



## **SCIENCE SAFETY ACKNOWLEDGEMENT FORM 2020-2021**

*“Science is a process of discovering and exploring the natural world. Exploration occurs in the classroom/laboratory or in the field. As part of your science class you will be doing many activities and investigations that will involve the use of various materials, equipment, technology, and chemicals.*

*Safety in the science classroom/laboratory/outdoor arena is the FIRST PRIORITY for students, instructors and parents. To ensure safer classroom, laboratory and field experiences, the following Science Safety Rules and Regulations have been developed for the protection and safety of all.*

*Throughout the course of the academic year, your instructor will provide additional rules for specific situations or settings. The rules and regulations must be followed at all times. After you have read and reviewed the rules and regulations with your instructor Please sign and date this agreement and keep a copy of your signed agreement in your notebook. Your signature indicates that you have read these rules and regulations, understand that lab and field activities can have hazards, and agree to follow them at all times while working in the classroom/laboratory and/or field. Your signature on this document, **and completion of the online Google safety tests** are required before you are permitted to participate in any activities or investigations. Your parents will also be asked to read, review and sign this safety agreement.”*

### **Sources**

*(Adapted from the NSTA Safety In The Science Classroom Agreement: & Carolina Biological Supply Company Laboratory Safety Agreements) <http://static.nsta.org/pdfs/SafetyInTheScienceClassroom.pdf> and <https://www.carolina.com/teacher-resources/Document/student-laboratory-safety-agreement/tr38202.tr>*

*(Taken/Adapted from Stevenson University Safety Policy for Environmental Field Studies) ([www.stevenson.edu/...sciences/...safety/.../field-studies-agreement.pdf](http://www.stevenson.edu/...sciences/...safety/.../field-studies-agreement.pdf)) and Worthington Field Studies Inc. ([http://www.wfsinc.org/attachments/summer12/Form\\_4\\_Required\\_Forms\\_Packet.pdf](http://www.wfsinc.org/attachments/summer12/Form_4_Required_Forms_Packet.pdf))*

**Please acknowledge, using Google Forms, that you have read and understand the agreement and/or the sections assigned by your teacher which pertain specifically to your science class.**

## General Rules

Student initials \_\_\_\_\_

1. Prepare for the lab/field activity by reading and/or listening to the instructions and safety information ahead of time.
2. Always stay on task - don't fool around in the lab/field. No horseplay, pranks, or practical jokes.
3. Follow all verbal and written instructions given by the instructor.
4. Never enter a science classroom unless the teacher is present.
5. Never enter the Vinci Computer Lab, Innovation Lab and/or middle office/chemical storage area adjacent to the labs unless your teacher has asked you to do so and you are under his/her supervision.
6. Never work in the lab unsupervised and/or or perform unauthorized or unapproved experiments.
7. Do not eat, drink, apply cosmetics, manipulate contact lenses or chew gum in the lab.
8. Keep work areas tidy. Keep aisles and exits clear, and move backpacks, jackets and other personal items out of the way of lab work, especially around tables, desks and lab benches.
9. Never sit and/or stand on the tables, lab counters or classroom chairs. Never lean back in your chairs (four chair feet on the floor at all times).
10. Never touch glassware, chemicals, equipment, computers, printers, laser engravers, drones, photography equipment etc... in the labs without authorization from your teacher.
11. Never remove chemicals, glassware, lab, camera or computer equipment or other property from the laboratory.
12. Work areas should be kept clean and neat at all times. Work surfaces are to be cleaned at the end of each laboratory or activity.
13. Make sure all skin scratches and cuts are covered with bandages or a waterproof dressing before working with any chemical and/or in the field in order to reduce or prevent exposure to chemicals and other pathogens.
14. Before and after laboratory activities, wash the work area with disinfectant.
15. Consider all lab chemicals and specimens to be dangerous. Do not touch, smell, or taste any chemicals or biological materials. When in the field students should never eat berries or other plant material of fungi (mushrooms). Students should never pick and/or handle any fruit or fungus (mushrooms) without their instructor's permission. Even if they feel they know what it is or have done so in a previous situation or school.

