

2021-2022

COVID-19 SCIENCE CLASSROOM

Safety Guidelines & Learning Solutions



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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General Recommendations— Classroom Set-Up, Safety & Cleaning

Here's what you need to know:

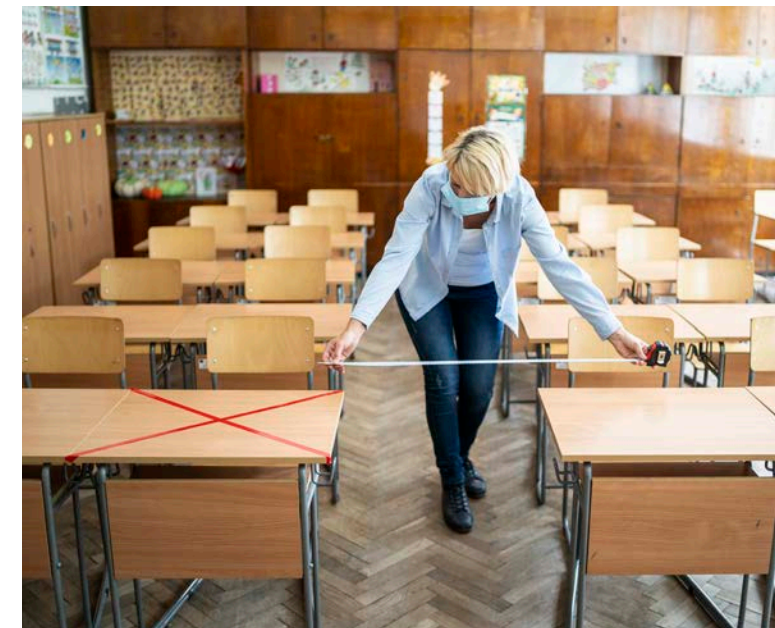
Consider maximizing classroom/lab spacing and student safety when creating patterns of movement throughout the classroom (potential use of directional arrows and indicators).

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).



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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.
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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.



Acknowledgment of Completion

Your signature on this contract indicates that you have read the COVID-19 Science Classroom Safety Guidelines, reviewed them, and are aware of the measures taken to ensure the safety in the science classroom.

Name Date

Safety Coordinator Name Date

Teaching Science—Challenges & Solutions

As we continue to communicate with science educators, we have identified some key challenges to teaching Science this school year, including:

- My students need to see things happen.
- I can't just send them to virtual simulations, they need to do labs.
- I don't know what we are going to do, we are looking for stuff to help.
- I want my kids to be able to do labs, but I think we are going to be fully remote so I don't know how that will be possible.

As we look to implement programs that offer solutions to these challenges that:

- Include real data
- Include prompts designed to promote engagement with science practices, so that students can make sense of a topic or question rather than hear about and recapitulate it
- Connect to the natural world
- Are straightforward to implement
- Are adaptable
- Are accessible

Regardless of the instructional methodology, Flinn Scientific curriculum and supplemental solutions provide the content, labs, instructional flexibility and scientific support needed to teach science effectively this school year. We've highlighted three programs we believe answer the challenges, are easy to implement, and are available for this coming school year.



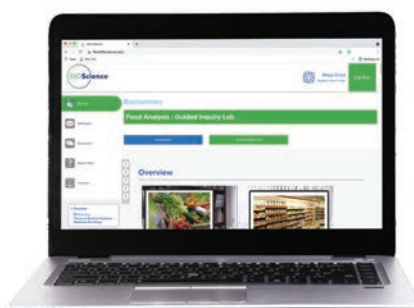


DIGITAL SOLUTIONS



INTRODUCING PAVO

PAVO by Flinn Scientific is the all-in-one platform for school district science programs, with comprehensive content and customizable labs across all subject areas at the middle school, high school, and AP levels. PAVO gives teachers the tools to integrate digital and hands-on learning, facilitate inquiry-based exploration, differentiate instruction, and access labs, embedded safety resources, test prep, formative and summative assessment, and multi-level reporting in a single solution. PAVO features our suite of award winning Digital Solutions including:

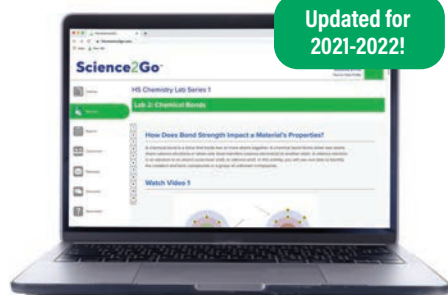


Designed for High School Students

360Science™

360Science is a complete lab experience—combining hands-on labs with robust digital activities, including videos, virtual reality and simulations. Fully aligned with NGSS and other state science standards, 360Science is designed for use with any core Science textbook or curriculum.

