**SAMPLE EDUCATION STRATEGIES   
FOR PREVENTION EDUCATION ON TICKS AND TICK-BORNE DISEASE**



The following resources offered by the [New York State Education Department](http://www.nysed.gov/) and New York State Center for School Health in collaboration with the [New York State Library](http://www.nysl.nysed.gov/), [New York State Department of Health](https://www.health.ny.gov/), and the [New York State Department of Environmental Conservation](http://www.dec.ny.gov/) were created to provide educators, schools, students, families and communities with information about ticks and tick-borne disease prevention, signs and symptoms of infection, and how to seek appropriate medical assistance when indicated.

In many instances the links provide materials that can be ordered free of charge to supplement the local education agencies health education program. In addition sample classroom lessons and activities are provided for use by educators.

Information and resources provided do not constitute or infer an endorsement of specific programs by the New York State Education Department (NYSED) or the State. NYSED is not responsible for the content of the individual organization materials or external website links provided as resources. Any materials used should be reviewed and approved by the local school district level consistent with local educational agencies school health education program. Every attempt has been made to ensure information and resources provided are current and reflective of best practice.

SAMPLE EDUCATION STRATEGIES FOR PREVENTION EDUCATION ON TICKS AND TICK-BORNE DISEASE

This resource is available on the NYS Center for School Health website at [www.schoolhealthny.com](http://www.schoolhealthny.com) 5/2018

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**SAMPLE EDUCATION STRATEGIES   
FOR PREVENTION EDUCATION ON TICKS AND TICK-BORNE DISEASE**

# **Overview**

According to the Centers for Disease Control and Prevention (CDC), many people do not know they are at risk each year for tick-borne illness. Each year more than 30,000 cases of [Lyme disease](https://www.cdc.gov/lyme/index.html) are reported nationwide. Studies suggest the actual number of people diagnosed with Lyme disease is more likely about [300,000](https://www.cdc.gov/lyme/stats/humancases.html).

Therefore, it is even more critical that students, families, communities and schools are aware of prevention strategies along with additional precautions to protect against being bitten by ticks and possibly developing a tick-borne disease. In a coordinated effort to bring more awareness, education, and knowledge to the forefront, the New York State Education Department is encouraging the inclusion of tick and tick-borne disease education be considered in a sequential and comprehensive Pre-K through 12 health education program.

The following toolkit is being provided to act as a resource for educators. The lessons provided on the following pages are designed to be samples for school districts to use as they develop integrated lessons for the health teacher and other classroom teachers. Cross curricular opportunities can include science/ living environment content, library/research skills, and ELA.

## **Learning Goals**

This resource is intended to provide accurate information about Ticks and Tick-borne illnesses. It provides information and resources to help students increase their knowledge about the topic and develop skills to practice self-management and prevention.

## **Essential Questions**

What are tick-borne diseases and why are they a concern?

How can I protect myself from tick bites and tick-borne diseases?

## Learning Objectives and Authentic Assessment Targets

Knowing about the risk of tick-borne illnesses is not enough. Students will be able to demonstrate how to prevent tick illness and reduce risk which is needed for a comprehensive approach for this prevention skill. Authentic or near authentic student demonstrations of the knowledge and skills to prevent tick-borne illness is the educational goal.

## **Sample Assessment Tools**

Sample assessment tools are included in this toolkit. Students will demonstrate what they have learned and are able to do to avoid a tick and tick -borne illness. In addition they will demonstrate knowledge of   
tick removal and follow up for possible tick-borne illness. Evidence collected throughout the learning will show student achievement including role plays and projects.

# [**New York State Health, Physical Education, and Family and Consumer Science Standards**](http://www.p12.nysed.gov/ciai/standards.html)

## **Standard 1: Personal Health and Fitness** Students will have the necessary knowledge and skills to establish and maintain physical fitness, participate in physical activity, and maintain personal health.

**Target Performance Indicators:** Use of proper clothes etc., safe removal of a tick, checking for ticks.

## **Standard 2: A Safe and Healthy Environment** Students will acquire the knowledge and ability necessary to create and maintain a safe and healthy environment.

**Target Performance Indicators**: Knowing how to find reliable information on ticks, knowing how to avoid ticks and how to respond to a tick bite.

## **Standard 3: Resource Management**

Students will understand and be able to manage their personal and community resources.

**Target Performance Indicators:** Knowing who can help me with tick related concerns in my community and in my home.

# **[National Health Education Learning Standards](https://www.cdc.gov/healthyschools/sher/standards/index.htm)**

The NHES are written expectations for what students should know and be able to do by grades 2, 5, 8, and 12 to promote personal, family, and community health. The standards provide a framework for curriculum development and selection, instruction, and student assessment in health education.

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| **[Standard 1](https://www.cdc.gov/healthyschools/sher/standards/1.htm)** | Students will comprehend concepts related to health promotion and disease prevention to enhance health. |
| **[Standard 2](https://www.cdc.gov/healthyschools/sher/standards/2.htm)** | Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors. |
| **[Standard 3](https://www.cdc.gov/healthyschools/sher/standards/3.htm)** | Students will demonstrate the ability to access valid information, products, and services to enhance health. |
| **[Standard 4](https://www.cdc.gov/healthyschools/sher/standards/4.htm)** | Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks. |
| **[Standard 5](https://www.cdc.gov/healthyschools/sher/standards/5.htm)** | Students will demonstrate the ability to use decision-making skills to enhance health. |
| **[Standard 6](https://www.cdc.gov/healthyschools/sher/standards/6.htm)** | Students will demonstrate the ability to use goal-setting skills to enhance health. |
| **[Standard 7](https://www.cdc.gov/healthyschools/sher/standards/7.htm)** | Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks. |
| **[Standard 8](https://www.cdc.gov/healthyschools/sher/standards/8.htm)** | Students will demonstrate the ability to advocate for personal, family, and community health. |

# **[The NYS Guidance Document for Achieving the New York State Standards in Health Education](http://www.p12.nysed.gov/ciai/health/GuidanceDocumentFinal1105.pdf)**

This tool outlines seven developmental personal and social skills, comprised of multiple sequential subskills, which when mastered, enable individuals to enhance personal, family and community health and safety. These seven skills include:

## **Self-Management** Overall personal health skill that enables an individual to assess and analyze one’s current health and safety status, apply appropriate knowledge and skills, monitor, evaluate and adjust one’s behavior to enhance personal health and safety Self-management includes the personal **a**pplication of Stress Management, Communication, Decision Making, and Planning and Goal Setting to enhance personal health and safety. **Stress Management** Personal and social skills comprised of multiple subskills, that when performed together, enable an individual to manage positive and negative change in health enhancing ways. Stress management is performed as a separate skill and often in conjunction with the other health skills.

## **Relationship Management** Overall personal health skill that enables an individual to assess and analyze one’s current interpersonal and intra-personal knowledge and skills, monitor, evaluate and adjust one’s behavior to enhance personal, family and community health and safety. Relationship management includes the application of Stress Management, Communication, Decision Making, and Planning and Goal Setting to enhance personal, family and community health and safety.

## **Communication**

Sequential personal and social skills comprised of multiple subskills, that when performed together, enable an individual to listen, understand and express oneself in respectful, safe and health enhancing ways. This skill includes verbal and non-verbal communication, assertiveness, refusal, negotiation, conflict management and collaboration.