16. **Covid-19 Safety Precaution:** Students should only perform only experiments authorized by the teacher. Due to Covid, many labs this year will be demonstrated by your teacher and/or an individual student rather than engaging in individual laboratory activities.

17. **Covid-19 Safety Precaution:** Please do not share lab equipment or school supplies with your peers. If there is a specific piece of equipment that needs to be shared your teacher will have you wear gloves when using the equipment and the equipment will be sanitized prior to use by another student.

18. **Covid-19 Safety Precaution:** Please keep at least six feet of space between your peers in the classroom and your teacher. Use the desk stickers to help you remember where to sit. In the field, please maintain 6-10 feet of space between you and your classmates when walking to a remote site or working. Your teach will indicated the amount of space you need to maintain based on the activity

19. **Covid-19 Safety Precaution:** Please wear your masks at all times in the classroom and in the field. When working in the field, your teacher will let you know when and if it is safe to remove your mask based on the specific activity you are engaged in.

20. **Covid-19 Safety Precaution:** Please wash your desk space, back of chair and seat with disinfectant provided by your teacher at the end of each class period. Your teacher will allot time for you to do this and will instruct you how to disinfect your work space.

21. **Covid-19 Safety Precaution:** If you feel ill at any time during class please alert your teacher so that we can have you checked out by Health Services.

22. **Covid-19 Safety Precaution:** In general it is important to keep your hands away from your face, hands and mouth during laboratory activities. During the Covid-19 Pandemic it is especially important to apply this principle to everyday activities.

## Personal Safety in the Laboratory and/or Field

Student initials \_\_\_\_\_

1. Wear approved eye protection properly at all times while you perform lab work and/or certain field activities. **Covid-19 Safety Precaution:** After using your safety glasses and/or chemical splash goggles remember to return them to the Ziplock bag with your name on it.
2. Wear any additional safety equipment (aprons, safety vests, gloves, etc.) as directed by your teacher.
3. Wear closed toe shoes, socks, and long pants while performing laboratory/innovation lab and/or when in the field. When working in the lab/field tie back long hair, tuck your shirt into your pants (in the field tuck your pants into your socks) and avoid loose or baggy clothing, skirts or shorts
4. Report all accidents, chemical spills, and injuries immediately to the instructor, no matter how trivial they may seem at the time. Follow your instructor's directions for immediate treatment.
5. Know the location and how to use all of the safety equipment in the room. This includes eye wash stations, the shower, fire extinguishers, first aid kits and the safety blanket.

6. Know the location of the nearest exits.

7. Wash hands thoroughly with soap and water after handling any laboratory materials and/or after field work. If soap and water are difficult to access in the field use hand sanitizer. Hands should be washed in this fashion even if gloves are worn. **Covid-19 Safety Precaution:** Please use the hand sanitizer in the hallway before entering the classroom and wash your hands with soap and water and or use the hand sanitizer when exiting your class to minimize exposure due to Covid-19.

8. Insects represent a significant source of disease transmission, and precautions to minimize contact are necessary. The use of insect repellent is strongly encouraged in the field to protect against injuries and infections that may result from bites, stings or exposure to insects such as ticks, mosquitoes, flies, and others that are part of the environment.

9. Know the different types of fire extinguishers in the labs and how and under what circumstances to use them.

10. Puppies from *Guiding Eyes for the Blind* may visit campus. At times faculty also bring their dogs to class. Students may not pick-up and/or touch the puppies/dogs unless permission has been given by your instructor. Remember that young puppies have very sharp teeth so be careful when holding them near your face. Please do not encourage rough play or nibbling from teething puppies. **Note: Due to Covid-19 restrictions puppies will not be visiting campus this year.**

11 **Covid-19 Precaution:** “We are still learning about this virus, but it appears that it can spread from people to animals in some situations, especially after close contact with a person sick with COVID-19. Currently, there is no evidence that animals play a significant role in the spread of SARS-CoV-2 to people. However, reports from infected mink farms in the Netherlands suggest that in these environments there is the possibility for spread of SARS-CoV-2 from mink to humans.”

