

Tuesday News



**Thank You
4-H Volunteers for
Your Continued
Support**



4-H 

WASHINGTON STATE UNIVERSITY
EXTENSION

Tuesday News – July 18, 2023

CONTENTS

FEATURES

- Visit Pullman to Celebrate 4-H Day With Cougar Football On September 23rd! **>NEW!<**
- Register Now For The Inaugural Washington 4-H State Meats Judging Contest! **>NEW!<**
- Host Families Still Needed For Inbound International Summer Delegates! **>UPDATED!<**
- Costa Rica Outbound Program Week #1 In Review!
- Volunteer to Support the Washington State 4-H Fair
- Donate to the Washington State 4-H Fair
- State 4-H Fair Board Seeks Qualified Candidates For State 4-H Fair Manager Position Opening
- State 4-H Ambassadors Organize State-Wide Food Drive!
- Washington 4-H State Fair Exhibitor Guide Updated for 2023
- Washington State 4-H Youth Showcase Coming to State Fair Labor Day Weekend
- Donations Requested For State 4-H Fair Horse Medals
- WSU 4-H Scholarships Showcase the Reward of Life-Long Skills
- State Dog Committee Optional Assessment for 2022-23 Program Year
- Ask Dr. Universe: Why Do All Insects Have Six Legs? **>NEW!<**
- Ask Dr. Universe: Do Fish and Sharks Drink Water?
- Washington State 4-H Teens Awarded National 4-H 'Lead to Change' Mini-Grant!

- Updated PNW Horse Judges List Is Now Available!
 - Q and A Sessions for the Washington 4-H Horse Program Continue - Now On First Wednesdays!
 - Announcement of Dressage Tests for the 2023 4-H State Fair
 - Reining Pattern for 2023 4-H State Fair Now Available
-

Features

Visit Pullman to Celebrate 4-H Day With Cougar Football On September 23rd!

Denise Echelbarger

Save the date! Celebrate 4-H Day with the Cougs in Pullman on September 23rd vs. the Oregon State University Beavers at Martin Stadium. Game time is yet to be determined. Discounted tickets are available!



4-H Day with the Cougs!
Discounted Tickets Available
[PURCHASE HERE](#)

WSUCOUGARS.COM | 1-800-GO-COUGS

Washington State Athletics
Department of Intercollegiate Athletics
PO Box 641602
Pullman, WA 99164-1602



WASHINGTON STATE
ATHLETICS

Register Now For The Inaugural Washington 4-H State Meats Judging Contest!

Paul Kuber

The inaugural Washington 4-H State Meats Judging Contest will take place at the WSU Meats Lab in Pullman, WA on August 12, 2023. Contest Rules and Guidelines for the State Contest and the Registration link are included below. These are also linked on the state 4-H calendar on the date of the event. The registration link is on the [Washington 4-H State Meats Judging Contest](#) page; General Rules and Guidelines are linked [HERE](#)

Early registration is due August 1st. After that date, registration fees will increase, but registration will remain open up to the day of the contest. Early registration will be \$20 per individual. On August 2nd, registration will increase to \$30 per Individual.



Host Families Still Needed For Inbound International Summer Delegates!

Carolyn Russo

Have you ever wanted to experience another culture through hosting? Consider opening your home to a short-term visiting delegate. **There are still a few young people visiting from Japan and Taiwan who have not been placed** – we are looking for host families who have a child in the home of the

same gender and within three years of age of the delegate. The 4-H International Exchange program is a learning opportunity that allows one to learn about another culture, develop friendships and learn something about oneself.

Delegates are here to experience cultural immersion, not tourism, so there are no required gatherings, tours or site seeing requirements. We are looking for families who will open their hearts to a short-term international experience.

Although this is a 4-H opportunity, families do not need to be in 4-H to participate.