**Decision Making**Sequential personal and social skills comprised of multiple subskills, that when performed together, enable an individual to make well informed choices that enhance personal, family and community health.   
  
**Planning and Goal Setting**Sequential personal and social skill comprised of multiple subskills, that when performed together, enable an individual to develop health enhancing short-term and long-term goals, and develop, implement, evaluate and revise health enhancing plans to accomplish the goals.   
 **Advocacy**Sequential personal and social skill comprised of multiple subskills, that when performed together, enable an individual to persuade others to promote, support or behave in ways that enhance personal, family and community health. Advocacy is a natural outgrowth of Self-Management, Relationship Management and the other four Health Education Skills.

## **Sample Ticks and Tick-borne Disease Training Program for Schools**

## **What is Lyme disease?** Lyme disease is a disease caused by a bacteria that is carried by a tick. When a tick bites a host to obtain blood, it leaves behind a bit of saliva and the disease that is then given to the host. Ticks bite people and animals like dogs, white-footed mice and deer. These animals can bring a tick to your yard and into your house. We need to be aware of ticks and know how to avoid tick bites, what to do if we do get a tick bite and how to respond if we think we might be sick from a tick bite.

## **What are the symptoms of Lyme disease?** A rash that may look like a bullseye or spreading red oval or circular rash is a common sign of Lyme disease. If you see a rash after a tick bite, you should show it to your doctor so they can decide if you have Lyme disease. Some people with Lyme disease never see a rash. Other symptoms are fever, headache, and feeling very tired.

## **When should you see a doctor if you suspect you have Lyme?** If you remove a tick and feel ill and/or see a bullseye or spreading red oval or circular rash you should go see your doctor. The rash usually appears 3-14 days after a tick bite at the spot where the tick was removed. Not all rashes at the site of a tick bite are Lyme disease. You may have a localized allergic reaction to the tick bite. It is important to see your doctor to see if you have Lyme disease and get the proper medicine. There is a blood test that can be done, but it takes weeks after the tick bite for your body to be ready for that test to help diagnose Lyme disease.

## **How is Lyme disease diagnosed and treated?** Because it is a bacteria, we can treat Lyme disease with an antibiotic. If you don’t discover the Lyme disease, the infection may spread to joints, the heart and the nervous system. Lyme disease diagnosis is based on signs and symptoms and a possible history of having been exposed to ticks. Laboratory tests can also be helpful in some instances.

## **How common is Lyme disease?** According to the Centers for Disease Control and Prevention (CDC), many people do not know they are at risk for tick-borne illness. Each year more than 30,000 cases of [Lyme disease](https://www.cdc.gov/lyme/index.html) are reported in the US. Studies suggest the actual number of people diagnosed with Lyme disease is more likely about [300,000](https://www.cdc.gov/lyme/stats/humancases.html).

## **Where and I most likely to encounter ticks that carry Lyme disease?** Several species of ticks can be found in all parts of New York State. Lyme disease is carried by the blacklegged tick, which is found throughout the state. Blacklegged ticks are common in areas with white-tailed deer. These ticks are found in leaf litter in wooded areas and on the edges and trails where there may be tall grasses. Ticks searching for hosts often cling to the tips of plants waiting for a host to brush by.

## **Sample Ticks and Tick-borne Disease Training Program for Schools**

**What do ticks look like**?  
There are several species of ticks that bite humans, including the blacklegged tick (responsible for transmitting Lyme disease), the lone star tick, American dog tick and brown dog tick. These ticks vary in size, shape and color but all have eight legs, except when first hatched. See [www.tickencounter.org](http://www.tickencounter.org) for detailed images of tick species and life stages. Source: [NYSDOH](https://www.health.ny.gov/diseases/communicable/lyme/)

## **How should you check your body or clothing?** If you are outside you should check your body and clothes for ticks from time to time when you are outdoors and every time when you come inside. If you remove a tick right away it is much less likely you can get Lyme disease if that tick was infected. Remember, ticks usually are attached for a day or more in order for them to transmit Lyme disease, but other tick-borne diseases can be transmitted more quickly. Ticks like certain parts of the body: groin, armpits, around the waistband, backs of knees, naval, neck and ears. Ticks can be very small, look and feel for bumps (especially on your head and in your hair). Be sure to check those areas well. Take a shower after being outside. Ticks can come in on your clothes too. 10 minutes in a hot dryer will kill ticks on your clothes or outside gear.

## **What should you do if there's a tick attached to your skin or you've been bitten by a tick?** After you inspect all body surfaces carefully you will need to remove any ticks with tweezers. Try not to crush the tick’s body when you pull it out and get as close to the skin as you can. This is the only way to effectively remove a tick. Do not try other methods (hot match, nail polish, etc.); they may cause the tick to release its gut contents into your skin, including disease organisms, and do not work. You should ask for an adults help in removing a tick. Save the tick to show your doctor.

## **How do you safely remove a tick?** Grasp the tick firmly with a fine-tipped pair of fine-tipped tweezers as close to the skin as possible. With a steady motion pull the tick’s body away from the skin. Do not be alarmed if some of the tick’s mouth parts remain in the skin. You can remove the mouth parts as you would a splinter or if you aren't able to, leave the wound alone and let it heal. Clean the area of the bite well with an antiseptic (alcohol).

## **Protecting Yourself from Ticks and Tick-Borne Illness** Wear long clothes when hiking. Use clothing that has been treated sprayed with the repellent permethrin, or use an EPA registered insect repellent as directed on the label. Tuck in your pants to your socks. Remember, ticks can’t fly or jump, but you want to reduce places for them to crawl up on you. Other ideas include:

* Walk in the middle of the trail when hiking.
* Protect yourself when you are in the yard at home by wearing proper clothes and using repellants
* Play away from places ticks are often found, high grasses, brush and wooded areas.

## **Sample Ticks and Tick-borne Disease Training Program for Schools**

## **Repel Ticks Using Insect Repellents on Exposed Skin**

Use and EPA registered repellent that contains 20 percent or more DEET, picaridin, or IR3535 on exposed skin for protection that lasts several hours. Follow the instructions on the package. Always follow product instructions. Parents should apply this product to their children, avoiding hands, eyes, and mouth. Repellents designed to be used on skin are not all that effective when sprayed on clothes.

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### **Repel Ticks with Permethrin on Clothing**

Permethrin is a much better option for clothing. Be especially focused on shoes, pants and socks as you are more likely to brush against a tick while walking in grass and leaves. Treat clothing and gear, such as boots, pants, socks and tents with products containing 0.5% permethrin. It remains protective through several washings. Pre-treated clothing is available and may provide longer-lasting protection.

There are a number of effective tick-repellent options for pets. Ask your vet about what product is most appropriate for your pet. Ask the vet about those product options.

# Other repellents registered by the Environmental Protection Agency (EPA) may be found at [Insect Repellents: Use and Effectiveness](http://cfpub.epa.gov/oppref/insect/).