**“What you need to know**

- A small number of pets worldwide, including cats and dogs, have been reported to be infected with the virus that causes COVID-19, mostly after close contact with people with COVID-19.
- Based on the limited information available to date, the risk of animals spreading COVID-19 to people is considered to be low.
- It appears that the virus that causes COVID-19 can spread from people to animals in some situations.
- Treat pets as you would other human family members – do not let pets interact with people outside the household.
- If a person inside the household becomes sick, isolate that person from everyone else, including pets.
- This is a rapidly evolving situation and information will be updated as it becomes available.”

[CDC Source 1](#)

[CDC Source 2](#)

12. To prevent severe bacterial infections, do not allow visiting puppies, faculty dogs or cats to lick any open scratches or wounds.

13. Certain classrooms may have living organisms, including plants and animals in aquaria and/or other containers. Students should not handle organisms without approval from the teacher. Hands should be washed with soap and water after handling all organisms.

14. In the event of a clean-up in the labs involving blood (e.g. a bloody nose, cut) please deposit blood stained items and materials in the **Red, BloodBorne pathogen boxes or special disposable red bags** in the classroom.

## Chemical and General Lab Safety

Student initials \_\_\_\_\_

1. Read the label on the bottle carefully before using chemicals. Be sure you're using the correct chemical before removing it from the bottle.

2. Do not remove chemicals, specimens, equipment, or other supplies from the lab.

3. Dispose of all waste materials only as directed by the instructor.

4. Do not handle broken glass with bare hands. Use gloves, a brush and dustpan to clean up broken glass and place it in the designated glass disposal container (green and white cardboard box) in the lab.

5. Follow proper procedures when operating a burner or other heat source. Always turn it off when not in use. Never leave a flame unattended. Remember that hot glass looks the same as cold glass. After heating, glass remains hot for a very long time. Determine if an object is hot by placing your hand close to the object to feel for radiating heat but never on the object.

6. **Covid-19 Safety Precaution: When using hand sanitizer and/or Covid handwash please wait until your hands are dry before igniting any flame.**

7. Never fill pipettes by mouth suction. Always use the suction bulbs or pumps.

8. Do not force glass tubing into rubber stoppers. Use glycerin as a lubricant and hold the tubing with a towel as you ease the glass into the stopper.

9. Should a fire drill or other evacuation emergency occur during an investigation or activity, make sure you turn off all heating elements, burners and electrical equipment and exit the room as directed.

10. Replace the top or lid on any chemical container as soon as you have finished using it and return the container to the designated location.

11. Do not return unused chemicals to the reagent container. Follow the instructor's directions for the storage or disposal of these materials.

12. Glassware should be washed in the dishwasher. Glassware too fragile for the dishwasher is to be washed with hot, soapy water and scrubbed with the appropriate type and sized brush, rinsed, dried, and returned to its original location.