For questions or more information, contact Carolyn Russo, carolyn.russo@wsu.edu

Hosting Dates: Sunday July 23-Wednesday August 16, 2023

Hosting Application: <https://www.states4hexchange.org/apply/host/>

Delegates are to be matched in a family with a child of the same gender and within three years of age. Usually we match an older Asian delegate to younger youth.

Adult chaperones and helpers do not need children in the home and are often hosted by two families during the exchange time.

Families may host two delegates, providing they are from different countries.

Below is information on delegates still awaiting placement. These delegates are given a number and the "J" denotes Japan; "T" is for Taiwan. F is female, M is male.

Hosting Dates: Sunday July 23-Wednesday August 16, 2023

Hosting Application <https://www.states4hexchange.org/apply/host/>

62-TF (female, 16) **Hobbies/Interests:** I like to listen to music to relax, I like to use chat to make friends, exercise to relieve stress and I like to sing to make myself more confident

Why do you want to participate in this exchange?: See a different part of the world, experience culture, improve my English, develop problem solving skills, personal growth

What activities do you enjoy? Shopping, singing, movies, animals, TV, camping, computers, nature/outdoors, video games, trying new food

What sports do you play? Basketball, badminton

What music do you enjoy? Rap, popular, k-pop

Personality Characteristics: Talkative, loyal, curious, studious, laugh a lot, shy, energetic, emotional, cheerful, quiet, considerate

Other: this delegate does not swim

82-TF (female, 18) **Hobbies/Interests:** I really like art, especially sketching and illustrating. I read fiction and am a fan of Harry Potter and The Chronicles of Narnia. I like Taylor Swift and Jay Chou. I really enjoy cooking and baking and always am up for trying a new recipe.

Why do you want to participate in this exchange?: I hope that through this precious opportunity I can expand my international outlook and communicate with 4-H members in the US. The US has abundant resources and I would like to learn knowledge to bring back to Taiwan. The agriculture is very different in US compared to Taiwan which means we can learn from each other. I hope to gain sincere friendship in a foreign country and improve my language ability.

What activities do you enjoy? Writing, shopping, singing, reading, gardening, movies, animals, museums, trying new food, nature/outdoors, cooking, arts/crafts, painting/drawing

What sports do you play? Skiing, running, golf, tennis, ping pong, badminton

What music do you enjoy? Classical, popular, R&B

Personality Characteristics: Sociable, talkative, loyal, curious, laugh a lot, studious, energetic, cheerful, honest

Other: this delegate is an intermediate swimmer

57-TM (male, 14) **Hobbies/Interests:** I like to play basketball and play the piano.

Why do you want to participate in this exchange?: Learn English and exchange culture.

What activities do you enjoy? Writing, reading, animals, studying, museums, trying new food, nature/outdoor, painting/drawing

What sports do you play? Running, basketball, ping pong

What music do you enjoy? Classical, popular

Personality Characteristics: Talkative, loyal, curious, laugh a lot, studious, energetic, tolerant, cheerful, honest, patient, considerate

Other: allergic to penicillin, this delegate does not swim

53-JM (male, 15) What are your hobbies? I like to read comic books and watch anime on TV at home. Especially Shingekino, Kyojir and Yakusokuno Neverland. And I am interested in listening to music by Justin Bieber. I like playing basketball with my friends. I am a member of a basketball club at my school.
What is your goal for participating in this program? My goal is to try to do new things during my homestay. For example I will try to eat any food I haven't eaten and try to speak English so I make to do list during my home stay. I will enjoy my homestay. I would like to help my host family a lot.
Favorite school subject(s): social studies
Sports you play: swimming, running, basketball
Favorite Music: popular
Personality Characteristics: sociable, curious, tidy, considerate, love to laugh, tolerant, cheerful, talkative, serious, loyal, honest, outgoing
Activities that you enjoy: boating, nature/outdoors, photography, singing, hiking, camping, shopping, video games, watching TV, social media, movies, swimming (beginner swimmer)