# **Websites with Additional Information**

* [Center for Disease Control and Prevention (CDC](https://www.cdc.gov/ticks/index.html)) Tick Webpage
* [Center for Disease Control and Prevention (CDC) Lyme Disease Webpage](https://www.cdc.gov/lyme/index.html)
* [New York State Department of Environmental Conservation -NYSDEC](https://www.dec.ny.gov/)
* [NYS Department of Health NYSDOH Tick and Tick-borne Disease Webpage](https://www.health.ny.gov/diseases/communicable/lyme/)
* [NYS Center for School Health (NYSCSH](https://www.schoolhealthny.com/site/default.aspx?PageType=3&ModuleInstanceID=219&ViewID=7b97f7ed-8e5e-4120-848f-a8b4987d588f&RenderLoc=0&FlexDataID=199&PageID=144)) Tick and Tick-borne Diseases Webpage
* [New York State Integrated Pest Management- Cornell College of Agriculture and Life Science- Ticks](https://nysipm.cornell.edu/)
* [New York State Library - New York State Education Department](http://www.nysl.nysed.gov/)

# **Additional Resources**

* Sample Parent Letter “Today in Class We Learned About Ticks and Tick-borne Diseases”
* Sample Parent Letter for Field Trips
* [CDC “Don’t’ Let a Tick Make You Sick” Comic](https://www.cdc.gov/ticks/resources/DontletTicksbitemeComicGenericFS_508.pdf)
* [NYSDOH Dress to Repel](https://www.health.ny.gov/environmental/pests/dress_to_repel.htm)
* [NYSCSH Infographic: Plan, Protect, Check, Call Care Video](https://www.youtube.com/watch?v=sU8wLgXZ92M)
* [Nova Scotia Department of Health and Wellness Video: Tick Talk Published on Apr 27, 2015. This video helps families learn how to protect themselves from ticks and Lyme disease. It is shared with permission from the British Columbia Centre for Disease Control.](https://www.youtube.com/channel/UC2PpmBXWhzmmjaCcgYqP07Q)

# **Sample Elementary Lesson Plans**

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| **Ticks & Tick-borne Disease Prevention Lesson 1** | **Kindergarten – Grade 2** |
| **New York State Health Education Standards (NYSHE):**  NYSHE: 1A Possess basic knowledge and skills which support positive health choices and behaviors  **National Health Education Standards (NHE):**  NHE: 1.2.1 Identify behaviors that affect personal health | |
| **Objectives and Goals:**   * Students will identify and describe what healthy means * Students will identify and describe what it means to be sick * Students will describe ways to stay healthy * Students will list behaviors that will enhance personal health | |
| **Materials:**   * Magazine pictures of healthy and sick people. Paper with columns for healthy and sick person, Glue/Tape * Worksheet; I Feel Healthy * Optional :[All About Ticks A Workbook for Kids and Their Parents](https://www1.nyc.gov/assets/doh/downloads/pdf/zoo/tick-workbook.pdf) | |
| **Anticipatory Set:**   * Start lesson by telling the students they are starting a unit on taking care of their bodies and preventing illness. * Introduce topic of health vs. sickness and ways to stay healthy and ask students to name some ways to keep their body healthy * Read a book discussing some healthy behaviors that includes being outdoors (i.e., dressing properly, walking, playing) * Show the class a healthy activity which includes being outdoors and dressing correctly for the activity (i.e., walking dog, hiking with family). Provide storyline. | |
| **Direct Instruction:**   * Introduce words healthy and sick in 2 columns on paper. * Ask students to describe what they know about each of the terms and how they relate to each other. Clarify responses and write down as a visual reminder. * Ask what it feels like to be healthy and what it feels like to be sick. * On wall paper draw a child and point to each body part asking what those parts feel like when sick; HEAD: headaches, ear aches, and sore throat. STOMACH: stomach aches, throwing up. CHEST: coughing; WHOLE BODY: sore, achy, tired, fever, maybe rash. Write symptoms next to body part. * Hand out the worksheet “I Feel Healthy!” Instruct each student to create a drawing of him or herself engaging in a healthy behavior. If time permits students can be encouraged to share their healthy behavior.   **Guided Practice:**   * Students will each receive two pictures to decide with if this is a healthy or sick person. * Pairs of students are invited to tape their pictures under the healthy or sick column on the wall   **Closing:** At the end of the lesson teacher will review his/her drawing of a healthy outdoor activity and dressing correctly. Students with similar activities can be asked to share. | |

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**I Feel Healthy Worksheet**

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| **Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **I Feel Healthy!** |
| Draw a picture of YOU feeling HEALTHY! |

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| **Ticks & Tick-borne Disease Prevention Lesson 2 (1 – 3 days)** | **Kindergarten – Grade 2** |
| **New York State Health Education Standards (NYSHE):**  NYSHE 1B - Possess basic knowledge and skills which support positive health choices and behaviors  NYSHE 1E - Students know about some diseases and disorders and how they are prevented and treated  NYSHE 3A - Know how to access help when illness, injury, or emergency situations occur  **National Health Education Standards (NHE):**  NHE 3.2.1 - Identify trusted adults and professionals who can help promote health  NHE 7.2.1 - Demonstrate healthy practices and behaviors to maintain or improve personal health | |
| **Objectives and Goals:**   * Students will define what a tick is. * Students will describe where ticks live. * Students will describe there are different types of ticks. * Students will describe that some ticks can make them sick. * Students will learn how to do a tick check after being outdoors. * Students will learn what to do if they are bitten by a tick, so they do not get sick. * Students will know that this is a sickness that cannot be given to someone else. * Students will describe how prevention and self-care can reduce this risk. * Students will identify family and helpful school/community personnel to access. | |
| **Materials:**   * Stickers that use encouraging words * Wallpaper with three columns: Ticks, Tick-borne Disease and Lyme Disease * Pictures of ticks, outdoor habitation of ticks and proper clothing for outside activities to prevent tick bites (See Resources for Printing & Material Ordering) * Healthy or Not Healthy - Worksheet * Keeping My Body Healthy When I Am Outside – Worksheet to do with family. * Invite the physical education teacher and school nurse into classroom if possible. | |
| **Anticipatory Set:**   * Teacher will begin lesson by telling students they are starting a unit on taking care of their bodies and preventing sickness. * Students will be asked to think about two healthy behaviors they know and have practiced since the last lesson. Teacher can take this opportunity to discuss further proper dressing for outdoor activities. * Introduce physical education teacher as knowledgeable in exercising, protecting body and how to dress properly when outside. * Introduce school nurse as being knowledgeable in keeping healthy, preventing sickness and getting better when sick. * Write in three columns the words Ticks (different types- not all infectious), Tick-borne Disease and Lyme disease on wallpaper. Ask students if they are familiar with any of these words to assess prior knowledge. Discuss their answers and clarify as needed. | |
| **Ticks & Tick-borne Disease Prevention Lesson 2 (1 – 3 days)** | **Kindergarten – Grade 2** |
| **Anticipatory Set:**  Provide definitions for each:   * + Ticks   + Tick-borne Disease   + Lyme Disease * On wallpaper, and during directed instruction, ask students to brainstorm:   + Where ticks live   + How they can make you sick   + What to do if you have been bitten by a tick * Stress to students the importance of proper dress and use of EPA registered insect repellents with adult help in application for outdoor activities to prevent tick bites and sickness.   + Stress to students the importance of always doing a tick check after being outdoors.   + Inform them they will be learning about tick prevention. (See Resources). | |
| **Direct Instruction:**   * Review and define the word tick, tick-borne diseases and Lyme disease. * Explain to the class that there are different types of ticks, although some ticks can make you sick and others cannot – it is important to tell if any tick bites you. * Ticks can cause tick-borne diseases and Lyme disease – which cannot be shared. * Explain how behaviors impacts a person’s overall level of health. Provide some quick facts: proper outdoor dressing in snowy weather will prevent your body/skin from getting very cold and injured (show a picture); proper dressing when playing, hiking, walking outdoors will prevent a tick bite (show a picture – see resource page). Physical Education Teacher helpful here. * Introduce the terms self-care related to tick checks after being outdoors, tick prevention, and tick hygiene related to getting someone to help you if bitten by a tick. (Self-care is the practice of engaging in behaviors that have a positive impact on one’s overall level of health. Hygiene is the practice of cleansing the body). School Nurse helpful here. * Explain to students that if they have been bitten by tick it is important for them to let someone know. Tell them it is also important to tell someone if they don’t feel well because it is their body’s way of telling them something is wrong. * Class to brainstorm whom to go for help: teachers, school nurse, someone who works in schools, doctors, etc. * Explain that preventing a tick bite is the most important thing to do; review again. | |
| **Guided Practice:**  Once complete have the students teach/share with each other using their worksheets.  **Closing:**  At the end of the lesson ask students to identify people who help them. Role play with the school nurse care and respect for a person in need. Review the days’ concepts: there are many behaviors we can practice staying healthy and tick-free. | |

