Festival FEATURES, SUBJECTS, and SOLs

**High School**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FEATURE TITLE** | **SUBJECTS** | | | | | | | | | | | **SOLs**  **(Biology, Chemistry, Earth Science, and Physics)**  **&**  **Other Notes** |
| **Agriculture/Forestry** | **Biology** | **Careers** | **Chemistry** | **Culinary** | **Earth Science** | **Ecology** | **Environmental Conservation** | **Human Health/Safety** | **Physics** | **Technology** |
| ***EXHIBIT INFO & PHOTO GALLERIES*** | | | | | | | | | | | | |
| [Bugs: The Good, Bad, Big, and the Business](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/VPMA.html) |  |  |  |  |  |  |  |  |  |  |  | *Short fact sheets on common pest species* |
| [Using Pesticides Safely](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/vtpp.html) |  |  |  |  |  |  |  |  |  |  |  | *Chemical safety, PPE, storage, infographics* |
| [Forest Entomology](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Forestent.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.6ac, BIO.7b, BIO.8e  *Native v. invasive; bio control* |
| [Bed Bug & Urban Pest Info.](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/urbanent.html)  & [The Good, Bad, and Ugly](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/VDACS.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.4d *Photo galleries w/ images of insect pests* |
| [Ticks & Mosquitoes of VA](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Eastwood.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.6 |
| [Close Encounters With Pollinators](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/NRVMNMAIN.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.8e  *Local pollinators* |
| [Entomo-3D](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/3dbugs.html) *(3D Insects)* |  |  |  |  |  |  |  |  |  |  |  | *3D imaging process* |
| [“Bugology” at Virginia Tech](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/bugology.html) |  |  |  |  |  |  |  |  |  |  |  | *History of entomology at VT* |
| [The Poop on Bug Poop!](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/bugpoop.html)  *(use with Bug Poop Matching Game)* |  |  |  |  |  |  |  |  |  |  |  | BIO.6 |
| [Entomophagy: Would You Eat an Insect?](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/entomophagy.html) |  |  |  |  |  |  |  |  |  |  |  | *Nutrition + cooking (recipe)* |
| [Wonderful & Fascinating Insects](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Mullins.html) | *Links to insect-related videos, activities, publications, art, and career information.* | | | | | | | | | | | |
| [Fruit Entomology](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/fruitent.html) |  |  |  |  |  |  |  |  |  |  |  | *Ag pests + cicada tacos* |
| ***FUN FACTS & PUBLICATIONS*** | | | | | | | | | | | | |
| [Pollinator Garden Resources](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/pollinatorgarden.html)  *(for individuals and schools)* |  |  |  |  |  |  |  |  |  |  |  | *Interdependence, pollinator ecology, native plants* |
| [Honey Bees](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Agintheclassroom.html) *(PowerPoint)* |  |  |  |  |  |  |  |  |  |  |  | BIO.6a *Social insects* |
| [Adventures With Insects](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Virginia4h.html)  *(includes Insect Collection activity)* |  |  |  |  |  |  |  |  |  |  |  | BIO.6 *Arthropod classification and anatomy* |
| [Intro to Integrated Pest Mgmt.](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/vtpp.html)  [Reading the Pesticide Label](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/vtpp.html)  [Pesticide Storage/Disposal](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/vtpp.html) |  |  |  |  |  |  |  |  |  |  |  | *Pesticide safety* |
| Bed Bug publications:  [Action Plans](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/urbanent.html) *(8 pubs)* [Treatment/Prevention](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/VDACS.html) *(6 pubs)* |  |  |  |  |  |  |  |  |  |  |  | BIO.4d, BIO.7bc, CH.6b  *Biology; pesticide resistance; integrated pest management* |
| **FEATURE TITLE** | **SUBJECTS** | | | | | | | | | | | **SOLs**  **(Biology, Chemistry, Earth Science, and Physics)**  **&**  **Other Notes** |
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| [Bed Bug Biology and Behavior](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/VDACS.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.4d, BIO,6ac, BIO.7bc, BIO.8a |
| [Spider Anatomy](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/OpellLab.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.6a |
| [Orb Web Construction & Features](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/OpellLab.html) |  |  |  |  |  |  |  |  |  |  |  | PH.4 |
| [Why Are Orb Webs Sticky?](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/OpellLab.html)  *(use w/ Orb Weaver video)* |  |  |  |  |  |  |  |  |  |  |  | PH.4, CH.6 |