59-JM (male, 15) What are your hobbies? I like to play sports, especially table tennis. I like to play video games with my friends.
What is your goal for participating in this program? I want to make friends with host family. I have to study English hard because I want to talk with them. I want to play sports with my host.
Favorite school subject(s): science
Sports you play: soccer, ping pong, basketball
Favorite Music: hip hop
Personality Characteristics: sociable, curious, tidy, loves to laugh, serious, tolerant, outgoing
Activities that you enjoy: Swimming (intermediate level), cooking, movies, singing, watching soccer
Other: also does Kendo

61-JM (male, 16) What are your hobbies? I like to do sports outside. I belong to track and field club. I like running and am good at the high jump especially. I sometimes go hiking with my family. I want to visit American nature. I want to try American food. I like watching you tube and computer game.
What is your goal for participating in this program? [my goal is to communicate a lot and learn a lot about American culture]
Favorite school subject(s): math
Sports you play: running
Favorite Music: rap
Personality Characteristics: sociable, curious, emotional, cheerful, talkative, patient, considerate of others, outgoing
Activities that you enjoy: nature/outdoors, hiking, computers, singing, movies, social media, swimming, singing, video games, shopping, watching TV, watching comedy shows, watching track and field
Other: mild/moderate dust mite allergy

67-TM (male, 16) Hobbies/Interests: I would like to watch movies with you, prepare food and new recipes for you, be outdoors and play basketball with friends.
Why do you want to participate in this exchange?: I want to learn how they grow crops to feed animals.
What activities do you enjoy? Movies, animals, TV, trying new food, video games, cooking
What sports do you play? Tennis, basketball, ping pong
What music do you enjoy? Classical, rap
Personality Characteristics: Sociable, loyal, curious, laugh a lot, studious, energetic, emotional, tolerant, cheerful, honest, considerate
Other: cannot eat eggplant, intermediate swimmer

77-TM (male, 17) Hobbies/Interests: I am an outgoing person but I also love to take on challenges. My hobbies are watching movies or T and any sports. I like photography and cooking.
Why do you want to participate in this exchange?: I want to gain knowledge, seem more and learn more so I can grow.
What activities do you enjoy? Shopping, singing, watching sports, movies, TV, museums, camping, computers, trying new food, nature/outdoors, swimming (advanced), video games
What sports do you play? Soccer, football, volleyball, swimming, ping pong
What music do you enjoy? Disco, rap, popular
Personality Characteristics: Sociable, talkative, loyal, curious, laugh a lot, tidy, energetic, tolerant, cheerful, honest



Costa Rica Outbound Program Week #1 In Review!

Check out the Week #1 Update for the Costa Rica Outbound Program by clicking [HERE!](#)

Volunteer to Support the Washington State 4-H Fair

State Fair Board

The Washington State 4-H Fair board encourages individuals with an interest in serving youth development to offer their time and talents in support of the State 4-H Fair as volunteers.

Please send an email to 4-H Fair Board President Kirk Gresham at st4hfair@gmail.com with any questions, for more information, or to volunteer.

Thank You!



Donate to the Washington State 4-H Fair

4-H State Fair Board

Every year, the Washington State 4-H Fair Board ensures the continuation and success of 4-H programs old and new alike, from purchasing trophies and ribbons, buckles and banners for awards to fair participants to scheduling and facilitating events and more. This year, the State 4-H Fair Board is asking for your donations to assist the board in its efforts to provide youth an environment that fosters caring relationships, constructive learning experiences, leadership opportunities and to serve our communities.

Please contact a State 4-H Fair board member for more information.

st4hfair@gmail.com

Washington State



4-H Fair

State 4-H Fair Board Seeks Qualified Candidates For State 4-H Fair Manager Position Opening

The State 4-H Fair Manager Position Is Now Open!

The job description for the State 4-H Fair Manager position is available for download by clicking [HERE](#).