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| **Sample Student Practice 1**  **Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Healthy or Not Healthy?**    Circle behaviors or items that will keep you healthy and tick free when outdoors.  Cross out behaviors or items that will not keep you tick free when outdoors.    ***Pictures to be inserted on this page. Dress to Repel DOH Sheet Here.***    <https://www.health.ny.gov/environmental/pests/dress_to_repel.pdf> |

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| **Sample Student Practice 2**  **Name** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    **How Do I Keep My Body Healthy When I Am Outside?**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **What should I do if I see a tick?**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    **People I Can Talk To That Make Me Feel Better**    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ makes me feel better!    This person is at home at school in my community.  I like how \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ makes me feel better  when I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **Ticks & Tick-borne Disease Prevention Lesson 1 (1 - 2 days)** | **Grade 3 - Grade 5** |
| **New York State Health Education Standards(NYSHE)**  NYSHE 1E - Know about some diseases and how they are prevented and treated  **National Health Education Standards (NHE)**  NHE 1.5.1 - Describe the relationship between healthy behaviors and personal health  NHE 7.5.2 - Demonstrate a variety of healthy practices and behaviors to maintain or  improve personal health  NHE 7.5.3 - Demonstrate a variety of behaviors that avoid or reduce health risks | |
| **Objectives and Goals:**   * Students will discover how ticks spread disease. * Students will distinguish between contagious and non-contagious diseases. * Students will understand that different illnesses have different characteristics. * Students will identify behaviors that will reduce being bitten by a tick. * Students will identify how to do a tick check after coming in from outdoors. * Students define and understand Ticks, Tick-borne Disease and Lyme disease.   **Materials:**   * Brochures, pamphlets, etc., from researched based organizations on Resource Page. * Chalkboard & chalk. * Group Work Scenario Slips | |
| **Anticipatory Set:**   * Introduce the lesson by asking the students how they know when they are sick. * The body has different ways of letting us know when we are sick; called symptoms. * Ask the students to name illnesses and teacher to write on board under two columns: contagious and non-contagious. * Teacher will then ask students why two columns exist. * Define contagious and non-contagious. * Explain there are many illnesses and there are many differences among them. * Define the word prevention and that some illnesses (diseases can be prevented). * Ask students to raise their hand if they have heard the term Ticks & Tick-borne Diseases. * Ask students to raise their hands if they have heard the term Lyme disease. * Write these three words on the board. * Ask students to identify what they know or think they know about each of the words. (See Resource Page). | |
| **Ticks & Tick-borne Disease Prevention Lesson 1 (1 - 2 days) *(cont)*** | **Grade 3 - Grade 5** |
| **Direct Instruction:**   * Explain that a non-communicable disease is one that is not spread from person; review list on board. * Introduce the word prevention in the context of disease/illness prevention. * Ask the class if they know of some behaviors they should practice reducing risk of getting Tick-borne Diseases or Lyme disease. Review as a class. * Hand out brochures, pamphlets, etc., (See Resource Page). Once have reviewed discuss again:   + Ticks   + Tick-borne Diseases & Lyme Disease   + Diseases from the bite of a tick are not contagious   + Diseases from the bite of a tick are preventable   + Diseases from the bite of a tick are treatable in early stages | |
| Guided Practice:   * Assemble the class into various groups. Give each group a scenario slip. * Ask students to discuss what they need to do to prevent being bitten by a tick. * Teacher allows time to do this and circulates to check understanding. * When groups are done, regroup class to compile a list of ideas. * Review list of illnesses on the board, and circle ones that are non-communicable/ preventable. * Ask students to pick one, and discuss how it gets into the body (i.e., tick bite) and discuss prevention items relating to this disease. Focus on tick-borne disease and to ensure understanding. * Tell the class you are going to present different scenarios for group work and you want them to identify and explain if it a tick-borne disease could be spread. * Allow groups to share and clarify any wrong information. | |
| **Closing:**   * Explain to students that there are medications available for people with Tick-borne Disease including Lyme disease that help them live as healthy as possible. * Review tick prevention strategies and remind students that is the best plan. * Encourage to bring home resources to discuss with family. | |

|  |
| --- |
| **Group Work Scenario Slips**    ***Three to four scenarios to be inserted on this page.*** |

|  |  |
| --- | --- |
| **Ticks & Tick-borne Disease Prevention Lesson 2 (1 - 2 days)** | **Grade 3 - Grade 5** |
| **New York State Health Education Standards(NYSHE)**  NYSHE 2B: Recognize potentially dangerous situations and know how to avoid or reduce their risk  NYSHE 2C: Know some personal and social skills which contribute to individual safety  NYSHE 3A: Identify characteristics of valid health information and health-promoting  products and services and know where to locate them  NYSHE 3C: Know how to access help when illness, injury or emergency situations occur  **National Health Education Standards (NHE):**  5.5.1 Identify health related situations that might require a thoughtful decision  5.5.5 Choose a healthy option when making a decision | |
| **Objectives and Goals:**   * Students will reduce their own risk to protect against tick bites. * Students will discuss why people take risks and don’t protect against tick bites. * Students will evaluate and recognize what prevention efforts best promote positive outcomes. * Students will define risk and identify risk taking behaviors. | |
| **Materials:** Wall paper with two columns: Risky Behaviors and Consequences of Risky Behavior **and** Parent/Guardian Worksheet | |
| **Direct Instruction:**   * Ask students to list some facts about ticks, Tick-borne disease and Lyme disease. Be sure to include things like: prevention is key, dress correctly when outdoors, check for ticks on your body every time after coming inside, notify an adult right away if you have been bitten by a tick, and reiterate how we can make health choices to reduce our risk. * Write the word risk on the board and have students come up with correct responses to define the word. This is a vocabulary technique that allows students to draw on prior knowledge for a deeper understanding of the word. Explain that people take risks every day and some are positive because they help people grow (ask for examples) and some are negative because there is the possibility of getting sick (i.e., tick-borne diseases).Point out the wallpaper in the room with the two columns labeled “Risky Behaviors” and “Consequences of Risky Behaviors’. Explain that one way to enhance our health is to take time to think about risk behaviors before we are faced with them, so we can be ready to make a healthy choice related to prevention.   **Guided Practice:**   * Organize the students into groups and ask students to brainstorm risks young people take to not prevent tick bites. Students brainstorm consequences for each and write them on the sticky notes – placing them on the Consequences Wallpaper. Explain that risk behaviors can have long term and short-term consequences, so they should consider both. Acknowledge and discuss all the responses identifying risks and consequences.   **Closing:**   * Assign the “Parent/Guardian Survey Worksheet” for homework * Explain that Tick-borne diseases can be prevented by making healthy choices. | |