| [Web Decorations](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/OpellLab.html) |  |  |  |  |  |  |  |  |  |  |  | PH.4 *Stabilimentum* |
| [Orb Weaving Spiders in Virginia](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/OpellLab.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.6, BIO.7, BIO.8e |
| [Tick ID and Pathogens](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Eastwood.html) &  [Local Tick ID Sheet](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Eastwood.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.4def, BIO.6, BIO.8e |
| [What About Bug Poop?](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/bugpoop.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.6a |
| [Spongy Moth (Formerly) Gypsy Moth](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/GypsyMoths.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.7b, BIO.8de |
| ***VIDEOS*** | | | | | | | | | | | | |
| [Bringing Nature Home in Small Spaces](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/pollinatorgarden.html) |  |  |  |  |  |  |  |  |  |  |  | *Landscape design, native plants, pollinator ecology* |
| [All About Bugs and Good Bugs](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/VPMA.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.4def, BIO.7a *Bugs in food, agriculture, chemicals, medicine; classification.* |
| [Bad and Big Insects](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/VPMA.html) |  |  |  |  |  |  |  |  |  |  |  | ES.9a, ES.11ad, BIO.4def, BIO.7bc *Insect damage and disease; adaptations; fossils and early atmosphere* |
| [What Can an Entomologist Do?](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/VPMA.html) |  |  |  |  |  |  |  |  |  |  |  | *Jobs!* |
| [Lari Larvae](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Forestent.html) & [Leuco Larvae](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Forestent.html) |  |  |  |  |  |  |  |  |  |  |  | *Biological control species* |
| [Growing *Verticillium* Across a Temperature Gradient](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Forestent.html) |  |  |  |  |  |  |  |  |  |  |  | *Growing fungus in a petri dish – research methods* |
| [German Cockroach Assessment](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/urbanent.html) |  |  |  |  |  |  |  |  |  |  |  | *Urban pest control* |
| [Bed Bug Egg 6-Day Timelapse](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/urbanent.html) |  |  |  |  |  |  |  |  |  |  |  | *1.5 minute video* |
| [Bed Bug Feeding & Digestion](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/urbanent.html) |  |  |  |  |  |  |  |  |  |  |  | *Engorgement in action!* |
| [Bed Bug Inspection/ID](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/VDACS.html) |  |  |  |  |  |  |  |  |  |  |  | *Videos in English & Spanish* |
| [Bees Processing Honey](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Agintheclassroom.html) |  |  |  |  |  |  |  |  |  |  |  | ES.6 |
| [An Orb Weaver Builds Her Web](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/OpellLab.html)  *(use w/ Why Are Orb Webs Sticky? fun facts publication)* |  |  |  |  |  |  |  |  |  |  |  | PH.4, CH.6. *Will the fly escape? And how?* |
| [The Most Dangerous Animal in the World](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/mosquitolab.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.4def *Biology, behavior, adaptations of mosquitoes* |
| [Understanding Mosquito Behavior to Prevent Disease Spread](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/mosquitolab.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.def *Technology, pesticide resistance, research* |
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| [Lahondere and Vinauger Labs](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/mosquitolab.html) |  |  |  |  |  |  |  |  |  |  |  | *Technology, research* |
| [Mosquito Anatomy](https://www.youtube.com/watch?v=_RowUXPTWT0) |  |  |  |  |  |  |  |  |  |  |  | *Zoomed anatomy/function* |
| Bugs and Wildlife: [Part 1](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/SWVAWildlife.html) &  [Part 2](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/SWVAWildlife.html) *(4 min. each)* |  |  |  |  |  |  |  |  |  |  |  | *Interdependence, food web* |
| [Ferocious Hellgrammites!](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/natureatyourdoor.html) |  |  |  |  |  |  |  |  |  |  |  | *Aquatic ecosystems* |
| [Milkweed Bugs](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/natureatyourdoor.html) |  |  |  |  |  |  |  |  |  |  |  | *Aposematic coloration* |
| [Ant Lions](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/natureatyourdoor.html) |  |  |  |  |  |  |  |  |  |  |  | PH.4 *Adaptations* |
| [Mabel – The Bug That Poops Candy](https://youtu.be/LVdynVuJsBo) |  |  |  |  |  |  |  |  |  |  |  | BIO.6ad, BIO.7c, BIO.8, PH.4  *Plant physics/chemistry* |
