

2020-2021

COVID-19 SCIENCE CLASSROOM Safety Guidelines



In times of uncertainty, Flinn understands that clear communication and easy access to facts and recommendations is key—and we are ready to help.

There is an overwhelming amount of information available on returning to school safely and we know your time is limited.

The education and safety professionals at Flinn have created several guides curating the key pieces of information designed to help as you plan for returning to your Science Classroom.

Pulling from the guidelines provided by the Organization for Economic Co-operation and Development (OECD), Centers for Disease Control and Prevention (CDC), World Health Organization (WHO), and North American Center for Threat Assessment and Trauma Response (NACTATR)* and more, we have curated relevant information designed to help you with a safer return to school.

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Please note that Flinn Scientific is providing you with the document to assist in the general guidance for your science department practices and protocols in this dynamic teaching and learning environment. We encourage you to incorporate these best-practices into your school plans and routines and are providing this resource for your convenience only. Flinn makes no representations about the accuracy of these materials and urge you to consult federal, state, and local public health guidelines for the most up-to-date information on science safety protocols in your local jurisdiction. Copyright Flinn 2020



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General Recommendations— Classroom Set-Up, Safety & Cleaning

Here's what you need to know:

Consider maximizing classroom/lab spacing and student safety when creating patterns of movement throughout the classroom (potential use of directional arrows and indicators).

Reinforcement of positive personal hygiene practices - remind students to maintain a clean and safe workspace and personal environment through the minimizing of clutter, and sanitizing workspaces often.



Assist students with guidance on how to safely transition between learning spaces while still maintaining physical distancing. Plan time to practice these transitions with students so that they understand how to move from one area to another.

Encourage students and staff to practice hand hygiene etiquette through the proper washing of hands for 20 seconds or how to properly sanitize hands as they enter and exit the classroom/lab area. Constant reminders about proper hand hygiene, respiratory etiquette, and physical distancing guidelines will be useful to enhance the awareness of the new routines.

Have an inventory of science apparatus, materials and equipment in the science department to identify which items can be easily and effectively sanitized. Cloth or porous materials are more difficult to sanitize properly than vinyl or plastic materials. Some materials (porous or cloth material) cannot be effectively cleaned and should be removed from instructional areas (e.g., area rugs, pillows, cushions).

General Recommendations— Classroom Set-Up, Safety & Cleaning

Staff should be properly trained on how to apply disinfectant safely and have access to the appropriate personal protective equipment needed. Ensure that all cleaners and disinfectants are stored appropriately and out of reach of students.

The WHO, CDC, OECD, UNICEF and other recognized authorities are recommending that high-use items be sanitized pre and post usage. Lab equipment would be considered a high-touch item. Others in this category are art supplies, math manipulatives, toys, sports equipment and other tactile learning products. The recommendation is to use warm soapy water when possible, and to use disinfectant or sanitizer when appropriate such as on electronic and delicate instrumentation.

The Lysol® Dip Method

Disinfection is Key this School Year

Lysol® Disinfectant added to warm water is incredibly effective in cleaning lab instruments or apparatus. Let equipment air-dry.

Safety glasses can be disinfected in a **Lysol® Dip Method**:

- 1-1/4 oz Lysol with one gallon of soft or DI water
- Dip goggles for 15 minutes
- Rinse with water
- Allow to air dry

Using this method there is absolutely no damage or discoloration to any of the products. Water spots remaining on the lenses are easily removed using lens paper or a paper towel and leave no scratches or marks. By using a UV-C goggle sterilizer cabinet afterwards, you have provided 99.99% disinfection.

Shared Workspace

Here's what you need to know:

Plan for opportunities for students to sanitize their own workspace using disinfectant wipes or disinfectant/sanitizer on a paper towel.

Include time for them to wash their hands after sanitizing their area and any possible lab equipment, instruments, apparatus, and materials being used for the activity. Ideally every student should have their own individual set of common supplies such as scissors, tape, glue, etc.



Please ensure that students are not sharing supply items between each other. When this is not possible, have certain aspects already created for the students (for example, you may need to provide already cut out pieces for them to manipulate as part of the activity).

Properly clean and disinfect shared lab workspaces between classes using approved disinfectant or sanitizer as provided by the school. Open the windows when practical and safe, and this will provide additional fresh air and ventilation to the science lab area.

Remote Learning Safety Considerations

Should you be involved in a distance or remote learning environment, and there is a need for at-home hands-on activities for science and STEM, please follow the guidance from the NSTA specifically for this type of instructional modality.

[NSTA— Safety for Hands-On Science Home Instruction](#)

Lab Equipment & Activity Supplies

Here's what you need to know:

Limit the use of equipment, apparatus, instrumentation and materials and eliminate the use of science products that would be passed between or shared by multiple students throughout a class period. Sanitize the lab items before and after use according to the guidelines



Sanitize all science equipment between class periods. You can use the Lysol Dip method for most equipment and items, but use disinfectant wipes and ethyl alcohol-based sanitizer on delicate or electronic equipment.

