruses identical to the invading one.
4. Newly minted viruses are released and infect nearby cells.

3 In addition to killer cells, our immunological system creates antibodies

Play Animation

B Cells

COVID-19

Talking spreads virus particles

It's obvious how sneezing and coughing expel water droplets (and thus spread virus particles), but surprisingly so does talking.

Computer simulations show how droplets are expelled during normal conversation. In the simulation, the red and yellow droplets are larger and fall to the table quickly but the blue (smaller) droplets travel farther.

This is why it is important to stay six feet away from other people.

Time: 34.4 s

Simulation by the RIKEN Center for Computational Science, Tohoku University of Technology, and Kobe University. Other simulations show that high humidity and poor ventilation also result in increased transmission. (and with glasses)

Deadly Viruses

Rabies Marburg Ebola HIV Smallpox

Influenza Hepatitis B MERS-CoV SARS-CoV SARS-CoV2

Novel Coronaviruses

COVID-19

Transmission

COVID-19 can be transmitted from one person to another through the air. A person with COVID-19 (even someone with no symptoms) releases CoV2 virus particles in water droplets when they cough, sneeze or talk. If people nearby inhale the droplets they can become infected.

That's how wearing a mask makes a difference. Masks limit airborne virus particles.

A typical sneeze expels thousands of large water droplets (green), many of which fall quickly to the ground, but it also creates a cloud of smaller droplets (red) that linger in the air. (Hydroxide photo) © Shutterstock, iStock

Best Practices for COVID-19

Social Distance

6'

COVID-19 spreads through the air. Keeping six feet apart will help you avoid virus particles.

Wear a Mask

Wearing a mask cuts down airborne particles and helps prevent you from spreading COVID-19.

Wash Hands

Washing hands vigorously with soap and water for twenty seconds destroys virus particles.



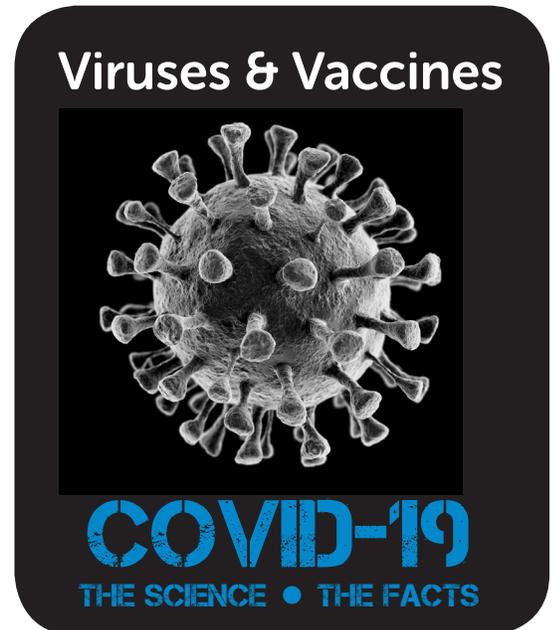
In-library ↑

Dedicating a PC to the interactive in the library increases visibility and helps reach those with concerns about the COVID-19 vaccines.

An eye-catching icon on the library home page can be deployed quickly and easily.

Visitors can engage with the interactive on a PC, Mac or smartphone.

On website ↓



Pricing

Pricing is simple: it costs \$0.36 per access. For example, if 1,000 visitors access the interactive over a period of a month, the cost will be \$360 for that month. Access is tracked by originating web page. Billing will be at the end of each six month period for the total number of accesses. A cap can be placed on accesses to control costs.

What's next?

We are now creating a series of similar interactives under the series title **The Basic Facts**, addressing issues of major public importance, such as:

- **Viruses & Vaccines**
- **Climate Change**
- **Media & Misinformation**
- **US Voting Systems & Safeguards**

All would be built to the same quality standards, browser-deployed and priced the same way.

About us

Viruses & Vaccines was originally developed to illustrate rapid mutation and natural selection as part of a museum exhibit on evolution.

It has been re-engineered for public libraries to focus on how vaccines work, people's concerns about vaccines, and COVID-19 best practices.

Check out our museum exhibit at darwindinosaurs.com.

We are looking for three libraries to test it out at no charge!

Email Us!
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