## **Sample Student- Parent Home Activity on Ticks and Tick-borne Disease** Dear Parent/Guardian,

Our class has been learning about Ticks and Tick-borne disease including Lyme disease in school. To help increase your child’s understanding of this disease, please help your child answer the following questions to the best of your ability. Thanks for your help.

|  |  |  |  |
| --- | --- | --- | --- |
| A tick bite can easily happen | Yes | No | I don’t know |
| All ticks are infected and therefore all ticks can cause disease | Yes | No | I don’t know |
| Tick-borne diseases including Lyme disease, are caused by an infectious tick | Yes | No | I don’t know |
| Tick-borne diseases including Lyme disease are contagious | Yes | No | I don’t know |
| You can tell by looking if someone has a Tick-borne disease or Lyme disease | Yes | No | I don’t know |
| Prevention is the key to not getting a tick bite | Yes | No | I don’t know |
| Proper dressing and asking an adult to help you use insect repellent when going outdoors can prevent a tick from biting your skin | Yes | No | I don’t know |
| It is important to check yourself for ticks every time you come in from the outdoors | Yes | No | I don’t know |
| If I notice a tick that is attached to my skin I need to seek the proper help to remove it right away | Yes | No | I don’t know |
| If I need to remove a tick from my skin I need to tell an adult so they can help me | Yes | No | I don’t know |

**Sample Teacher Key-Student- Parent Home Activity on Ticks and Tick-borne Disease**

|  |  |  |  |
| --- | --- | --- | --- |
| A tick bite can easily happen | Yes | No | I don’t know |
| All ticks are infected and therefore all ticks can cause disease | Yes | No | I don’t know |
| Tick-borne diseases including Lyme disease, are caused by an infectious tick | Yes | No | I don’t know |
| Tick-borne diseases including Lyme disease are contagious | Yes | No | I don’t know |
| You can tell by looking if someone has a Tick-borne disease or Lyme disease | Yes | No | I don’t know |
| Prevention is the key to not getting a tick bite | Yes | No | I don’t know |
| Proper dressing and asking an adult to help you use insect repellent when going outdoors can prevent a tick from biting your skin | Yes | No | I don’t know |
| It is important to check yourself for ticks every time you come in from the outdoors | Yes | No | I don’t know |
| If I notice a tick that is connected to my skin I need to seek the proper help to remove it right away | Yes | No | I don’t know |
| If I need to remove a tick from my skin I need to tell an adult so they can help me | Yes | No | I don’t know |

# 

# **Secondary Level Learning Objectives**

* Students will be able to describe methods of transmission and prevention of tick-borne diseases including Lyme disease.
* Students will describe and demonstrate prevention skills and self-care skills to reduce their risk of tick-borne illnesses.
* Students will be able to explain the impact tick-borne diseases, including Lyme disease has on an infected person’s body.
* Students will develop self-management skills for coping with illness and appropriately seeking medical care.
* Cross-curricular opportunities with science/ environmental study course for safety skills practice, and study opportunities about diseases and environmental issues.

# **Middle/HIgh School Lesson: Demonstrating Tick Prevention Strategies**

[**National Health Standards**](https://www.cdc.gov/healthyschools/sher/standards/index.htm)

3.8.1 Analyze the validity of health information, products, and services.

4.8.4 Demonstrate how to ask for assistance to enhance the health of self and others.

7.8.2 Demonstrate healthy practices and behaviors that maintain or improve the health of self and others.

**New York State Standards for Health Education**

Standard 1: Personal Health and Fitness

**NYS Guidance Document** [**Skills**](http://www.p12.nysed.gov/ciai/health/GuidanceDocumentFinal1105.pdf)

Decision Making.I.3

**Time:** 2 class periods

**Objectives**

* To explore content on Ticks and Tick-borne illness
* Students will demonstrate Prevention skills
* Students will practice cooperative group skills

Materials:

* Pretest on Ticks and Lyme disease
* PowerPoint On Ticks and Lyme disease
* Paper/Pencils for students to plan their presentations
* Students may create props and/ or visuals for their presentations
* Role Play Rubric
* Cooperative group work learning rubric (optional)

# **Middle/HIgh School Lesson: Demonstrating Tick Prevention Strategies**

**Lesson Plan:**

Students will complete the following pre-test on Ticks and Lyme disease.

1. Ticks can carry disease and transfer the disease when they are attached to a person or animal. (True)
2. Animals can get Lyme disease from a tick. (True)
3. If you remove a tick as soon as you find it you can reduce the risk of disease. (True)
4. You can remove a tick with a hot match. (False, remove any ticks with tweezers. Try not to crush the tick’s body when you pull it out and get as close to the skin as you can. This is the only way to effectively remove a tick. Do not try other methods (hot match, nail polish, etc.) They might because you harm, and do not work.)
5. You can reduce the risk of ticks by tucking pants into your socks. (True, see information on dress to repel resources)
6. Ticks can be found in the backyard, and not just on a hike in the woods. (True, review information on reducing ticks in your backyard <https://www.cdc.gov/ticks/avoid/in_the_yard.html>)
7. You will always get a rash if you have been infected by a tick bite. (False, a rash that looks like a bullseye or a circular or oval expanding rash sometimes is a signal of Lyme disease. If you see a rash after a tick bite, you should show it to your doctor so they can decide if you have possibly got Lyme disease. Some people with Lyme disease never see a rash however, so that’s not the only way to know. Other symptoms are fever, headache, and feeling very tired.)

* Class will review content using the PowerPoint in this toolkit or in a class discussion format including a review of the answers for the pretest.
* Role Play demonstration how to ‘dress to repel’, how to care for clothes and gear after being outside, how to check for ticks on pets with rubric for assessment. Repellent should not be used at school but applied at home.
* Using a role play rubric for assessment, groups of students will demonstrate an assigned behavior that is effective for prevention of tick related illness. Use the following directions for each group of students. Have students work in their small groups to plan a presentation for the class on their assigned behavior to demonstrate. Assign a time for the group to present. You may want to give students time to gather props, and then present in the next class.

**Suggested Assessment:**

Use a role play rubric to evaluate student understanding of the behaviors there were assigned in their group to reduce the risk of Ticks and Tick-borne illness. In addition, a cooperative group work rubric can be used for assessment of students to assess project based /cooperative learning goals.

**Role Play Group Directions**

**Group One**

Your group will demonstrate how to prepare to go outside where ticks might be. Remember, ticks are in many places, even in your backyard sometimes. Be sure to answer these questions:

What do you need to do to reduce the risk of being bit by a tick?   
What clothes are best to wear? How will you wear them to keep a tick from crawling up onto your skin?

Can you use any products to help repel ticks? What are they? What are the risks?

**Group Two**

Your group will demonstrate what to do when you come in from being outdoors. Remember, even if you tried to repel ticks in advance there are behaviors you can do when you come inside.

