

REALM PROJECT

REopening Archives, Libraries, and Museums

oc.lc/realm-project

#REALMproject



Panelists

29 January 2021



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The Buffalo History Museum (NY)



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Humboldt County Library (CA);



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WebJunction, OCLC

This project was made possible in part with support from the Institute of Museum and Library Services, the Library of Congress, The Andrew W. Mellon Foundation, and the Carnegie Corporation of New York.

Project activities



- Review and summarize **SARS-CoV-2 research**
- **Gather input** from practitioners and subject experts
- Design, execute, iterate **laboratory testing**
- Develop and deliver **toolkit resources**
- **Ongoing discussions** with libraries, archives, museums
- Listen, learn, adapt

REALM is...

providing data that helps us better understand the virus. You can use that data to inform your practices and policies.

REALM is not...

making recommendations. Every institution is different and will need to develop policies that work for their local context.

REALM
data

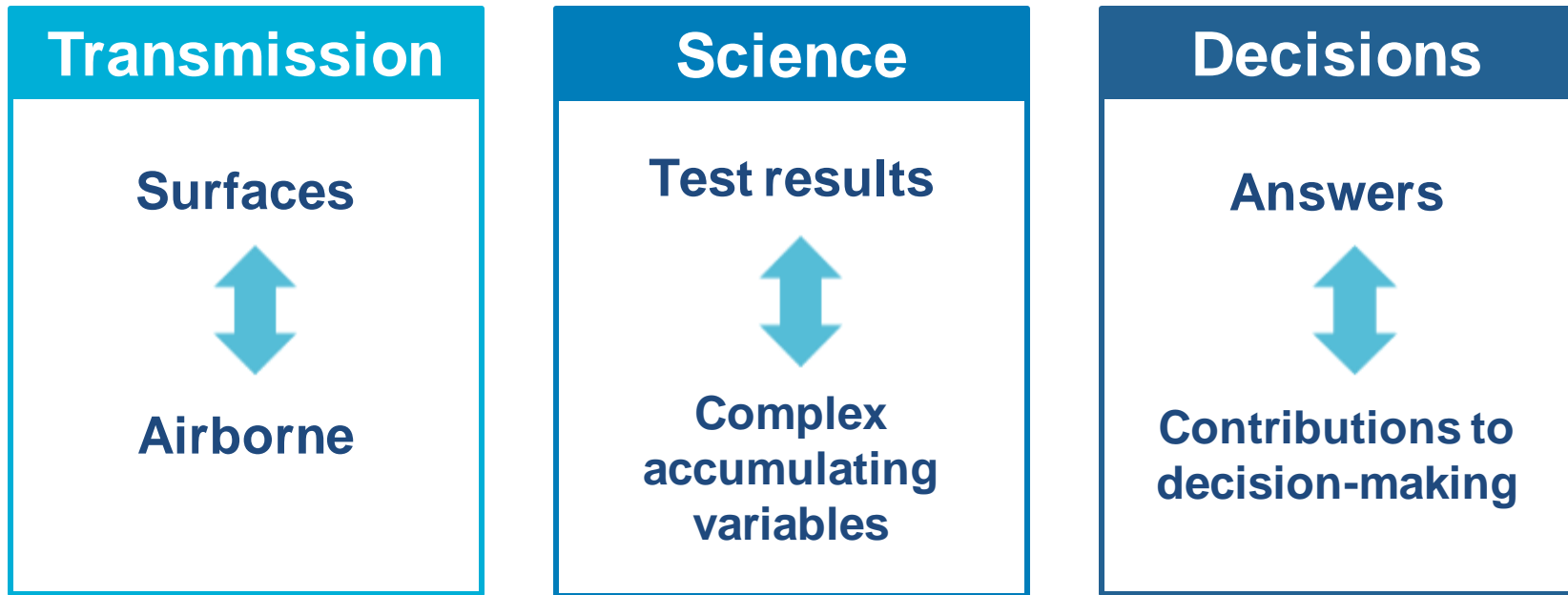


Your
institution



Local
policies

Urgency + complexity + uncertainty



Online polling

Open a web browser to:
pollev.com/oclc

STATUS OF COVID-19 RESEARCH

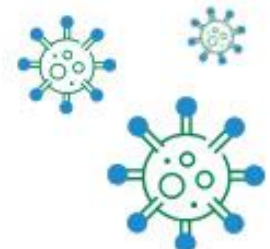
Known unknowns



1 **Unknown:**
How much virus
an infected
person will leave
on an object



2 **Unknown:**
How much virus
someone can
pick up from
an object



3 **Unknown:**
How much virus
is needed to
cause infection

Literature research questions



?

How might the virus spread through general operations?



?

How long does the virus remain active on surfaces?



?

How effective are prevention and decontamination measures?

How the virus spreads

Most likely / dominant

- Direct contact between people
- Droplets passed between people

Possibly

- Aerosol particles
- Contaminated objects (*fomites*)
- Other body fluids, excretions



Environmental conditions are a factor

- Temperature
- Relative humidity
- Air quality
- Air flow



LAB TESTING



Research question

How long does the virus remain active on materials commonly found in archives, libraries, and museums?

Active...viable...infectious...“alive”

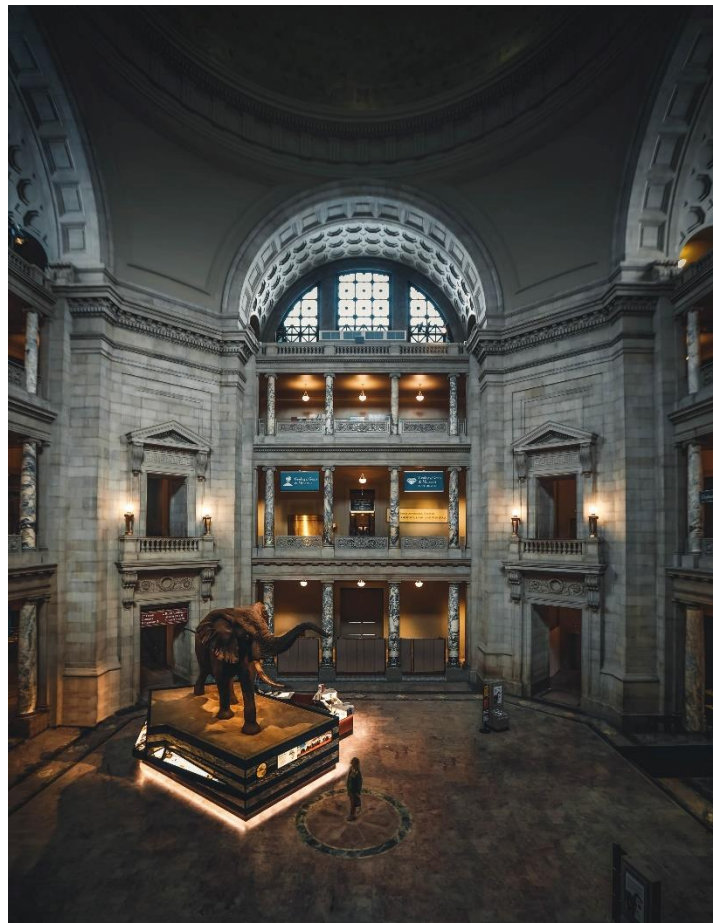
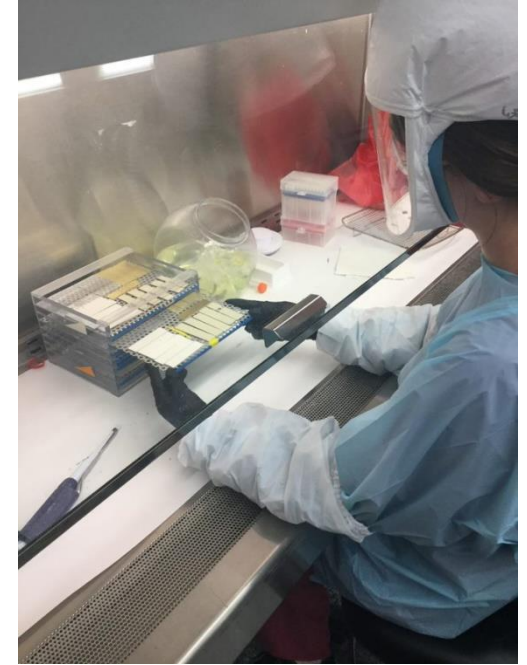


Photo by [Roberto Nickson](#) on [Unsplash](#)