With 360Science, labs are differentiated based on four levels of guidance and challenge: short, guided, open and advanced. Teachers can assign labs to students at their appropriate level—from the prescriptive to the most independent—to engage them with the most personalized and effective lab experience.

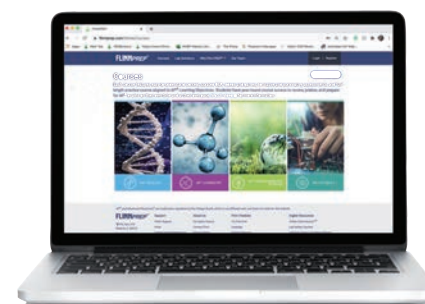


Designed for Middle School & High School Students

Science2Go™

Science2Go was created to ensure remote and hybrid learners could “do science labs” without any supplies or equipment—by providing access to real lab data with analysis prompts and videos that engage students in scientific and engineering practices. Science2Go is aligned to NGSS and other state science standards.

This year, we’ve taken the award-winning platform and added all new phenomenon-based videos, system-gradable assessment questions, updated lab topics, new assessments and more, making Science2Go the perfect tool to pair with hands-on learning in your classroom.



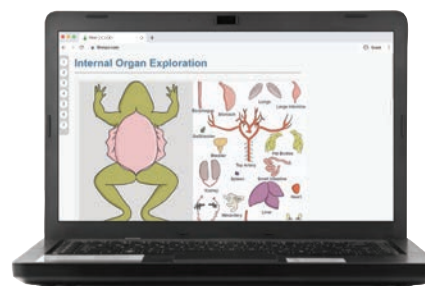
Designed for AP® Science* Students

FLINNprep™

FLINNprep offers both online courses and inquiry labs—aligned with the College Board’s Big Ideas and Learning Objectives—to help students be prepared for the exam. Online Courses features easy-to-understand content, review and reteach videos, games assessments and full-length practice exams.

Inquiry Labs provides pre-lab content, technique videos, and summary videos with sample exam questions for each experiment so students can see how the lab connects to the AP® exams. FLINNprep is the only AP® Solution that relates the labs back to the AP® exam.

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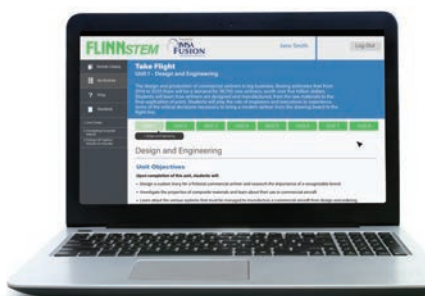
Designed for Middle School & High School Students

DigitalDissection™

Dissection is one of the lab experiences that students can find extra challenging.

Digital Dissection offers extra support through this process with a virtual dissection lab experience that can be used for pre-lab practice, post-lab review and as a stand-alone dissection alternative.

The solution includes multi-media content with video tutorials, interactive diagrams and quizzes around six common specimens.

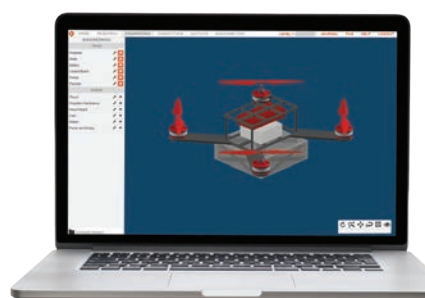


& Middle School Students

FLINNSTEM™

FlinnSTEM™ is a standards-aligned STEM curricula that uses an engaging hands-on approach to guide students to explore new science concepts, connect to real-world experiences, and discover engineering design and scientific inquiry. FlinnSTEM is the perfect solution used in STEM clubs and after school programs

The solution includes 15 modules of student hands-on activities accompanied by digital content for teacher professional development to maximize the student experience.