Be sure to answer these questions

What should you do with your clothes and gear? (Backpack etc.) Will you need to wash? What will you be looking for?

**Group Three**

Your group will demonstrate how to look for ticks on pets. Remember, ticks like blood, so your pet is at risk too and can also bring ticks into your house.

Be sure to answer these questions.

What does a tick look like? How will you know if it’s on your pet? How do you remove a tick?

Bonus: Share information on how to make your yard safer from the risk of a tick.

**Role Play Rubric**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **4** | **3** | **2** | **1** |
| **Participation in the preparation and role play presentation** | Always willing and focused during group work and presentation | Usually willing and focused during group work and presentation | Sometimes willing and focused during group work and presentation | Rarely willing and focused during group work and presentation |
| **Speaks clearly in role play presentation** | Clear communication of characters feelings, needs or situation with no mispronunciations | Clear communication of characters feelings, needs or situation with one minor mispronunciation or pause. | Adequate communication of what the character feels, needs, and/or thinks, but a few mispronunciations or other communication challenges. | Limited ability to communicate about the character they portray in the role play due to mispronunciations, or other challenges. |
| **Stays on Topic and Achieves the goal of the Role Play** | Establishes a message and stays on topic all times. | Message is established and generally maintained in the presentation | Message was established but not sustained in the role play. | Message is unclear. |
| **Non Verbal Actions** | Eye contact, posture and other body cues match the presentation and helps enhance the understanding. | Good variety of nonverbal behaviors that help with understanding of the presentation. | Sometimes uses good nonverbal cues like eye contact in the role play. | Slouches, looks down, and is limited in nonverbal cues in the role play. |
| **Use of Props** | Develops props and uses them appropriately to enhance the message in the role play. | Develops props for the role play that would enhance the message, but doesn't use them effectively. | Props that would be helpful are not used in the role play. | Interrupts the message to apologize for the lack of props, thus impacting the message for the role play. |
| **Imagination and Creativity** | Choices indicate insight and enhance the message of the role play | Choices demonstrate thoughtfulness and help enhance the role play at times. | Choices demonstrate an awareness of the message for the role play in an acceptable way | Choices suggest confusion and lack of awareness/ understanding of the topic for the role play. |

**Cooperative Group Work Rubric**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **4** | **3** | **2** | **1** |
| **Focus on task** | Consistently stays on task. Self-directed. | Most of time is on task. Others in the group can count on you to keep working | Sometimes is on task, other group members have had to remind you to keep you on task | Rarely focuses on the task. Let’s other do the work. |
| **Contributions** | Routinely provides useful ideas to the group. A leader who shows a lot of effort | Usually provides useful ideas. A strong group member | Sometimes provides useful ideas. Does what is required. | Rarely provides ideas. May refuse to participate. |
| **Time management** | Using time well. Group does not have to adjust deadline or work responsibilities. Because of procrastination. | Usually uses time well but may have procrastinated on one thing. The group is still able to meet deadlines. | Tends to procrastinate, but gets things done by deadlines. | Rarely gets things done by deadlines and the group has to adjust deadlines and/or work responsibilities because of this person. |
| **Problem Solving** | Actively looks for and suggests solutions to problems | Refines solutions suggested by others | Does not suggest or refine solutions, but is willing to try out solutions suggested by others. | Does not try to help solve problems. Let’s others do the work. |
| **Working with others** | Always listens to, shares and supports the efforts of others. Tries to keep people working together. | Usually listens to and shares with and supports others. Does not cause conflict or negativity in the group | Often listens to, shares with, and supports the efforts of others, but is sometimes not a good team member. | Rarely listens to, shares with, and supports the efforts of others. Often is not a good team player. |
| **Attitude** | Never is publically critical of the project or the work of others. Displays a positive attitude. | Rarely is publically critical of the project or the work of others. Often has a positive attitude about the task. | Occasionally is publically critical of the project or the work of others. | Often criticizes the project publically. Often has a negative attitude about the task. |
| **Monitors groups effectiveness** | Monitors the effectiveness of the groups and makes suggestions for improvements | Monitors group’s effectiveness and works to make the group more effective. | Occasionally monitors group effectiveness and tries to make the group more effective. | Rarely is thinking about the group’s effectiveness and does not help to make it better. |

# **Intermediate School Lesson: Tick and Tick-Borne Illness**

[**National Health Standards**](https://www.cdc.gov/healthyschools/sher/standards/index.htm)

2.8.6 Analyze the influence of technology on personal and family health.

3.8.1 Analyze the validity of health information, products, and services.

**New York State Standards for Health Education**

Standard 1: Personal Health and Fitness

**NYS Guidance Document** [**Skills**](http://www.p12.nysed.gov/ciai/health/GuidanceDocumentFinal1105.pdf)

Decision Making.I.3

**Prior learning**

Health resources online and evaluating websites. This skill can additionally be taught in other content areas (English, Science, History, Library skills etc.) and is part of research skills.

**Materials**

* Computer access for students (classroom, library or computer lab)
* Evaluating websites worksheet

**Time**

* 2 class periods

**Lesson Plan:**

1. Using online resources and website evaluation skills, students will explore information on Ticks and Tick- borne illness.
2. Upon the completion of this work, students will be using this research to create an informational product (brochure, poster, PSA or other) to educate others on how to reduce risk of tick related illness.
3. As students visit each website and complete the evaluation tool for each resource, they will also save materials that they might use for the upcoming projects. (I.e. images, ideas).
4. Students must include the correct URL to identify the websites they visit with the web address.
5. Students will submit three evaluations to their teacher for this activity. All three websites must be different.

**Evaluating Website Worksheet**

Directions: For three different websites, answer the questions in each category below.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Site One Address:** | **Site Two Address:** | **Site Three Address:** |
| **Credibility:**  Who is responsible for the site?  What are their credentials?  Is there contact information for the authors? What are their names? |  |  |  |
| **Purpose:**  Why do you think this page created?  Does it have a view or bias?  Is it part of an organization? |  |  |  |
| **Currency:**  When was this website made? When is the last updated? |  |  |  |
| **Information:**  Is this website helpful for information to me?  Can I understand it? |  |  |  |
| **Accuracy:**  Can you find the same information in other places?  Are there errors in spelling on the page?  Do the links work? |  |  |  |
| **Relevance:**  Does this website offer something others do not?  Do you believe this is a good source? Why? |  |  |  |

**Suggested Assessment:**

Review of the worksheet for complete answers to the questions. Share with students.

Oral presentations can also be a way to assess the student knowledge of visited websites and review the skill of looking for credible sources online. Students can share **one** website with the class and share their answers to the questions on the worksheet while demonstrating the website for the class. An oral presentation rubric could be used to assess students.

# **Intermediate School Lesson: Creating a Message about Tick Prevention Project**

[**National Standards**](https://www.cdc.gov/healthyschools/sher/standards/index.htm)

3.8.1 Analyze the validity of health information, products, and services.

[**New York State Standards for Health Education**](http://www.p12.nysed.gov/ciai/health/)

Standard 1: Personal Health and Fitness

[**NYS Guidance Document**](http://www.p12.nysed.gov/ciai/health/GuidanceDocumentFinal1105.pdf)

[Advocacy Skill ADI 1-10](http://www.p12.nysed.gov/ciai/health/GuidanceDocumentFinal1105.pdf)

Self-Management Skill SMI.6, SMI.7

**Objective**

Students will create a poster, brochure, or public service announcement about ticks and how to prevent tick related illness. These can be shared with the community in hallways of the building, in assembly presentations or in common areas of the school where people visit (nurse’s office, main office etc.)