| [How Do Insects Poop?](https://youtu.be/6a8psEYgopw) |  |  |  |  |  |  |  |  |  |  |  | BIO.6ad, BIO.7c |
| [Tour the Hokie BugZoo](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/bugzoo.html)  *(8 videos, 3-4 min. each)* |  |  |  |  |  |  |  |  |  |  |  | BIO.5f, BIO.7c, BIO.8e, PH.4 |
| [Blatteria 1000](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/blatteria-1000.html) *(cockroach races)* |  |  |  |  |  |  |  |  |  |  |  | *Just for fun!* |
| [12 Bug Words in Sign Language](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/SignLanguage.html) |  |  |  |  |  |  |  |  |  |  |  | *Language* |
| [Periodical Cicada Appearances and Management](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/fruitent.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.8, PH.4 (@ 3:28 min.) |
| [Past and Coming Insect Plagues](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/fruitent.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.8 *NEW insect pests in VA (@6:52 min. and 15:53 min.)* |
| [Spotted Lanternfly in Virginia](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/fruitent.html) |  |  |  |  |  |  |  |  |  |  |  | *Biology, ecology, quarantine* |
| ***ACTIVITIES*** | | | | | | | | | | | | |
| [Build an Insect Collection](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Virginia4h.html) *(individual or as a class)* |  |  |  |  |  |  |  |  |  |  |  | BIO.1a, BIO.6a, BIO.8e  *Classification, field work* |
| [Invent an Insect](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Virginia4h.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.7c *Anatomy, adaptations, habitat* |
| Coloring/activity sheets:  [Rearing *Laricobius nigrinus*](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Forestent.html)[Emerald Ash Borer](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Forestent.html)  [Tree ID](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Forestent.html) & [Biological Control](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Forestent.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.6a, BIO.7b, BIO.8de  *Biological control species* |
| [Pesticide Safety: Kids Only!](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/VDACS.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.6a, BIO.8e, CH.6 *Integrated pest mgmt., pest ID, safety/disease prevention* |
| [The Honey Dance](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Agintheclassroom.html) |  |  |  |  |  |  |  |  |  |  |  | *Bee behavior* |
| [Anatomy of a Worker Bee](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Agintheclassroom.html) &  [Research Different Bees](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Agintheclassroom.html)  *(use w/ Honey Bees PowerPoint, a fun facts publication)* |  |  |  |  |  |  |  |  |  |  |  | BIO.6a |
| [Identify These Mosquitoes](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Eastwood.html)  *(use with “All About Mosquitoes” fun facts publication)* |  |  |  |  |  |  |  |  |  |  |  | BIO.6a  *Using a dichotomous key* |
| **FEATURE TITLE** | **SUBJECTS** | | | | | | | | | | | **SOLs**  **(Biology, Chemistry, Earth Science, and Physics)**  **&**  **Other Notes** |
| **Agriculture/Forestry** | **Biology** | **Careers** | **Chemistry** | **Culinary** | **Earth Science** | **Ecology** | **Environmental Conservation** | **Human Health/Safety** | **Physics** | **Technology** |
| [Tick Crossword](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/Eastwood.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.4def |
| [Pollinator Matching Game](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/NRVMNMAIN.html) |  |  |  |  |  |  |  |  |  |  |  | BIO.6a *Classification* |
| [Preserve a Flower](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/NRVMNMAIN.html) & [ID Card](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/NRVMNMAIN.html) |  |  |  |  |  |  |  |  |  |  |  | *Field techniques* |
| [3D Insects](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/3dbugs.html)  *(can be found under “Video” tab)* |  |  |  |  |  |  |  |  |  |  |  | *High def images you can rotate and zoom* |
| [Insect Hotel for Pollinators](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/celebratingpollinators.html) |  |  |  |  |  |  |  |  |  |  |  | *Can use rolled paper too* |
| [Bee Day Cake Pops](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/celebratingpollinators.html) *(recipe)* |  |  |  |  |  |  |  |  |  |  |  | *Cooking, recipe* |
| [Bug Poop Matching Game](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/bugpoop.html)  *(use w/ Bug Poop Photo Gallery)* |  |  |  |  |  |  |  |  |  |  |  | BIO.6a |
| [Grasshopper Pie](https://www.ento.vt.edu/4-H_Entomology/hokiebugfest/virtual-hokie-bugfest/entomophagy.html)  *(instructional video)* |  |  |  |  |  |  |  |  |  |  |  | *Cooking, recipe* |