WhiteBox Learning™



WhiteBox Learning is a STEM learning system that teaches the engineering design process—in the most real-world way—through 3D virtual models, unlimited design iterations and an online competition. Students engage with 12 applications, exposing them to various STEM careers.

With the emphasis on engineering practices in NGSS and other standards, WhiteBox Learning can be used to help reinforce science practices and increase understanding of core science concepts. One high school in Georgia found their GMAS state science test scores improved by 30 points when WhiteBox Learning was used in conjunction with science classes.

Whether used as a stand-alone CTE Engineering solution or as a complementary program in the science classroom, WhiteBox Learning lets students engineer and optimize virtual models, with the option to build a physical model.

Classroom PPE

Safety matters. As a trusted partner in schools like yours for more than 40 years, we understand the challenges unique to schools and why having the right PPE matters.

Secure your access to PPE today, so your students and staff can have it when they need it.



Classroom PPE

Make sure you have plenty of supplies and equipment so every student can experience all the engaging science you are planning.

From your typical science room gloves and goggles order to acrylic dividers to maximize space and extra face masks, we have what you need for this school year.



Gloves	
AP7080*	Disposable Powder-Free Nitrile Gloves Pkg. of 100. Sizes XL-XS
AP3216*	Disposable Polyethylene Gloves Pkg. of 100. Sizes XI-S
SE1032	Disposable Polyethylene Gloves Pkg. of 500
AP3232	Playtex-Type Gloves 1 Pair
AP4429*	Latex Gloves Pkg. of 100. Sizes XI-S
AP4828*	Powder-Free Latex Glove Pkg. of 100. Sizes XI-S

*each size has its own product number; numbers listed are for large sizes

Face Shields	
AP11017	Medical Protective Face Shield
SE226	Full Face Protective Shield

Goggles	
SE1049	Chemical Splash Safety Goggles
AP3306	Chemical Splash Safety Goggles, Standard Size, Vented
AP10655	Over-the-Glass Safety Glasses, Anti-Fog
AP10654	Tall Lens Safety Glasses
AP7474	Uvex® Safety Goggles
AP4661	Bio-Glasses Safety Glasses
AP9033	Cleanse a Lens™ Station
AP7473	Lens Cleaning Towelettes

Goggle Sanitizers	
SE1000	Flinn Classic Goggle Sanitizer
SE1093	Flinn Digital Goggle Sanitizer
SE1094	Flinn Small Digital Goggle Sanitizer
SE1001	Flinn Goggle Sanitizer Replacement Lamp

Acrylic Dividers	
AP11168	StructureLite Sneeze Guard Plastic Divider, Square with Screw
AP11032	StructureLite Sneeze Guard Plastic Divider, Magnetic, Round Base
AP11148	StructureLite Sneeze Guard Plastic Divider, Magnetic, Square Base
AP11131	EZ-Grip Sneeze Guard Plastic Divider, Screw- Type
AP11114	EZ-Grip Sneeze Guard Plastic Divider, Magnetic
AP11225	Economy Sneeze Guard Plastic Divider
AP11072	4-Way Divider/Barrier

Disposable Face Masks	
BAP9574VV	Surgical Face Mask, Protective Box of 50
AP11071	Face Mask, Child Size Box of 50

Hand Sanitizer	
AP11042	Flinn Multi-Purpose Spray Sanitizer, 4 oz, Package of 10 Bottles
AP11032	Hand Gel Sanitizer, Travel Size, 50 mL, Package of 10 Bottles
AP11066	1 Gallon Gel Sanitizer with Pump, Package of 4 (total 4 Gallons)
AP11070	Gel Sanitizer, 55 Gallon Drum
AP11065	Sanitizer Dispenser—Dispenser Only
AP11064	Sanitizer Dispenser Stand - Stand Only
AP11063	Sanitizer Dispenser With Stand

Cloth Face Masks	
AP11221	Personalized Face Mask: Three-Layer with Black Trim—Adult
AP11220	Personalized Face Mask: Three-Layer with Black Trim—Child

COVID-19 SCHOOL SAFETY GUIDE

Recommended PPE

GYMNASIUM

Concerns: Social Distancing, Shared Items, Cleanliness.