The State 4-H Fair Manager is not a WSU position, but reports directly to the State 4-H Fair Board. The salary is \$32,500, paid in twelve monthly installments. There are no benefits associated with this position.

This is a part time position of about 1,000 hours annually, with extended hours during August and September, during the fair cycle in Puyallup, Washington.

The position will remain open until filled.

Please forward your cover letter and resume to:

Washington State 4-H Fair Board
PO Box 1225
Puyallup, Washington, 98371-0233

or by email to the Fair Board at st4hfair@gmail.com.



State 4-H Ambassadors Organize State-Wide Food Drive!

Berklie Sheppard



Hello! My name is Berklie Sheppard, and I am one of the new WA State Ambassadors. We are doing a state-wide food drive called “Hunger Doesn’t Take a Vacation.”

The food drive just had its first checkpoint on June 30th. These checkpoints allow us to see how the counties are doing collecting food, and if they need any help along the way. Whichever county has collected the most items by the checkpoint will get a certificate and recognition on social media.

The next two checkpoints will be July 31st and August 31st.

Thank you!

Berklie Sheppard
WA 4-H State Ambassadors
wa4hsa@gmail.com

Washington 4-H State Fair Exhibitor Guide Updated for 2023

Kirk Gresham

The State 4-H Fair Board has updated the 2023 Fair Exhibitor guide. Several sections, including the judging contest and equine portions, have undergone major changes. There is also a new Class 10 – 4-H Youth Showcase which gives our youth an opportunity to display their 4-H experiences on Labor Day Weekend!

Links to the complete guide, as well as each separate section, can be found at <https://extension.wsu.edu/4h/fairs/state-4-h-fair/exhibitor-guide/>

Please read the guide carefully and let us know if there are additional refinements which may be helpful at st4hfair@gmail.com.

Kirk Gresham, State 4-H Fair Board, President



Washington State 4-H Youth Showcase Coming to State Fair Labor Day Weekend

Peggy Gresham, State Fair Board

Announcing a great new opportunity to Promote 4-H...

Washington State 4-H Youth Showcase

Presented in the Dog/Cat Barns Labor Day Weekend – Friday thru Monday



Come and help us spread the word about 4-H to State Fair goers Labor Day weekend. Both adults and youth are encouraged to come and share their experiences. This is the Fair's opening weekend and we want to share clovers with everyone!

Drawing everyone into the two buildings will be an opportunity to take part in a fun, hands-on recycling challenge.

The Dog/Cat Benching Barn will have general 4-H Information booths for counties to share program information, volunteer opportunities, and project membership promotion.

Teen Programming opportunities will be presented with members sharing their learning opportunities at Teen Conference, participating in the WSU 4-H Know Your Government Program, and being a youth representative as a State Ambassador or Fair Board member!

The Dog/Cat Showring Building will host even more action where members can sign up to do a Public Presentation and earn premium while educating the public about agriculture, home arts and healthy living, leadership, civic engagement, science and technology.

Make your project come to life in the 4-H In Action arena! Come as an individual or bring your whole club to demonstrate what you have learned from taking part in 4-H!

Class 10 – 4-H Youth Showcase has been created for you to participate in this exciting event!

AND additional premium may be awarded to entries for 4-H Club/Group Displays (Class 48), Public Presentation or Speech (Class 1-3), 4-H In Action (Class 8), Educational Displays promoting 4-H (Class 70), WA Agricultural Product Ed Displays (Class 75), 4-H Videography (Class 156), and 4-H Promotional Photos (Class 157) used for display during this Showcase event.

Get a pass for you & your chaperone from your County 4-H Office - Arrive early to set up your display!

Can't attend the Washington State Fair this year?

No problem!! We are encouraging youth from across the State to send in videos of their 4-H experiences for us to share during the entire weekend.

Display Ideas Welcome!