Only select the use of science equipment that can be easily sanitized between each student's use such as balances, microscopes, dissection tools, glassware and common hard surface items found throughout the lab area.

Goggles should not be used unless they can be easily sanitized between each student's use by following the [Lysol® Dip method](#) and ideally the use of a goggle sanitization cabinet with a UV-C light. If a lab calls for goggles, but proper sanitization cannot occur then the activity should not be conducted. Safety is a priority and PPE protocols must be strictly adhered to and ensuring that ALL people in the lab have access to necessary PPE and safety equipment is critical.

Follow CDC guidance on equipment sanitization procedures. Equipment that will be touched or handled by students should be cleaned with soap and water and then disinfected with an EPA-approved disinfectant that is effective for COVID-19 and is safe for that piece of equipment. Work with your custodial staff to obtain the appropriate disinfectant. There are many of them available, but ensure that these are EPA and FDA approved for use in schools and have a 99.9% effectiveness rate.

Lab Equipment & Activity Supplies

Disinfectants should only be used on materials that students are not likely to put in their mouths.

For various science education products that will be handled by students, assign each student their own piece of equipment for that class period. Properly clean and disinfect science apparatus and equipment between classes. If there is not equitable access to equipment

for all students or if equipment cannot be properly cleaned and disinfected between periods, avoid the use of equipment altogether. You may need to use a virtual environment for certain lab investigations from a practical and safety perspective.



If using standard science lab equipment, keep multiple items available in case a piece of equipment being used by a student becomes dirty or unsanitary during a lesson or activity or in the case of a non-functional piece of equipment/apparatus.

Use disposable items if they can be swapped safely. For example, can you use a paper or plastic cup instead of a beaker or a wooden Popsicle stick or plastic coffee stir stick instead of a glass stir rod?

Investigate the ability to transform traditional paper items into digital or virtual versions, such as the scanning of some paper-based lessons into a digital style.

Consider having students perform the lab or activity individually and then collaborate digitally to analyze and debrief based on their observations and unique data sets that they gathered based on the activity.

Group Activities/Rotations/Stations

Here's what you need to know:

In accordance with the school district and state DOE guidance, provide access to digital tools for instructional strategies to shift group activities into a virtual teaching and learning environment. This is essential as part of the training needed to ensure that both students and teachers can communicate and collaborate in a virtual environment.



If you are using hands-on activities with your students, if they are required to work together in close proximity, have them wear PPE including face masks to minimize the spread of airborne droplets and strictly enforce the sanitation and disinfection for students and their equipment both pre and post usage. There needs to be extra time built-in to the activity/investigation to allow for this hygiene and prevention aspect to the curricular framework and classroom time allotment for each class.

Plan to incorporate many standards-based lessons by selecting activities that require minimal or no shared equipment by students. This may require more materials to be consumed since instead of having 6-8 lab stations for the activity, there may be one for each student in the class.

Creatively examine science lesson plans and investigations so they minimize the close proximity interactions for students (ideally no physical contact) and do not require students to be in close physical proximity to each other. The use of virtual lab simulations may be a viable option for providing the continuity of learning to students.

Small Group Instruction

Here's what you need to know:

Consider using diagnostic testing to assist in 'cohorting' students by various levels so that you can better meet their individualized learning needs based on the amount of comprehension and SEL required.

Maintain physical and social distancing if planning to have students participate in a face-to-face situation. If planning to have students do hands-on science activities, ensure that they are wearing face masks when inside of the six-foot threshold for physical distancing and that they are extra vigilant about hygiene and sanitation protocols.



Reference Links & Additional Resources

External Resources:

[NSTA: Safe Hands-on Science for Home Instruction](#)

[EPA Disinfectants for Use Against SARS-CoV-2](#)

[CDC Considerations for Schools](#)

[CDC Disinfecting Building Facility](#)

[OECD Youth and COVID-19 Response Recovery and Resilience](#)

[Public Health Authority of Canada Guidelines on Disinfection in the Workplace](#)

Flinn Resources:

[Flinn Professional Learning 2020: Recorded Webinars](#)

[Science2Go™](#)

[360Science™](#)

[FlinnPREP™](#)

[Return2School Resources](#)

[Flinn Learning Solutions](#)



FLINN PROFESSIONAL LEARNING

Teaching Science in a COVID-19 Environment

The unique challenges facing educators this fall are many, from how to teach as safely as possible in an onsite environment to how to deliver better remote or distance learning. We've curated some expert opinions to help you move forward, available on-demand.

[View our FREE Instructional Solutions webinar series.](#)

Acknowledgment of Completion

Your signature on this contract indicates that you have read these guidelines, reviewed them, and are aware of the measures taken to ensure the safety in the science classroom.

Name

Date

Safety Coordinator Name

Date

FLINN SCIENTIFIC

ASK ABOUT OUR CUSTOM DISTRICT SOLUTIONS DESIGNED TO SUPPORT A SAFE RETURN TO SCHOOL:

- Custom safety and professional development/learning proposals to ensure full school safety
- Full PPE for students, faculty, and support staff
- Blended science learning solutions that provide continuity of lab instruction for both onsite & remote learners