Recommended Products:
 Sanitizing Stations at Each Entrance and Exit
 Designated Entrance and Exit Signage
 Limited Space and Social Distance Signage
 Disinfectant wipes
 Soapy water and rags

LOCKER ROOM

Concerns: Social Distancing, Increased Saliva, Cleanliness. Mark lockers to be closed every 4 lockers.

Recommended Products:
 Hand Sanitizing Station
 Multi-Surface Spray Sanitizer/Disinfectant
 Designated "Contamination" Area for Anything Touched that Needs to be Cleaned
 Acrylic Dividers for Sinks
 Signage

ART & MUSIC ROOMS

Concerns: Social Distancing, Increased Saliva, Cleanliness. All items must be 1-1 use—no shared equipment.

Recommended Products:
 Disinfectant Wipes
 Multi-Surface Spray Sanitizer/Disinfectant
 Designated "Contamination" Area for Anything Touched that Needs to be Cleaned
 Acrylic Dividers where 6' Cannot be Maintained

SHARED RESOURCE ROOM

Concerns: Social Distancing, Shared Items, Cleanliness,

Recommended Products:
 Hand Sanitizing Station
 Disinfectant Wipes
 Multi-Surface Spray Sanitizer/Disinfectant
 Designated "Contamination" Area for Anything Touched that Needs to be Cleaned
 Acrylic Dividers where 6' Cannot be Maintained

CLASSROOMS

Concerns: Social Distancing, Shared Items, Cleanliness,

Recommended Products:
 Disinfectant Wipes
 Multi-Surface Spray Sanitizer/Disinfectant
 Designated "Contamination" Area for Anything Touched that Needs to be Cleaned
 Acrylic Dividers where 6' Cannot be Maintained

MAIN ENTRANCE

Concerns: Social Distancing, Shared Items, Cleanliness

Recommended Products:
 Hand Sanitizer Station
 Infrared Thermometer Station
 Signage for Designated Point of Entry
 Directional Arrows for 1-way Movement
 Social Distance Signage
 Masks

LIBRARY MEDIA CENTER

Concerns: Social Distancing, Shared Items, Cleanliness,

Recommended Products:
 Hand Sanitizing Station
 Disinfectant Wipes
 Multi-Surface Spray Sanitizer/Disinfectant
 Designated "Contamination" Area for Anything Touched that Needs to be Cleaned
 Acrylic Dividers where 6' Cannot be Maintained

CAFETERIA

Concerns: Social Distancing, Shared Items, Cleanliness, Increased Spread of Saliva. Students should be encouraged to bring food from home, and disposable materials and pre-packaged food items used. Rigid cleaning protocols must be enforced.

Recommended Products:
 Masks
 Hand Sanitizing Station
 Disinfectant Wipes
 Multi-Surface Spray Sanitizer/Disinfectant
 Designated "Contamination" Area for Anything Touched that Needs to be Cleaned
 Acrylic Dividers where 6' Cannot be Maintained
Staff: Full PPE including Aprons or Isolation Gowns, Shoe Coverings, Gloves,

HALLWAYS

Concerns: Social Distancing, Shared Items, Cleanliness,

Recommended Products:
 Signage
 Hand Sanitizer Station at Points of Congruence

BATHROOMS

Concerns: Social Distancing, Cleanliness.

Recommended Products:
 Acrylic Dividers for Sinks
 Signage

CLASSROOMS

Concerns: Social Distancing, Shared Items, Cleanliness,

Recommended Products:
 Disinfectant Wipes
 Multi-Surface Spray Sanitizer/Disinfectant
 Designated "Contamination" Area for Anything Touched that Needs to be Cleaned
 Acrylic Dividers where 6' Cannot be Maintained

SCHOOL TRANSPORTATION

Concerns: Social Distancing, Shared Items, Cleanliness

Recommended Products:
 Masks
 Multi-surface Hand Sanitizer
 Disinfectant Wipes
 Infrared Thermometer
Staff: Face Shield and Mask

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](#)



Safe science starts with safe teachers

Get your science teaching career started with the Safety experts your colleagues know and trust. Our FREE New Teacher Academy is confidence-boosting, safety education designed to set you up for success in the lab and the science classroom.

[Get Started](#)

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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