Adults interested in sharing your 4-H volunteer experiences and promoting our programs are encouraged email us to select a time slot, too.

For more info or questions, please email st4hfair@gmail.com

Help to showcase how Washington State University 4-H Youth Development is developing young people to become productive citizens who are engaged in positive change, meeting the needs of a diverse and changing society.



WASHINGTON STATE
UNIVERSITY

Extension programs and employment are available to all without discrimination. Evidence of noncompliance may be reported through your local Extension office.

Donations Requested For State 4-H Fair Horse Medals

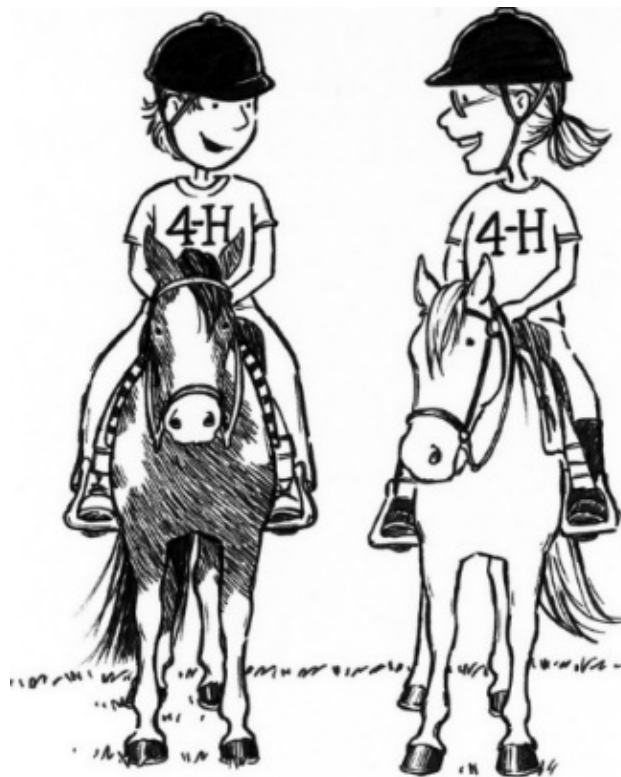
Attention County 4-H Horse Program — 4-H Staff; Volunteers, Donors, and Families! Donations are needed for medals for the Equine section of the 2023 State Fair for Champion (gold); Reserve Champion (silver); and Third Place (bronze). as well as for Groom Squad teams — Champion, Reserve, and Third Place. These are awarded for all 4-H horse exhibits — performance; driving; small equine, and western games.

For Equine Presentations and Horse Judging, we are blessed to already have donors for this state fair activity. Also, we had donors for the State Horse Bowl and State Hippology contests that occurred in May 2023.

The total cost for 2023 4-H State Fair medals will be approximately \$2,000. Any contribution, large or small, will help. From a funding capacity perspective — if there are not enough donations, there may be a possibility that bronze and/or silver medals may not be offered.

Please encourage folks to donate. The medals have been offered for many years through generous donations and are not provided for by the State 4-H Fair. **Make checks payable to Snohomish County 4-H Horse program and mail to Pat Pehling at 7310 83rd Ave SE, Snohomish WA 98290.**

If you have questions about the medals, please contact Pat, Snohomish County 4-H key volunteer, at pehling@frontier.com.



WSU 4-H Scholarships Showcase the Reward of Life-Long Skills

Denise Echelbarger, WSU Extension 4-H Youth Development Program
June 12, 2023



Pictured: (left to right) Catherine Hartrim-Lowe, Clair See, Tatum Goode, Nicole Poussier, Tryana Thompson, Laura Harris, (second row) Aleah Watterson, Jenna Cox, Taylor Alonzo, Amy Kovich, Jared Sheehan, and Emma Spalding.