Testing: Prepping the materials



Testing: Hold inside the chamber

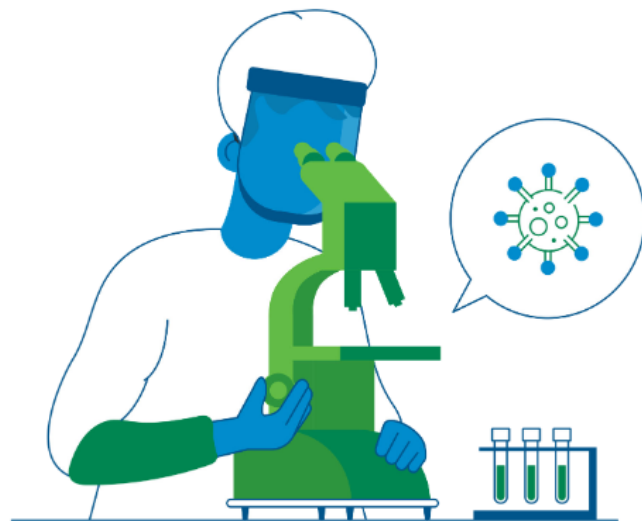
- Biohazard Level 3 lab
- Environmentally controlled
 - Relative humidity: 30-50%
 - No outside air
 - No light



| Test 1-6 | Test 7 | Test 8 |
|------------------|------------------|------------------|
| 72.1 \pm 3.6°F | 35.6 \pm 3.6°F | 84.2 \pm 3.6°F |

Testing: Measuring the virus

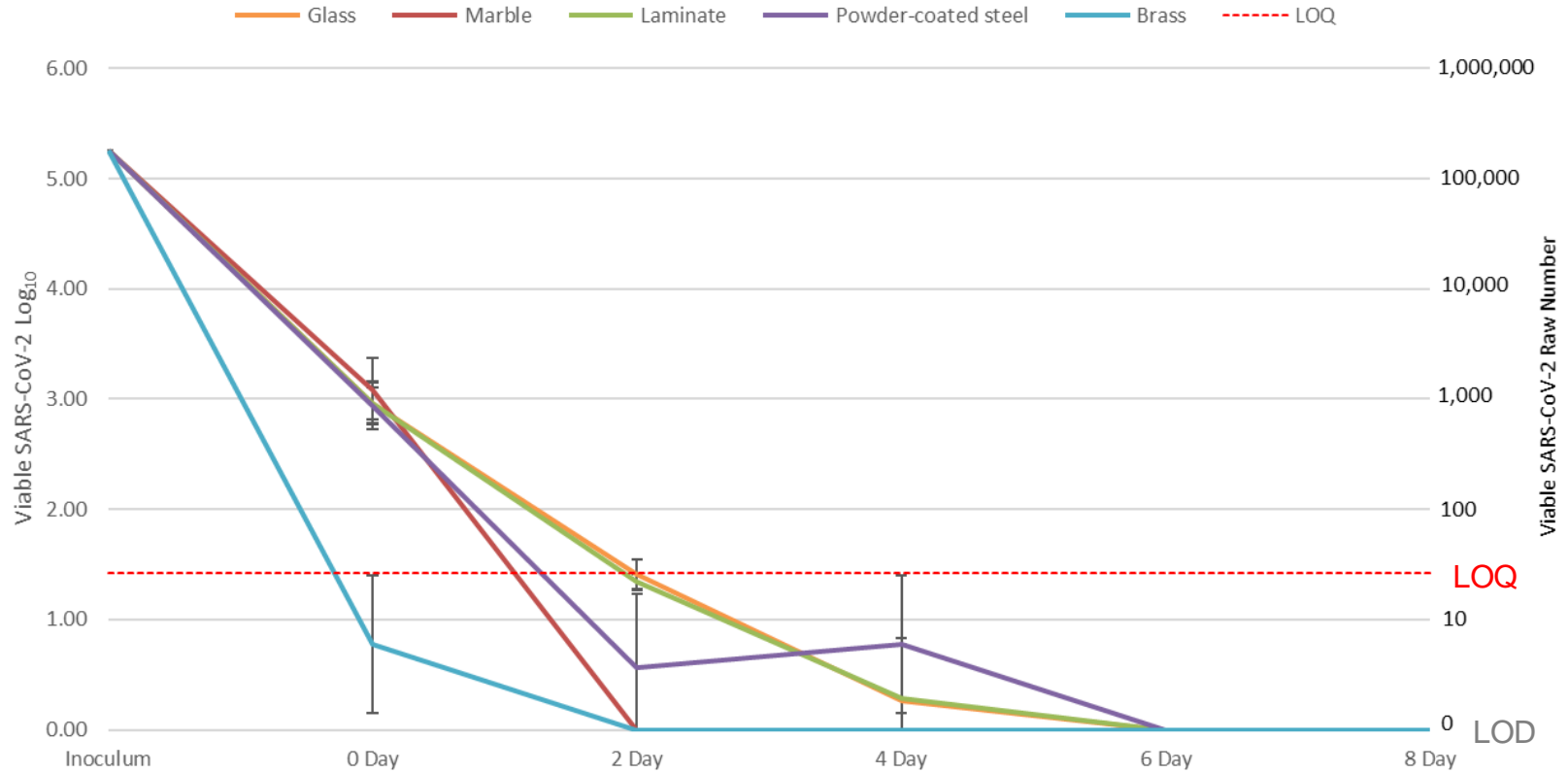
- At each preselected timepoint, add infected coupons to cell culture
- Based on level cellular infection, use equation to measure amount of infectious virus present
 - Limit of quantitation (LOQ): presence/absence only
 - Limit of detection (LOD): no virus found



Test 6 – Hard surfaces

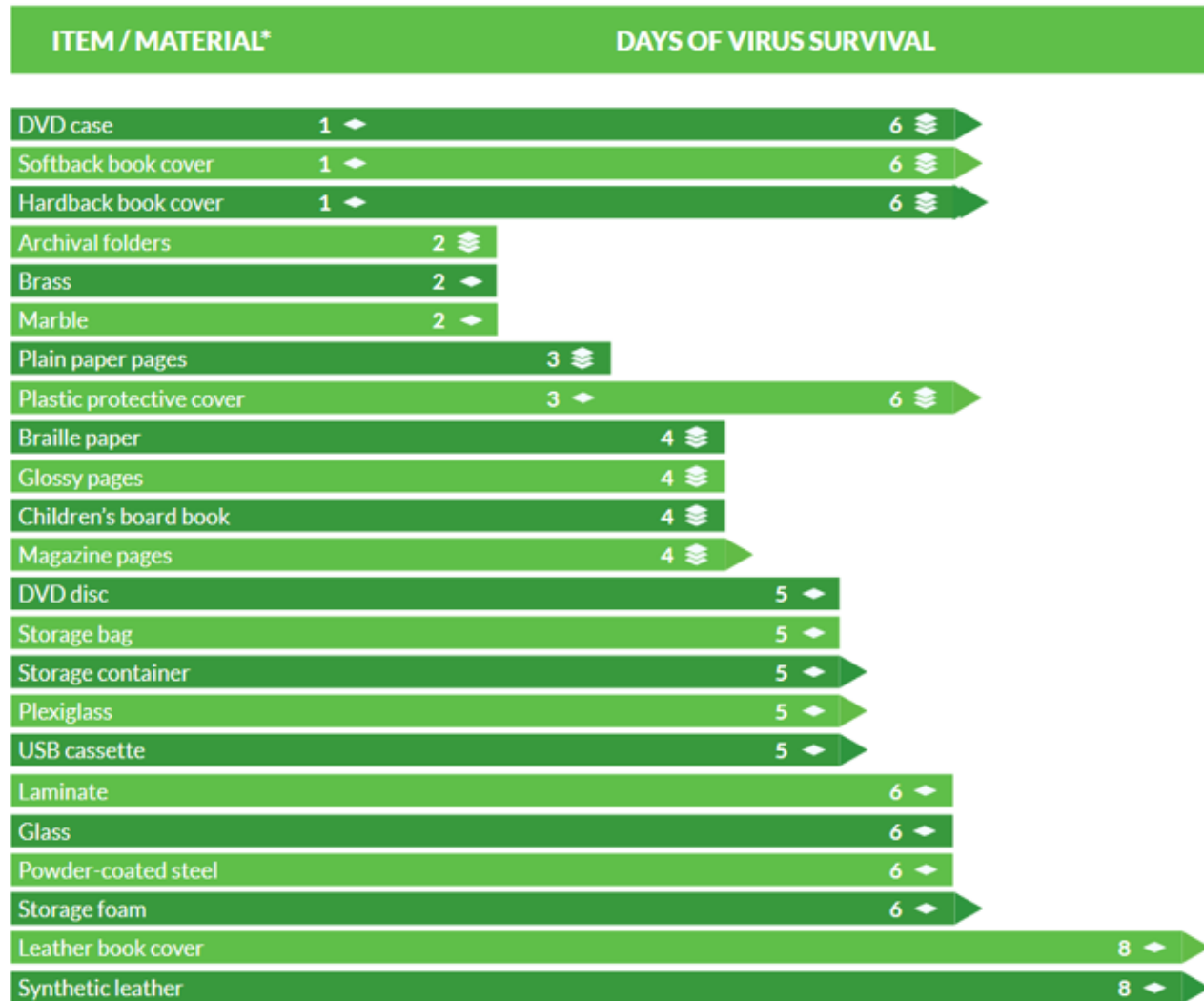
| Item | Use |
|----------------------------|--|
| Glass | Windows, doors, display cases |
| Marble | Flooring, counters, columns |
| Laminate | Countertops |
| Brass | Fixtures, railings |
| Powder-coated steel | Lockers, shelving, book trucks, exhibit elements |