**Materials**

* Computers, paper, art supplies, video cameras etc. (How you create these products with a class will depend on the resources at your school.)
* Website notes from previous lesson on evaluating online information
* Rubrics for poster, brochure or public service announcement. (standard rubrics, or class can create one as a pre-lesson activity)

**Time**

2-3 class periods to create the product chosen by student. (Poster, brochure or public service announcement)

**Lesson Plan**

Students will choose a project to complete in class for the next 2 -3 sessions. If they need additional time, it can be done as homework.

* Using the research on the websites they explored in the lesson on evaluating online information, students will create a product that will educate others on this topic of Ticks and Tick-borne illness risks.

**Suggested Assessment**

* Rubrics for poster, brochure or public service announcement. (Standard rubrics, or the class can create one as a pre-lesson activity).

# **Intermediate School Lesson: Guest Speaker on Ticks and our Community**

[**National Standards**](https://www.cdc.gov/healthyschools/sher/standards/index.htm)

1.8.3 Analyze how the environment affects personal health

3.8.1 Analyze the validity of health information, products, and services

[**New York State Standards for Health Education**](http://www.p12.nysed.gov/ciai/health/)

Standard 1: Personal Health and Fitness

Standard 3: Resource Management

[**NYS Guidance Document**](http://www.p12.nysed.gov/ciai/health/GuidanceDocumentFinal1105.pdf)

[Advocacy Skill ADI 1-10](http://www.p12.nysed.gov/ciai/health/GuidanceDocumentFinal1105.pdf)

Self-Management Skill SMI.6, SMI.7

**Objective**

* Students will be able to identify community resources that offer education and/or testing for tick-borne diseases
* Identification of helpers at school (school nurse, teachers etc.), and in the community.

**Lesson Plan**

Invite a guest speakers from the local community who can share details about ticks in your community. (Department of Health or a local EPA educator) This could be done in individual classrooms or as a school wide presentation for students.

**Time**

One class session

**Suggestion for Assessment**

Students can create questions for a speaker in advance of the visit to help them prepare.

**Advocacy Skill Practice Extension Ideas for the Tick Prevention Projects Created in Health Class**

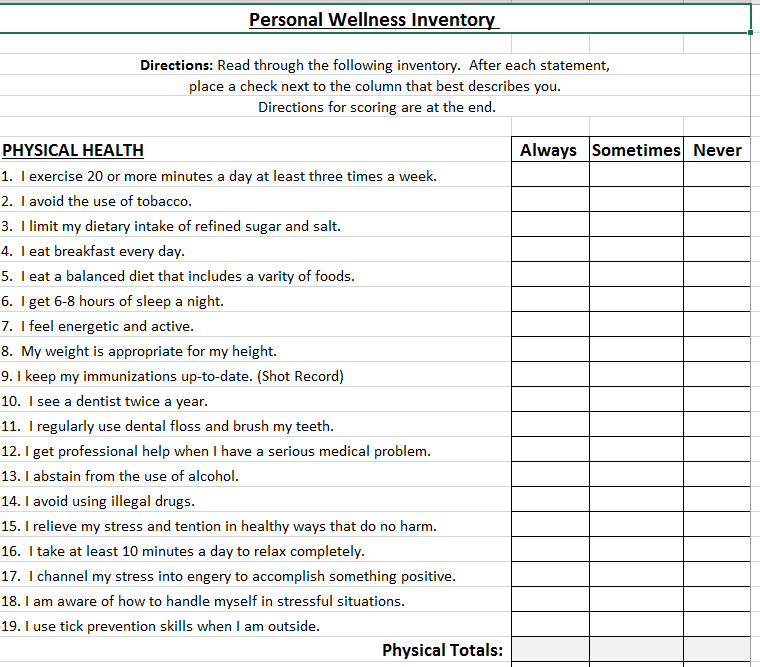
* Share the resources created by students with the local community.
* Display student work in the school.

**Commencement Level Lessons**

Use of lessons at the intermediate level can be used in the high school classes as well. Additionally, the following educational opportunities can be included:

## **Self-Management Skills:** (if you are using a wellness plan for your students, include in the student wellness plan dress to repel knowledge, see example below)

A [Personal Wellness Inventory](http://www.pecentral.org/lessonideas/health/lauramelde/PersonalWellnessInventory.xlsx) is a survey type of activity, where the students evaluate their own personal wellness based on their physical, mental, and social health. A sample wellness inventory can be found on [PE Central's website](http://www.pecentral.org/lessonideas/health/lauramelde/PersonalWellnessInventory.xlsx)



**Wellness Plans meet these standards:**

**National Health Education Standards**

1:12:8, 1:12:9, 2.12.9, 3:12:3, 5:12:7

**New York State Standards/Skills**

Advocacy projects with youth (teaching young children about ticks and self-care as a class advocacy project)

Science class cross curricular opportunity with living environment/ biology course content for their lessons on bacteria, viruses, and parasites.

**Resources for Educators on Ticks and Tick-borne Disease Prevention**(Click the title to access the resource)

[**American Lyme disease Foundation**](http://www.aldf.com/wp-content/uploads/2015/03/understanding.pdf)

[Understanding Ticks and Lyme Disease English /Spanish Brochure: designed for children aged 10-15 to effectively educate on tick-borne infections, taking precautions, correctly identifying and removing ticks, and recognizing early symptoms](http://www.aldf.com/wp-content/uploads/2015/03/understanding.pdf)

[**Bay Area Lyme Foundation Tick Sense Lesson Plans & Materials**](http://www.bayarealyme.org/educators/health-education-teachers/)

[Free, downloadable mini-unit on tick-bite prevention and Lyme disease. evidence-based sample curriculum for 5th & 6th grade students . Includes a PPT presentation for students, and guide for teachers,](http://www.bayarealyme.org/educators/health-education-teachers/)

## **[Centers for Disease Control Lyme Disease Communication Toolkit](https://www.cdc.gov/lyme/toolkit/index.html)** [Provides free materials in multiple languages: children’s crossword puzzle, comic strip, bookmarks, trail signs, educational fact sheets for parents, hikers, etc., and a Lyme Disease Widget.](https://www.cdc.gov/lyme/toolkit/index.html)

[**Center for Disease Control Ticks Webpage**   
Provides resources on identification, prevention, diagnosis and treatment of ticks and tick-borne illness.](https://www.cdc.gov/ticks/index.html)

[**Center for Disease Control Ticks & Lyme Disease Fact Sheet**:Provides prevention of tick bites on people, animals and pictures of Lyme disease rashes**.**](https://www.cdc.gov/ticks/index.html)

## **[New York State Center for School Health (NYSCSH) Tick and Tick-borne Diseases](http://www.schoolhealthny.com/ticks)** [NYSCSH works in collaboration and under the direction of the NYS Education Department and provides technical assistance, resources, and training to NYS school health educators and school health professionals. Resources on this topic can be found on the NYSCSH](http://www.schoolhealthny.com/ticks)

[**Cornell Cooperative Extension- Invasive Pests**Provides materials and resources on ticks and Lyme disease. You canOrder - Creating a Tick Free Zone in the Home Landscape Poster and additional materials](http://cceonondaga.org/resources/ticks-create-a-tick-free-zone-in-the-home-landscape)   
  