13. Inform your teacher of any allergies or medical conditions including latex gloves, insect repellent, foods, etc...

## **Outdoor/Field Safety**

**Student initials** \_\_\_\_\_

1. Stay with your class/group for the duration of the field investigation or field trip for the duration of the investigation. Do NOT wander off.
2. Individuals are encouraged to apply sunscreen as needed while in the field to prevent against burns.
3. Wear gloves when investigating the ponds on campus or digging in the soil.
4. Minimize skin exposure to prevent sunburn, bug bites and allergic reactions by wearing long socks and pants. Wear a hat if you need to minimize exposure to the sun and/or ticks. Wear sunscreen if conditions warrant the use of this product.
5. Be able to identify poisonous plants and ticks before going outside.
6. Be careful where you step and do not run in the field. Ground cover may be hiding hazards such as rocks, holes and roots. When wading in streams to avoid falling and injuring yourself go slowly and do not hop from rock to rock as rocks are very slippery.
7. Inform your teacher of allergies to food, plants and/or insect bites. If you need to use an EpiPen for severe allergies, make sure you have it with you, and inform your teacher of its location while you are outside. All students, if bitten or stung, will be encouraged to take a Benadryl until they can be evaluated back on campus for any potential unknown allergies/reactions by the Health Office
8. Do NOT dispose of any waste products or waste chemicals outside. All waste products should be collected and returned to the classroom for proper disposal.
9. Do NOT enter any body of water. You do not know the depth, velocity, or cleanliness of the water. When doing stream studies your teacher will identify those streams that are safe for you to enter to conduct your field research.
10. If the activity requires disturbing a habitat (e.g., digging a hole, turning over a log, etc..) restore the area to its original condition when finished.
11. Gather all tools and equipment and return them to the classroom when finished.
12. New England is a region of the country where ticks and tick diseases are prevalent. Extreme caution and

vigilance should be used. Students should avoid sitting on stone walls and be vigilant even after sitting on the lawn and/or petting faculty pets. Students and faculty should perform tick checks frequently in the field and should thoroughly inspect their bodies for ticks, bites and rashes when returning from field work. Complete a tick/insect check frequently in the field (e.g. every 20-30 minutes) and upon returning to the classroom/dorm. Students are encouraged to change their clothes and shower after being in the field. **If a student finds an embedded tick (attached to their skin) they should report this immediately (within 24 hours) to the Health Office and to their dorm parent or teacher. If a student experiences any symptoms associated with various tick diseases, even if they did not find any ticks on their bodies, these symptoms should also be reported to the health office for follow-up in order to rule out possible tick-borne illness. How to recognize ticks and symptoms of disease were reviewed in class and shared with you via the safety section in your Google Classroom.**

13. Be aware of changing or hazardous weather conditions and follow instructions provided to you by your teacher.

14. Students should wear eye protection and gloves anytime chemical test kits are used in the field. Eye protection should also be used when carrying long objects (e.g. net poles, meter sticks) and/or when cutting vegetation along trails

15. Students should never pick-up sick/injured animals. Mammals & Reptiles should never be handled by students. Students should report sick/injured animals immediately to a faculty member so that the community can be alerted. As for handling other animals such as amphibians, insects, and birds this should only be done with permission and supervision from your teacher.

16. Fallen trees should not be jumped on nor should dead trees (snags) be knocked over due to the potential of injury to yourself and/or others. They are also valuable homes for wildlife. If you notice a potentially dangerous situation involving a fallen tree and/or limb please alert your teacher immediately

17. Students should use caution when in the field due to the possible presence of wildlife. Dangers associated with wildlife include, but are not limited to, stings and bites from insects, poisonous snakes (very rare), black bear encounters and rabies, especially in stray domestic animals, fox, skunks, and bats.

18. Please do not pick-up or try to help turtles cross the road! Turtles bite and they carry a lot of bacteria in their saliva which could cause infection. Some of the larger snapping turtles could actually bite off your finger!! If concerned, find an adult who can facilitate a rescue if needed.

19. Care should be taken when walking in rocky areas, pulling vegetation from the base of trees, walking through tall grass or when stepping over fallen logs due to the possible presence of snakes and/or yellow jackets (stinging insects that often nest in the ground).

20. The majority of caterpillars pose no risk if touched. However, Some caterpillars have urticating spines (irritating bristles) that could raise water blisters if you brushed them along the inside of your arm. It is always best to ask your teacher before picking up caterpillars and then do so with a leaf or gloved hand rather than your bare hand. Never attempt to eat any caterpillars, slugs, or other insects.