Test 6 SARS-CoV-2 Natural Attenuation



How long the virus survives on commonly used library, archive, and museum materials

- Item tested in a **stacked** configuration.
- Item tested in an **unstacked** configuration.
- Item showed **trace amount** of virus after testing.
- Item was **above LOQ** after testing.



THE BUFFALO HISTORY MUSEUM



Robin Foley
Director of Operations



THE BUFFALO HISTORY MUSEUM





Reopening New York

Low-Risk Indoor Arts & Entertainment Guidelines for Employers and Employees



These guidelines apply to all indoor museums, historical sites, aquariums, and other related institutions or activities that have been permitted to [reopen](#). See "Interim COVID-19 Guidance for Low-Risk Indoor Arts and Entertainment" for full details.

During the COVID-19 public health emergency, all owners/operators of indoor museums, historical sites, aquariums, and other related activities should stay up to date with any changes to state and federal requirements related to low-risk indoor arts and entertainment activities and incorporate those changes into their operations. This guidance is not intended to replace any existing applicable local, state, and federal laws, regulations, and standards.

| | Mandatory | Recommended Best Practices |
|---------------------|---|---|
| Physical Distancing | <div>✓</div> Limit the workforce and patron/visitor presence to no more than 25% of maximum occupancy, inclusive of patrons/visitors, who must only be permitted entry into the institution if they wear an acceptable face covering. | <div>✓</div> Restrict/modify the number of workstations and employee seating areas, so that individuals are at least 6 ft. apart in all directions (e.g. side-to-side and when facing one another) and are not sharing workstations without |

Pandemic Aware Procedures



Pandemic Aware Procedures



Revised January 25, 2021

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Cleaning Protocol



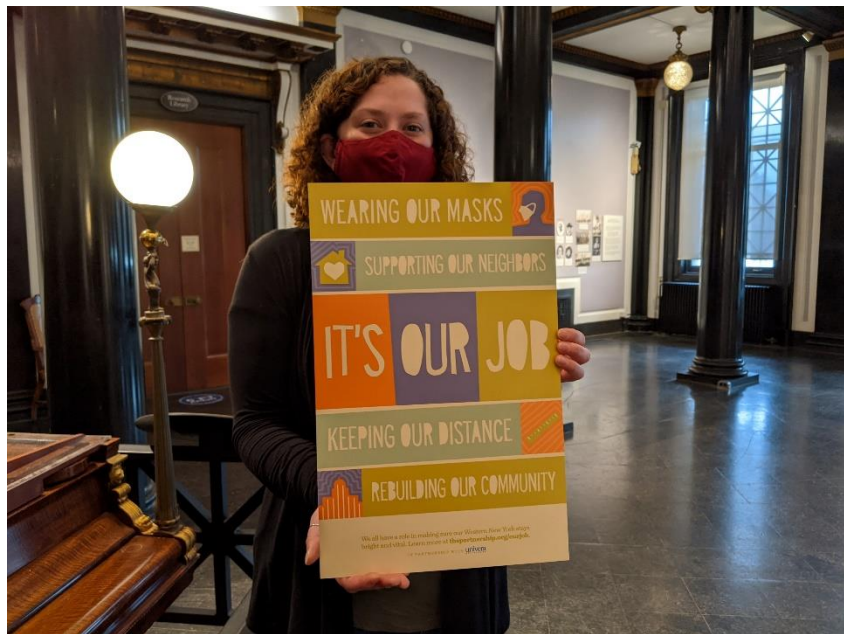
Research Library



Preparing for Reopening

Since Reopening





All photos courtesy of The Buffalo History Museum

Looking Forward

HUMBOLDT COUNTY LIBRARY

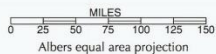


Chris Cooper
Director of Library Services,



COUNTIES

California has 58 counties. There are 3071 counties in the United States. Counties are the primary legal divisions of most states and generally are functioning governmental units. They are known as "parishes" in Louisiana. In Alaska, Census Areas are used for statistical purposes, while the principal governmental units are boroughs. Maryland, Missouri, Nevada, and Virginia also have independent cities, government units outside the jurisdiction of any county.









Library of Congress, Prints & Photographs Division, photograph by Carol M. Highsmith LC-DIG-highsm-21787