[**New York State Department of Health (NYSDOH) Order Form for Educational Materials**Provides prevention resources on ticks and tick-borne disease prevention including a two-minute videos on preventing a tick bite, removing a tick and what to do if you may have a tick-borne disease](https://www.health.ny.gov/diseases/communicable/lyme/) **[NYSDOH Order Form for Free Materials](https://www.health.ny.gov/forms/order_forms/tick.pdf)** [Dress to Repel!; All About Ticks: A Workbook for Kids and Their Parents; Tick and Insect Repellent: Deciding on their use, How to Remove a Tick; Ticks & Lyme Disease Color Brochure How to Prevent Tick Bites, Diseases Carried by Ticks and additional resources.](https://www.health.ny.gov/forms/order_forms/tick.pdf)

**[New York State Education Department-New York State Learning Standards](http://www.p12.nysed.gov/ciai/standards.html)**[Guidance Document to providing local educational agencies with a framework for developing health curricula and implementing instructional and assessment strategies.](http://www.p12.nysed.gov/ciai/standards.html)

**Resources for Educators on Ticks and Tick-borne Disease Prevention**(Click the title to access the resource)

[**New York State Department of Education Office of Facilities Planning**](http://www.p12.nysed.gov/facplan/IPM/IPMNeighborNotificationDocument.htm)

[State Education Law (Section 409-k) and Social Services Law (Section 390-g), states no school or day care center can apply pesticides to any playgrounds, turf, or athletic or playing fields.](http://www.p12.nysed.gov/facplan/IPM/IPMNeighborNotificationDocument.htm)

[**NYSED Office of Curriculum and Instruction (C&I)**   
Guidance Document to Achieving New York State Learning Standards in Health](http://www.p12.nysed.gov/ciai/health/GuidanceDocumentFinal1105.pdf)

[Provides guidance, information and resources for school health instruction as required by education law and Commissioner's regulations.](http://www.p12.nysed.gov/ciai/health/GuidanceDocumentFinal1105.pdf)

NYSED SSS

[**New York State Department of Environmental Conservation (DEC)**Pesticide Management for Schools, Daycare Centers and Parents](http://www.dec.ny.gov/chemical/41822.html)

## **[New York State Public Library - Ticks Search Results Page](https://browse.nypl.org/iii/encore/search/C__Sticks__Orightresult__U?searched_from=header_search&timestamp=1520591228631&lang=eng)**

## **[United States Environmental Protection Agency (EPA)](https://www.epa.gov/insect-repellents/find-repellent-right-you)** [Find the Repellant that is Right for You](https://www.epa.gov/insect-repellents/find-repellent-right-you)

## **[University of Rhode Island Tick Encounter Resource Center](http://www.tickencounter.org/)** [Provides resources to help you learn and promote the most up-to-date, effective, tick-bite prevention techniques](http://www.tickencounter.org/)

## **[New York State Integrated Pest Management](https://nysipm.cornell.edu/)** [The Don’t Get Ticked NY Program provides information on how to protect yourself from ticks and tick-borne illnesses (Cornell College of Agriculture and Life Sciences](https://nysipm.cornell.edu/whats-bugging-you/ticks).

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**Sample Parent Letter- Today in Class We Learned about Ticks**

Dear Parents,

In class today we discussed ticks and illnesses that a tick can give us. We discussed how to be safe and prevent tick bites, and what to do if we do discover a tick on our body.

Some of the important things we learned are:

* Ticks carry bacteria that can cause illness, like Lyme disease.
* Antibiotics can treat early Lyme disease.

**Some things you can help your child with are to:**

* Help them “Dress to Repel” by wearing light-colored clothes with long sleeves and tucking their pants into their socks. Ticks don’t jump or fly, but they can crawl up on people.
* Apply an EPA registered insect repellent on their skin or product that repel ticks on clothing following the label directions. Products applied to skin should have at least 20% DEET, picaridin or  
  IR 3535.
* Remind them to take a shower soon after coming in from outdoors, and to check all over for ticks.
* Place their clothes in a hot dryer for 10 minutes.
* Remove any ticks using these directions:

1. Remove ticks from skin as quickly as possible to avoid attachment with a fine-point tweezers.
2. With tweezers, grasp the tick as close to your skin as possible and smoothly pull the tick from your skin.
3. Wash the skin with soap and water and apply an antiseptic cream. Save the tick in case you need to show it to the doctor.
4. Do not use petroleum jelly, a hot match, nail polish or other substances as these do not work and may cause other problems.

If you see a rash after removal of a tick, or feel sick with a fever and fatigue, please call your doctor and let them know they might have a Tick-borne illness.

Information about ticks can be found on the websites below:

New York State Center for School Health: <https://www.schoolhealthny.com/ticks>

NYS Department of Health: <https://www.health.ny.gov/diseases/communicable/lyme/>

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# **Sample Parent Letter-Field Trip Reminder about Insect Repellent**

Dear Parents,

This is a reminder that we will be going on a field trip which will take place outdoors. This is a great time to use the information below to talk to your child about tick safety.

**Prevention Tips Include:**

* Wear light-colored clothing which helps you see ticks more easily.
* Wear long-sleeve shirts and tuck your pant legs into your socks.

**EPA Registered Tick Repellents\***

* Consider applying an EPA registered tick repellent containing more than 20% of active Ingredients like **DEET, picaridin or IR 3535** before your student comes to school the day of the field trip. The EPA registration number may be found on the front label. They typically last about 4 hours.
* Products made to be applied to clothing such as **Permethrin** last about 8 hours.  They provide extended protection and avoid the risks associated of applying the products to your child’s skin.

Following the label directions for both skin and clothing applied repellents is very important.

**Note:** Insect repellents are not allowed to be applied at school.

**Tick Removal**

* Remove ticks from skin as quickly as possible to avoid attachment and remove embedded ticks with fine-point tweezers.
* Do not use petroleum jelly, a hot match, nail polish or other substances. With tweezers, grasp the tick as close to your skin as possible and smoothly pull the tick from your skin. Wash the skin with soap and water and apply an antiseptic cream. Save the tick if possible to show your doctor.
* A rash appearing around the bite area, a flu-like illness and joint swelling or pain may all be symptoms of Lyme disease. It is important to see your health care provider if you have removed a tick and feel ill.

**Early Lyme disease**

Ticks transmit bacteria that is the cause of Lyme disease. The tick must attach to human skin for about 24-hours to transfer Lyme disease-causing bacterium. About 20 percent of infected people do not develop a rash but may show early symptoms of the disease, such as fever, headache, and fatigue. Detection in early stages of Lyme disease typically means successful treatment with antibiotics; but left undetected, the disease could cause other health issues.

**Information about ticks and tick-borne illness can be found on the websites below:**

New York State Center for School Health: <https://www.schoolhealthny.com/ticks>

NYS Department of Health: [https://www.health.ny.gov/diseases/contagious/lyme/](https://www.health.ny.gov/diseases/communicable/lyme/)

\*Repellent information was provided by the NYS Department of Environmental Conservation

**Tick and Tick-Borne Resources for New York State Schools Reviewers List**

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| Jeanine Broughel | Chief, Pesticide Product Registration Section New York State Department of Environmental Conservation |
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