21. Do not eat in the field unless proper sanitation has occurred prior to consuming food and a designated area for eating has been established. Remember to drink fluids often on hot days to avoid the dangers of dehydration

22. Some plants such as Poison Ivy are poisonous and can give people a bad rash. Be aware of plants with leaves of three. Become familiar with the appearance of poison ivy as well as the vines of the plant growing on trees as both

the leaves and vines can transmit irritating oil to one's skin. If exposed, wash the area well with soap and water as soon as possible.

23. Do not put pencils or pens in the mouth while working in the field.

24. Be alert to the presence of blue-green algae in ponds and lakes which can cause a health hazard to humans and animals.

25. Use chemical splash goggles and gloves when working in the field with river, pond or lake water, water testing chemicals and any other materials/activities that may prove hazardous to the eyes.

26. Use good sun sense. Wear sunscreen and sunglasses when appropriate. You might want to pack a field kit that has sunscreen and insect repellent in it.

27. Make sure that you've informed your teacher in advance if you are allergic to certain insect repellents and/or sunscreen so that alternatives can be explored.

28. Black Bears share Skiff Mountain with us and we need to respect them. When working in the field stay together as a group and make noise

*If you see a bear:* \_\_\_\_\_

- Observe it from a distance and do not chase or attempt to get closer to the bear.
- Advertise your presence by shouting and waving your arms or slowly back away as you face the bear.
- Never run or climb a tree.
- Black Bears rarely attack humans. If you are attacked do not play dead. Fight back with anything available.
- Do not walk in the forest alone
- Never attempt to feed or attract bears.
- Report bear sightings on campus **immediately** to a faculty member

29. Please make sure you understand the teacher's directions. If you do not, ask for clarification.

**To summarize, these are the potential outdoor hazards which will be reviewed with students if they pertain to their specific science class:**

- Bat Safety
- Bear Safety
- Caterpillar Safety
- Covid19 Safety Precautions
- Lightning and Wind Safety
- Mosquito Borne Diseases (e.g. West Nile Virus & Eastern Equine Encephalitis)
- Plant & Fungi Safety (e.g. Poison Ivy, Poison Sumac)
- Puppy & Dog Safety
- Rabies & Mammal Safety
- Snake Safety
- Stinging Insect Safety
- Stream & Pond Safety
- Sun Exposure Safety
- Tick Borne Diseases (e.g. Lyme Disease, Anaplasmosis, etc...)
- Water Safety



**Drones**

Students should not touch and/or start drones unless given permission to do so under the direct supervision of an adult experienced in using the equipment. The general FAA drone flight guidelines for recreational users which are subject to change ([https://www.faa.gov/uas/recreational\\_fliers/](https://www.faa.gov/uas/recreational_fliers/)) apply at Marvelwood

- Visit this website often to check for changes in the law: [https://www.faa.gov/uas/recreational\\_fliers/](https://www.faa.gov/uas/recreational_fliers/)
- Controller first on and last off when initiating drones for flight. Never start or turn off a drone without permission from the supervising adult.
- Wear Safety Glasses when operating drones.
- Students are not permitted to keep personal drones in their rooms nor are they permitted to fly drones without adult supervision on or near campus.
- [Register your drone, mark it on the outside with the registration number](#) (PDF), and carry proof of registration with you.
- Fly at or below 400 ft
- Keep your UAS (Drone) within sight
- Never fly near other aircraft, especially near airports
- Never fly over groups of people and always respect the privacy of others
- Never fly over stadiums or sports events
- Never fly near emergency response efforts such as fires, vehicle accidents, etc...
- Never fly under the influence
- Be aware of airspace requirements
- Be aware of a new online test coming soon for recreational fliers.

**3D Printers****Student initials \_\_\_\_\_**

Students should not touch and/or start 3D printers unless given permission to do so under the direct supervision of a qualified adult. Eye protection should also be worn when using 3D Printers.