Photo credit: Bill Moehnke / Humboldt County Library

Humboldt County Library Branches

Eureka Arcata

Blue Lake Ferndale

Fortuna Garberville

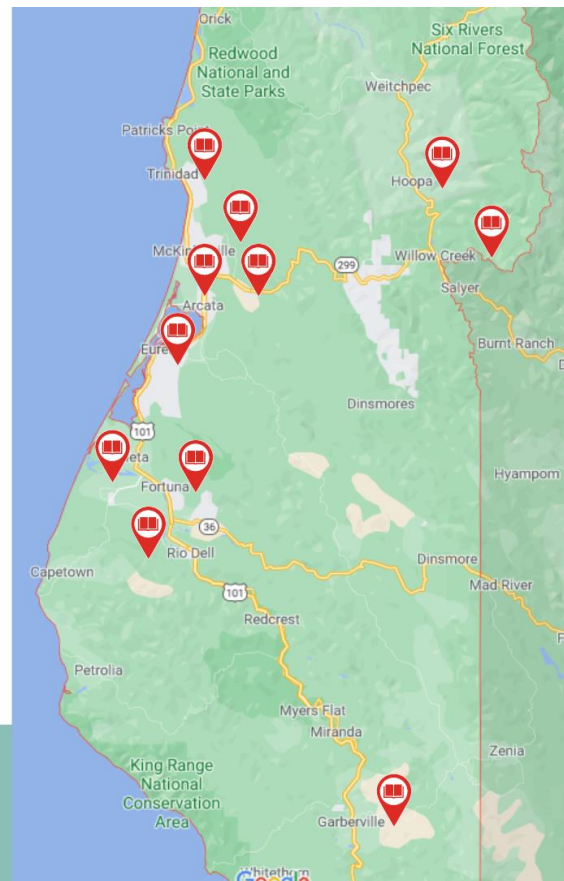
Hoopa McKinleyville

Rio Dell Trinidad

Willow Creek



**AND A BOOKMOBILE THAT
SERVES SMALLER COMMUNITIES**



Humboldt County Library

By the Numbers

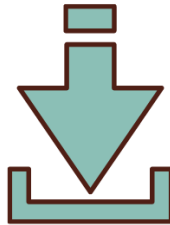
489,936

PHYSICAL ITEMS
CHECKED OUT



44,757

ITEMS
DOWNLOADED ON
LIBBY/OVERDRIVE



1,060

LIBRARY
PROGRAMS



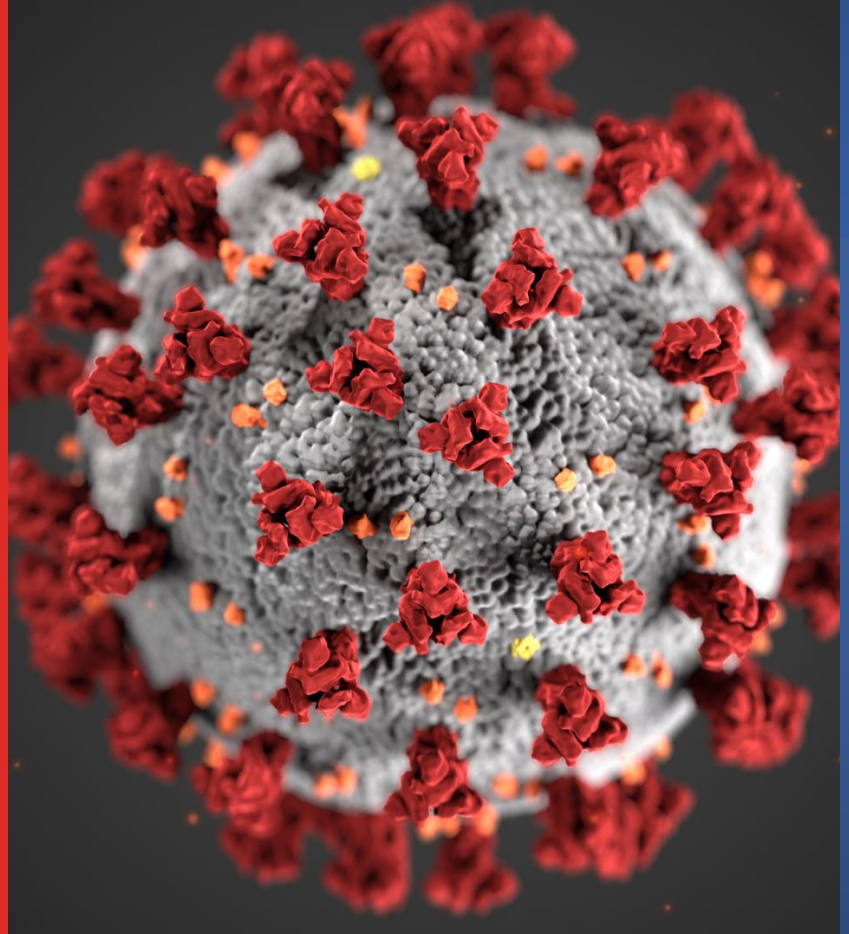
22,873

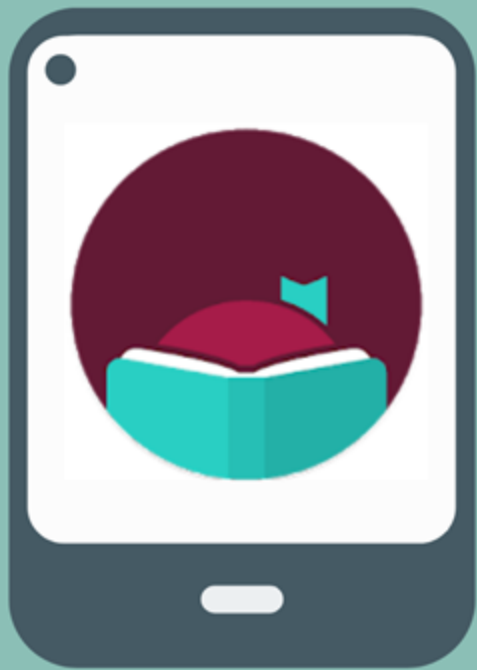
VISITS
PER MONTH



2018-2019 Statistics

Effects of COVID-19 on Library Services





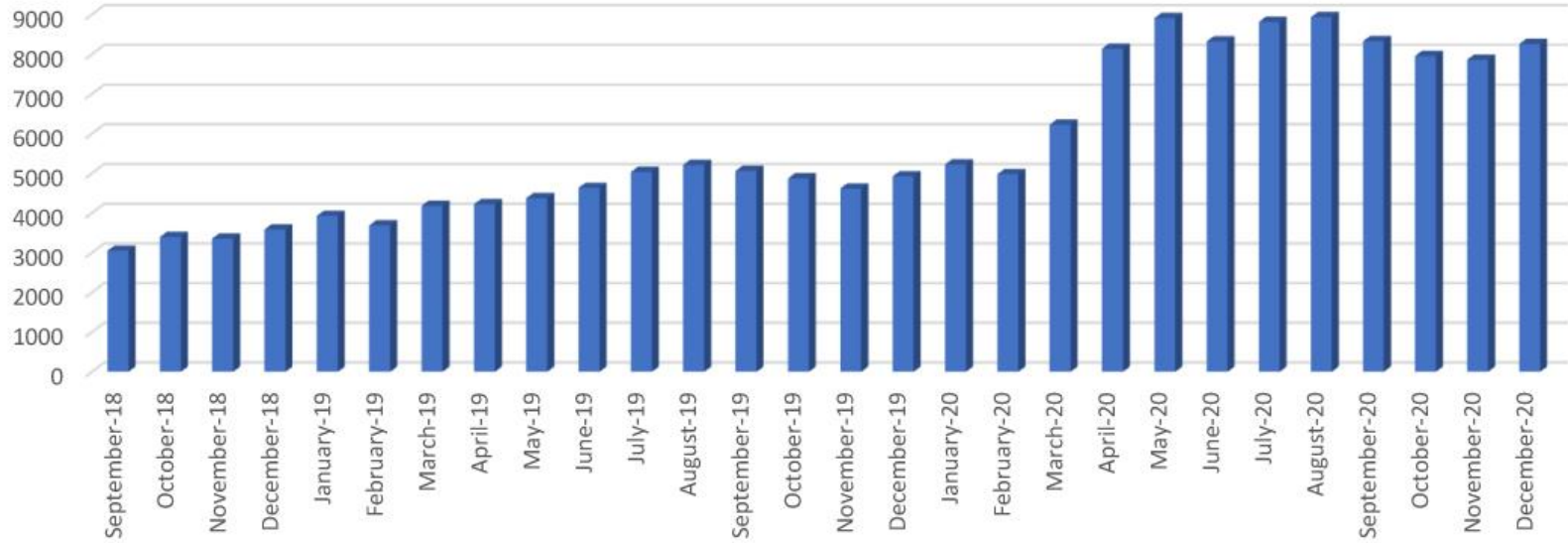
E-Account Eligible

Libby/Overdrive E-Books & Audiobooks

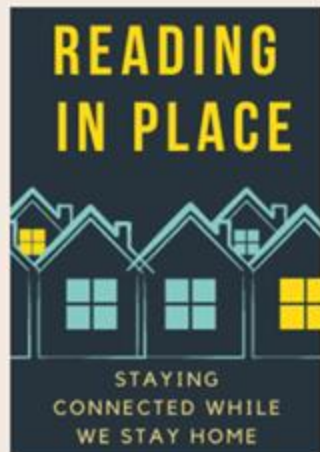
Get e-books and audiobooks instantly and easily, right onto your device

- All you need is a library card and device (smartphone, tablet, etc.)
- Items download directly onto your device.
- No late fees - items return automatically

Humboldt County Overdrive Checkouts



Online Book Groups



Available via Zoom

Community Events

**HUMBOLDT
COUNTY
HISTORICAL
SOCIETY**



Lecture Series

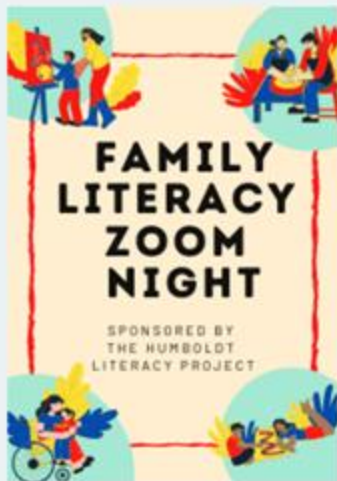




Photo credit: Susan Parsons / Humboldt County Library



Photo credit: Susan Parsons / Humboldt County Library



Photo credit: Kellie Johnson



Zip & ILL

Helping you find your book

- Zip Book program allows you to order books not in our collection
- ILL (Inter Library Loan) allows you to borrow books from other libraries around the country
- Request online via form



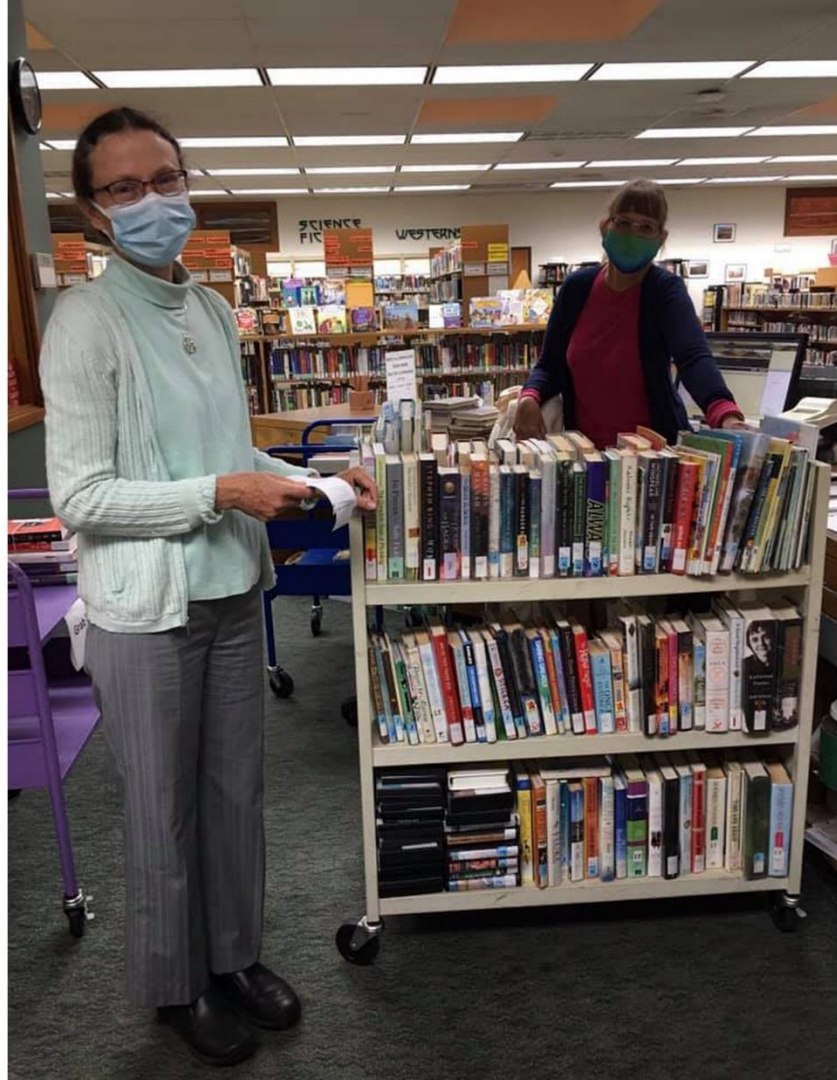


Photo credit: Susan Parsons / Humboldt County Library



Photo credit: Michael Logan / Humboldt County Library



Curbside Pickup

Get physical items like books, DVDs, books on CD and magazines

- Place up to four items on hold online or by phone
- Library will notify when item is available.
- Drive to the front of your local branch and call the number posted out front.
- Library staff will bring items out on a cart.

Humboldt County Library
Main Branch



CURBSIDE PICKUP

PLEASE STAY IN YOUR
VEHICLE AND CALL US AT

707-269-1940

LIBRARY STAFF WILL
BRING OUT YOUR
MATERIALS FOR PICKUP.

**YOU MUST BE WEARING
A MASK AND MAINTAIN A
DISTANCE OF 6 FEET OR
MORE AT ALL TIMES.**



Humboldt County COVID-19 Plan Approval Certificate for Retail Employers



This business:



Has an approved worksite plan



Conducts COVID-19 training for all employees



**Has implemented individual control measures
and screening**



**Follows state-approved cleaning and disinfecting
protocols**



Observes all physical distancing guidelines.

COMPLIANCE LINE: 707-441-3022



Grab Bags

Items selected for you by library staff

- 8-10 items per grab bag
- Staff will discuss what you like/dislike
- Available through at any branch
- Online form available soon



Photo credit: Susan Parsons / Humboldt County Library



Photo credit: Ronda Wittenberg / Humboldt County Library



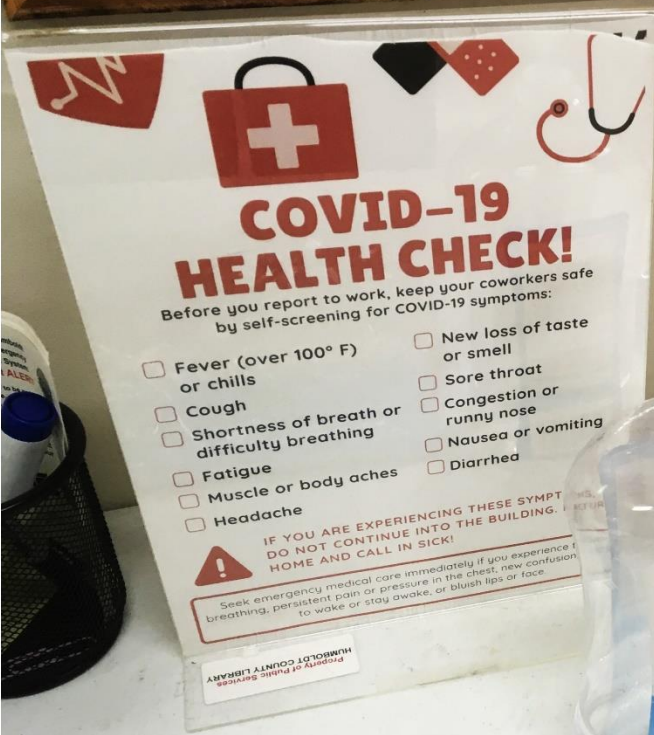
Photo credit: Ronda Wittenberg / Humboldt County Library



Photo credit: Susan Parsons / Humboldt County Library



Photo credit: Susan Parsons / Humboldt County Library



COVID-19 HEALTH CHECK!

Before you report to work, keep your coworkers safe by self-screening for COVID-19 symptoms:

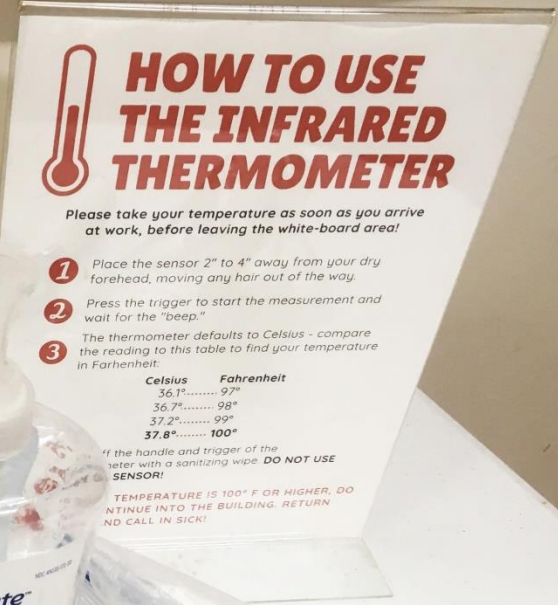
☐ Fever (over 100° F) or chills
☐ Cough
☐ Shortness of breath or difficulty breathing
☐ Fatigue
☐ Muscle or body aches
☐ Headache

☐ New loss of taste or smell
☐ Sore throat
☐ Congestion or runny nose
☐ Nausea or vomiting
☐ Diarrhea

IF YOU ARE EXPERIENCING THESE SYMPTOMS, DO NOT CONTINUE INTO THE BUILDING. RETURN HOME AND CALL IN SICK!

Seek emergency medical care immediately if you experience difficulty breathing, persistent pain or pressure in the chest, new confusion, inability to wake or stay awake, or bluish lips or face.

Property of Public Services
HUMBOLDT COUNTY LIBRARY



HOW TO USE THE INFRARED THERMOMETER

Please take your temperature as soon as you arrive at work, before leaving the white-board area!

- Place the sensor 2" to 4" away from your dry forehead, moving any hair out of the way.
- Press the trigger to start the measurement and wait for the "beep."
- The thermometer defaults to Celsius - compare the reading to this table to find your temperature in Fahrenheit:

| Celsius | Fahrenheit |
|---------|------------|
| 36.1° | 97° |
| 36.7° | 98° |
| 37.2° | 99° |
| 37.8° | 100° |

***If the handle and trigger of the meter with a sanitizing wipe. DO NOT USE SENSOR!**

IF TEMPERATURE IS 100° F OR HIGHER, DO NOT CONTINUE INTO THE BUILDING. RETURN HOME AND CALL IN SICK!