**Laser Cutters/Engravers****Student initials \_\_\_\_\_**

Students should never touch and/or start laser cutters/engravers unless given permission to do so and under the direct supervision of a trained adult experienced in using the equipment. Other important safety considerations to keep in mind when using the laser cutters/engravers include:

- Always follow the manufacturer's instructions when operating a laser cutter.
- Check to make sure that the fire extinguisher mounted on the wall near the laser cutter is still in its proper place. Remember if there is a fire in or near the laser engraver, only the Halotron fire extinguishers mounted near the laser equipment may be used to avoid damaging sensitive electronic equipment.
- Regular vacuuming of the cutting deck and internal cavity of the laser cutter is very important for preventing fires!

- Know what materials can be safely cut! Some materials such as PVC produce hydrogen chloride gas which is extremely dangerous. Never cut materials unless they have been approved by your teacher.
- **Never** leave an operating laser cutter unattended.
- Wear appropriate ANSI approved eye protection for laser cutters/engravers when operating the machine.

**Hand/ Light Power Tools (e.g. Drills)**

**Student initials** \_\_\_\_\_

- Hand/Power tools should not be touched or operated unless permission from the instructor has been given to you.
- Appropriate Safety Glasses should be worn when operating these tools. \_\_\_\_\_

I have read the above science laboratory, field, and technology safety rules and regulations contained in Marvelwood’s Safety Agreement, and I agree to follow all written and verbal instructions given by my teacher during any science course, investigation, and/or activity. I acknowledge that these rules initialed by me are necessary to prevent accidents and to ensure my own safety and the safety of others around me in my science class or field environment. I will follow any additional instructions given by my instructor. I agree to ask my instructor at any time about the written or verbal rules and instructions if they are not clear to me. I understand that violation of written and/or verbal rules may result in removal from the classroom, laboratory, or field experience and that these violations may be subject to grade and/or disciplinary consequences determined by the instructor, Academic Dean and/or Dean of students. I also understand that safety agreements may be amended as new safety conditions, practices and equipment evolve and/or are introduced over time.

**Allergies & Medical Conditions**

**Do you have any allergies (e.g. food, peanuts, latex etc...) or other medical conditions that your instructor should be aware of when you are working in the classroom, laboratory and/or field?**

- Yes
- No
- I am required to carry an Epi-Pen
- I am not required to carry an Epi-Pen

**If yes, please explain in the space below. If you are not comfortable doing so please meet with your teacher in person and/or ask for your teacher to meet with the nurse.**

**Other Safety Additions:**

**Other #1:** \_\_\_\_\_

**Other #2:** \_\_\_\_\_

**Other #3:** \_\_\_\_\_

**Please see the signature acknowledgment area on the next page.**

## 2020-2021 Academic Year

**Note: Due to Covid-19 precautions we are asking you to acknowledge that you have received and read the *SCIENCE SAFETY ACKNOWLEDGEMENT FORM 2020-2021* via a Google Acknowledgement Form.**

The link to the Parent Science Safety Acknowledgement Form can be found [here](#).

Print Name (student)\_\_\_\_\_ Signature (student)\_\_\_\_\_ Date:\_\_\_\_\_

Print Name (teacher)\_\_\_\_\_ Signature (teacher)\_\_\_\_\_ Date:\_\_\_\_\_

Print Name (Parent/Guardian)\_\_\_\_\_ Signature (parent )\_\_\_\_\_ Date:\_\_\_\_\_

### **Spring Term (Outdoor Safety Review) - Student and Teacher Signatures Only**

Print Name (student)\_\_\_\_\_ Signature (student)\_\_\_\_\_ Date:\_\_\_\_\_

Print Name (teacher)\_\_\_\_\_ Signature (teacher)\_\_\_\_\_ Date:\_\_\_\_\_

Parents/Guardians **No not need to sign during the spring safety review.**

**Please keep a copy of this safety agreement for your records.**