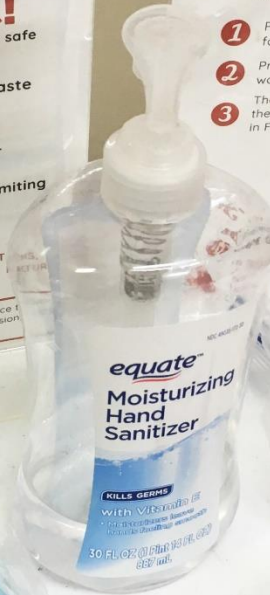
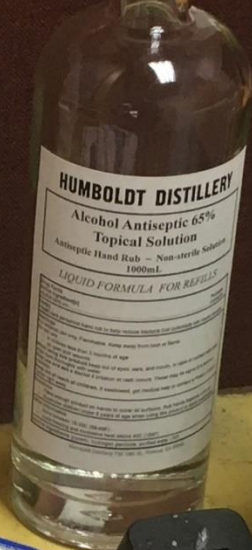


Photo credit: Michael Logan / Humboldt County Library



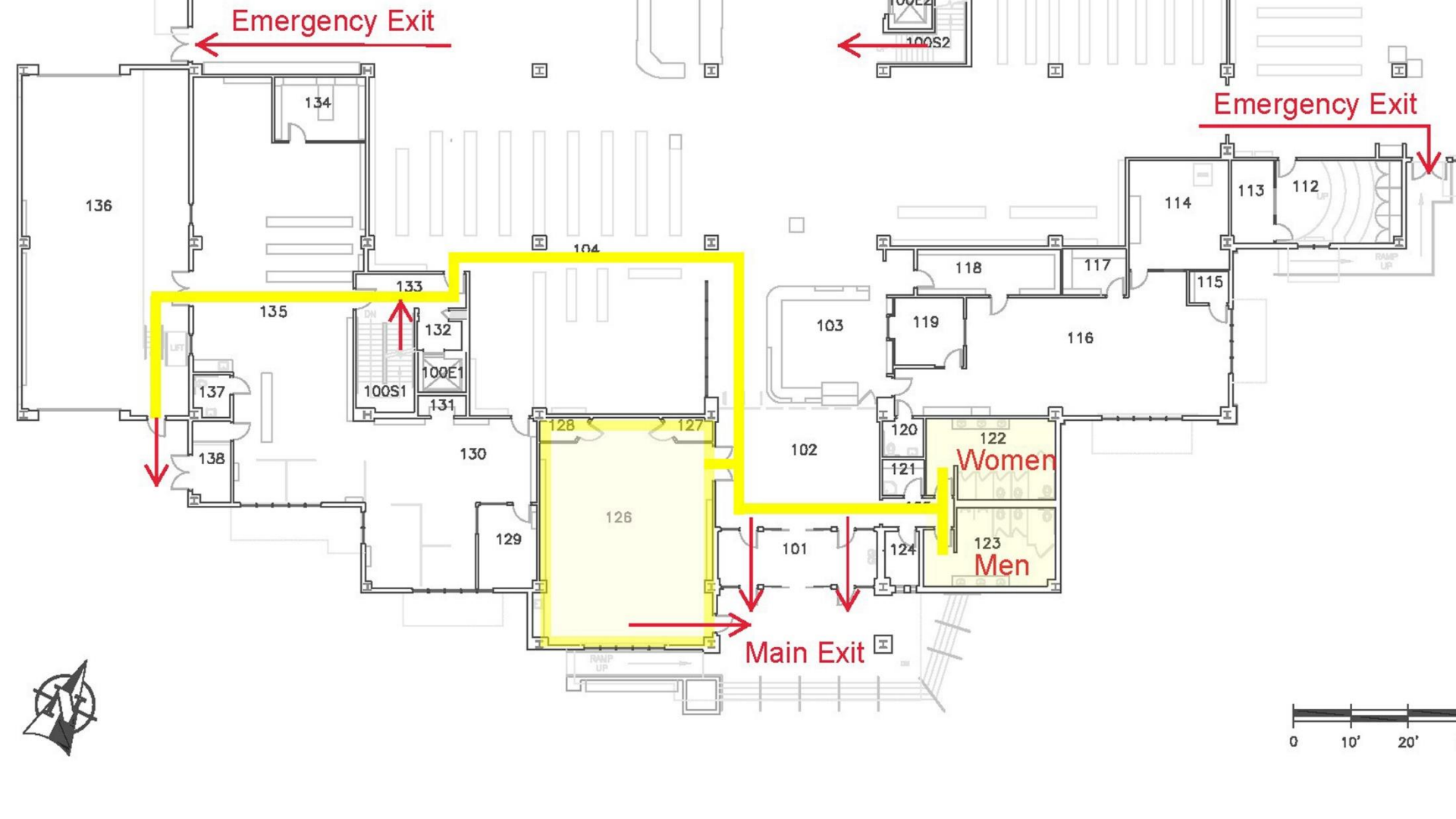
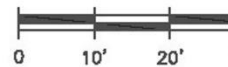
Emergency Exit

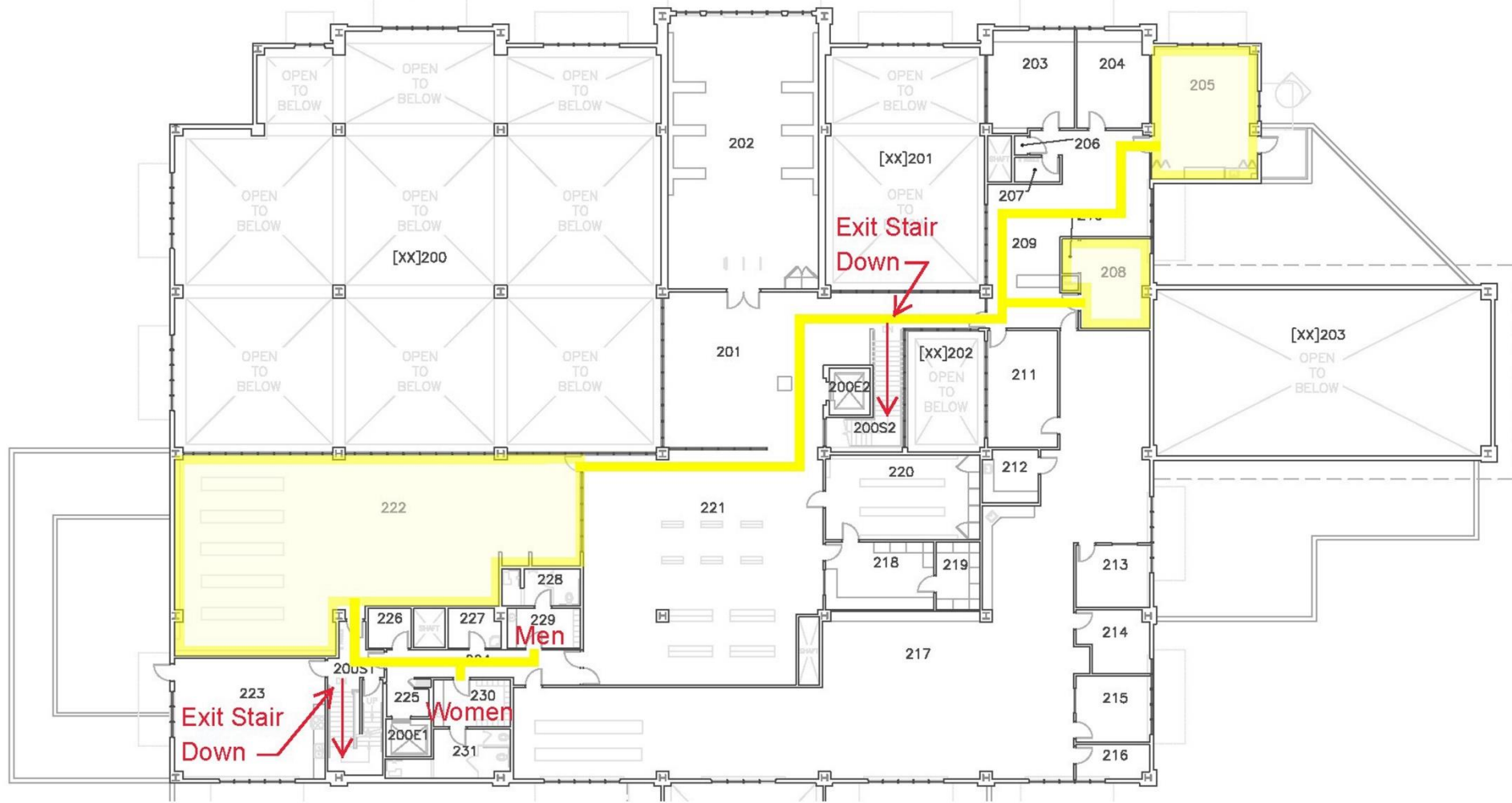
Emergency Exit

Main Exit

Women

Men





Humboldt County COVID-19 Dashboard

[Printable Dashboard \(PDF\)](#)

[State of California Data and Tools](#)

Community Risk Level

Widespread

24.3

Adjusted Case Rate*
(per 100k)

6.8%

Positivity Rate*

Tier Definitions**

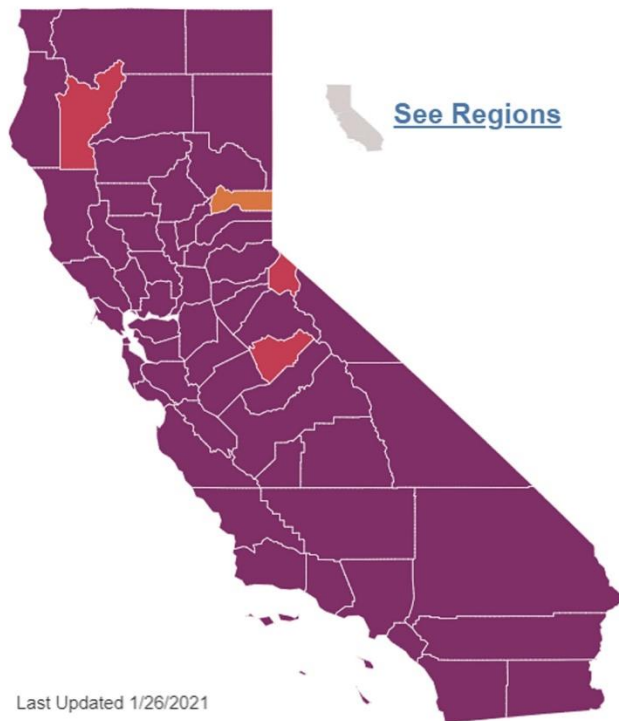
| Community Risk | Individual Risk | Adjusted Case Rate | Positivity Rate |
|------------------------------|---|---|---------------------------------------|
| Widespread Tier 1 | Widespread outbreak that is growing with many undetected cases. Take strong measures to limit all contact. | More than 7 daily new cases (per 100k) | More than 8% positive tests |
| Substantial Tier 2 | Many cases with conditions for community spread, with many undetected cases likely. Limit everyday activities to increase safety. | 4 - 7 daily new cases (per 100k) | 5 - 8% positive tests |
| Moderate Tier 3 | Moderate number of cases with majority of cases from a known source. Increase efforts to limit personal exposure. | 1 - 3.9 daily new cases (per 100k) | 2 - 4.9% positive tests |
| Minimal Tier 4 | Cases are somewhat sporadic, and contact tracing can be used to control the virus. Take everyday enhanced precautions. | Less than 1 daily new cases (per 100k) | Less than 2% positive tests |

Source: covid19.ca.gov/safer-economy

Follow [local](#) and [state](#) health orders and guidance.

Current tier assignments as of January 26, 2021

Tier assignments may occur any day of the week and may occur more than once a week. Select a county to see what region it's in.



STATEWIDE METRICS

71.6 New COVID-19 positive cases per day per 100K

12.4% Positivity rate (7-day average)

0.0% ICU availability

Find a county



Click on the map for updated metrics

COUNTY RISK LEVELS

| | Counties | Population | |
|-------------|----------|------------|-------|
| Widespread | 54 | 40,093,779 | 99.9% |
| Substantial | 3 | 32,266 | 0.1% |
| Moderate | 1 | 3,115 | 0.0% |

Last Updated 1/26/2021



Photo credit: Chris Cooper / Humboldt County Library



Photo credit: Michael Logan / Humboldt County Library

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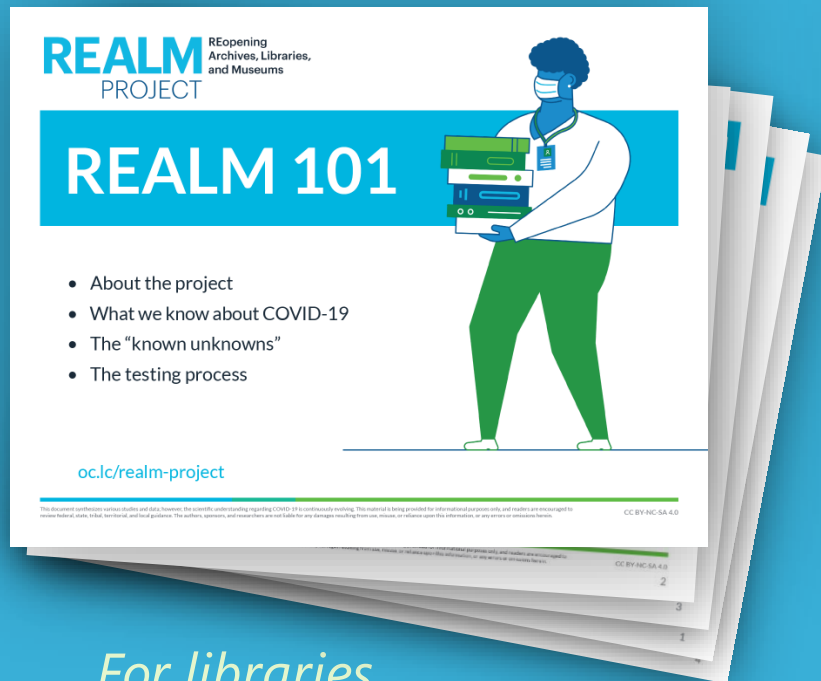
REopening
Archives, Libraries,
and Museums



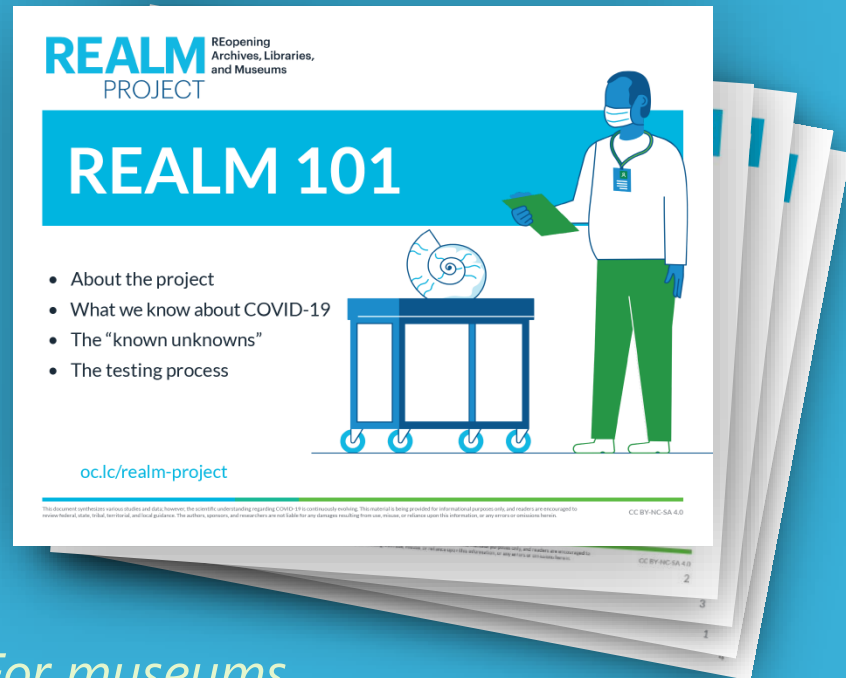
TOOLKIT RESOURCES



REALM 101: A PROJECT OVERVIEW



For libraries



For museums

Figure 3. Test 3 attenuation of SARS-CoV-2 at days 0, 2, 3, 4, and 5, with \pm 95% confidence intervals indicated by the black vertical bars for each test date and item.

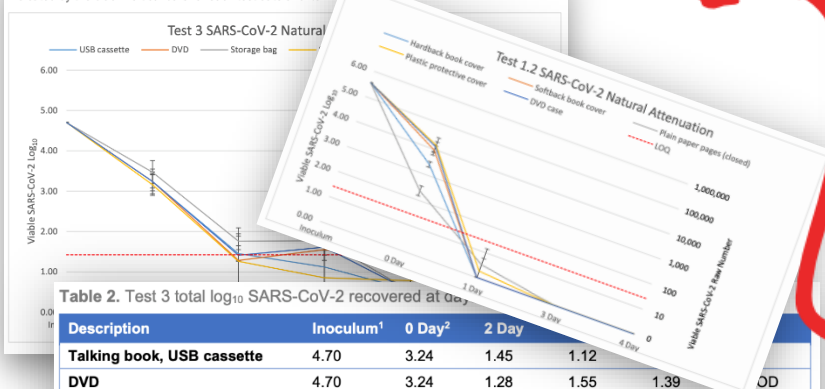


Table 2. Test 3 total log₁₀ SARS-CoV-2 recovered at Day

| Description | Inoculum ¹ | 0 Day ² | 2 Day | 3 Day | 4 Day |
|-----------------------------------|-----------------------|--------------------|-------|-------|-------|
| Talking book, USB cassette | 4.70 | 3.24 | 1.45 | 1.12 | |
| DVD | 4.70 | 3.24 | 1.28 | 1.55 | 1.39 |
| Storage bag (flexible plastic) | 4.70 | 3.47 | 1.76 | 1.77 | 0.52 |
| Storage container (rigid plastic) | 4.70 | 3.16 | 1.26 | 0.85 | 0.78 |
| Plexiglass | 4.70 | 3.24 | 1.41 | 1.61 | 0.52 |

¹ Total number (log₁₀) of virus applied to each material

² Total number (log₁₀) of virus recovered after ~1hr dry period

Total Log₁₀ SARS-CoV-2 Recovered

| Description | Inoculum ¹ | T0 ² | 1 Day | 2 Day | 3 Day | 4 Day |
|-----------------------|-----------------------|-----------------|-------|-------|-------|-------|
| Children's board book | 5.26 | 2.55 | 1.30 | 1.06 | 0.78 | < LOD |
| Archival folders | 5.26 | 1.30 | 0.52 | < LOD | < LOD | < LOD |
| Braille pages | 5.26 | 1.82 | 0.82 | 0.78 | 0.26 | < LOD |
| Glossy pages | 5.26 | 3.16 | 2.05 | 0.52 | 0.57 | < LOD |
| Magazine pages | 5.26 | 2.13 | 1.31 | 0.26 | < LOD | 0.26 |

¹ Total number of virus applied to each material

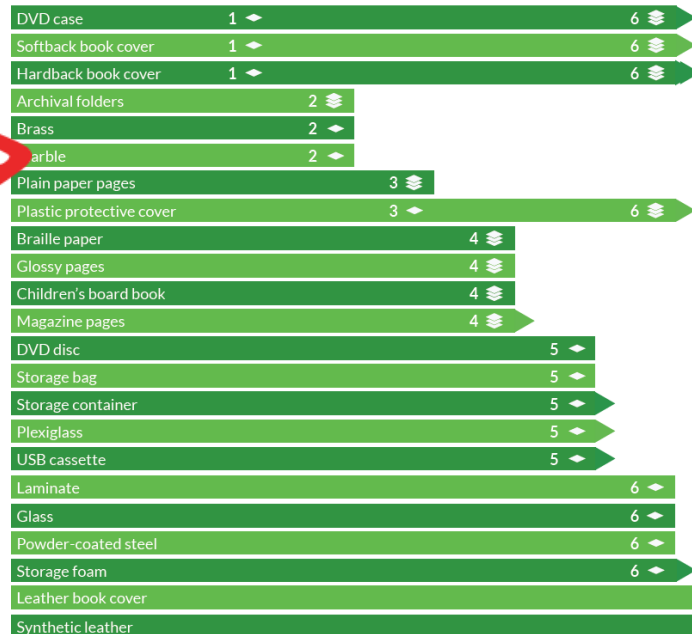
² Total number of virus recovered after ~1hr dry period

Figure 2: Total Log₁₀ SARS-CoV-2 Recovered at days 1, 2, 3 and 4

How long the virus survives on commonly used library, archive, and museum materials

ITEM / MATERIAL*

DAYS OF VIRUS SURVIVAL



Item tested in a stacked configuration.

Item tested in an unstacked configuration.

Item showed trace amount of virus after testing.

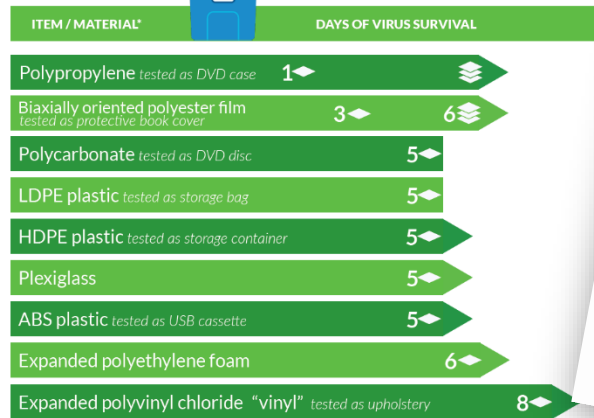
Item was above LOQ ** after testing.

MATERIAL COMPARISONS

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VISUAL AID: PLASTICS

How long the virus survives on commonly used library, archive, and museum plastics



Item tested in a stacked configuration.
 Item tested in an unstacked configuration.
 Item showed trace amount of virus after testing.

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VISUAL AID: BOOKS & PAPER

How long the virus survives on books & paper

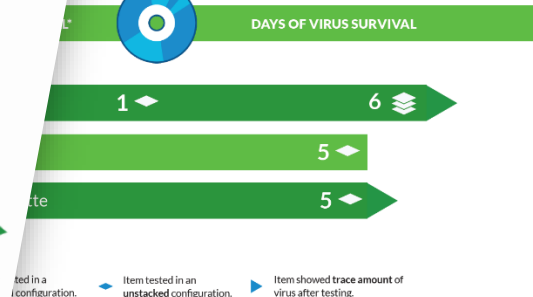


Item tested in a stacked configuration.
 Item tested in an unstacked configuration.
 Item showed trace amount of virus after testing.
 Item was above LOQ after testing.

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VISUAL AID: MEDIA

How long the virus survives on media



Item tested in a stacked configuration.
 Item tested in an unstacked configuration.
 Item showed trace amount of virus after testing.

LIT REVIEW

- How the virus spreads
- Decontamination strategies
- Prevention strategies



TAKEAWAYS

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LITERATURE REVIEW

Decontamination and prevention strategies

Researchers suggest several options for reducing the presence of SARS-CoV-2 in environments, which may help prevent transmission among people in those environments.

| Strategy | Details |
|-----------------------------|---|
| Cleaning hands | <ul style="list-style-type: none">• Wash hands for 20 seconds from fingertip to forearm with soap and warm water• Rub hands with 60–80% ethanol hand sanitizer for 30 seconds• Rub hands with 75% 2-propanol hand sanitizer for 30 seconds |
| Mask wearing | <ul style="list-style-type: none">• Wear face masks that cover the nose and mouth, such as medical and triple-layer cotton masks• Provide masks to all guests and staff |
| Social distancing | <ul style="list-style-type: none">• Maintain a physical distance of at least 5.2–9.8 ft• Implement intermittent occupancy• Schedule visits |
| Disinfecting | <ul style="list-style-type: none">• Refer to list of disinfectants and surface cleaners that meet the EPA's criteria for use against SARS-CoV-2 |
| Heating and cooling systems | <ul style="list-style-type: none">• Use continuous air renewal from fresh outdoor air• Use UVC energy with HVAC systems• Use nickel filters with HVAC systems |
| Ventilation | <ul style="list-style-type: none">• Use local air exhaust• Use high-efficiency particulate air (HEPA) and MERV 14 filters• Mix fresh outdoor air with existing air• Ensure cool air enters the room at floor level and exhausts at ceiling level• Use stand-alone air purifiers |
| UV light * | <ul style="list-style-type: none">• Expose to combined UVA/UVC light for 9 minutes• Expose to pulsed-xenon UV for 1 minute |

* UV light is known to cause damage to collections materials.
For more information, view the REALM webinar [Collections and Facilities: Caring for Your Resources During COVID-19](#).

This document synthesizes various studies and data; however, the scientific understanding regarding COVID-19 is continuously evolving. This material is being provided for informational purposes only, and readers are encouraged to review federal, state, tribal, territorial, and local guidance. The authors, sponsors, and researchers are not liable for any damages resulting from use, misuse, or reliance upon this information, or any errors or omissions herein.

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- **Decision-making considerations**
- **Cleaning considerations**
- **Other topics coming soon**



MORE COMING SOON:

- Visual aids for new test results
- More literature review takeaways
- More checklists and decision-making tools
- Resources related to vaccine issues, virtual programs, social distancing modifications, etc.

CHAT question:

**What feels most urgent
to you now?**

For more information

- Visit oclc.org/realm
 - Research
 - Resources (toolkit)
 - Question submission form
 - FAQ
- Join mailing list (10,000+ subscribers)
 - Generally every two weeks
 - First to hear the news



Questions for REALM?

#REALMproject oclc.org/realm-project



REALM
PROJECT

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BATTELLE