Washington State University (WSU) Extension 4-H Youth Development Program and the WSU College of Agricultural, Human, and Natural Resource Sciences (CAHNRS) are pleased to announce the 2023 4-H scholarship winners. We are proud to offer scholarship assistance to support Washington high school students currently enrolled as 4-H members.

Catherine Hartrim-Lowe (Clark County) and **Clair See** (Skagit County) each received the **J. Orville and Helen Young/4-H Fund Scholarship**. Hartrim-Lowe will be attending Wheaton College in the fall of 2023. 4-H has been a part of her life since 2015, and she is a proud member of two Clark County clubs: Alpaca 101 and Sow, Bud, and Blossom. Over the years, 4-H has taught her incredible skills in self-discipline, communication, and inclusion. Claire See will be attending WSU this fall to complete a degree in biology with the goal of studying equine at WSU's College of Veterinary Medicine. This past spring See participated in the Washington State Horse Bowl Contest for the first time, and learned more than she could have imagined.

Tatum Goode (Clark County), **Nicole Poussier** (Pierce County), and **Tryana Thompson** (Clark County) were awarded the **Lewis County Leaders 4-H Council Scholarship**. Goode plans to attend University of Oregon in the fall to major in

business with a certificate in global business. As a participant in the Royal Riders 4-H club, she showed horses, volunteered, and grew her leadership skills. Poussier has been a member of 4-H for fourteen years and will be attending the University of Washington to study biology and chemistry. Public speaking is a life skill that 4-H has provided for Poussier, which has given her the ability to overcome shyness and create a perfect presentation with reliable sources. Thompson has been a 4-H member since 2016 and seeks a higher educational goal of large animal veterinary medicine specializing in animal reproduction. When she thinks about the heart in the 4-H pledge she feels the heart is where the passion is. This passion drives 4-H members to accomplish goals, and to better understand how our actions affect others.

Laura Harris (Whitman County) was the recipient of the **Thomas R. Quann 4-H Scholarship** and will be attending the University of Idaho this fall to study computer engineering. Implementing coded design plans has been a passion of Harris', but it wasn't until she joined a 4-H robotics team that she realized it is what she wanted to do for her career.

Aleah Watterson (King County) received the **O.M. Plummer Scholarship of the Oregon Community Foundation** and will be attending Montana State University to pursue a degree in rangeland management and wildlife ecology. Watterson has been a 4-H member for ten years and because of joining 4-H, every aspect of her life has been affected positively. She learned what it means to be a good teammate and leader, and how to give back to her community.

Jenna Cox (Walla Walla County) was awarded the **Woody and Joan Bernard 4-H Higher Education Scholarship** and is enrolled in the Honors College at Montana State University. She plans to major in either ranching systems or embryology. Cox says 4-H has greatly influenced her decision on where she will be attending college and her life-long plans. She wants to stay involved with agriculture, and to strive for future generations to continue to participate as well.

Taylor Alonzo (Pierce County), **Amy Kovich** (Snohomish County), **Jared Sheehan** (Yakima County), and **Emma Spalding** (Grays Harbor County) have all been 4-H members for over ten years and are the recipients of the **WSU 4-H CAHNRS Dettman Scholarship**. Alonzo participated in the 4-H dog project and has had many wins and losses that have helped shape her into who she is today. On her initial state fair qualification, she was disqualified and was devastated, however it allowed her to grow from a setback and she has participated in every state fair since. Being in 4-H has taught Alonzo how to be a leader and, most importantly, how to persevere. She will be attending WSU to major in animal science through CAHNRS pre-veterinary medicine track. Kovich's 4-H career began with small animals and grew to include public speaking, veterinary science, gardening, foods, leadership, and large animals. The culmination of the lessons she learned in 4-H sparked her interest in wildlife ecology and conservation which is the degree she will be pursuing within WSU CAHNRS. Sheehan's 4-H dairy and

swine projects, community service, public speaking, and dairy judging competitions taught him the qualities of hard work, problem solving, patience, leadership, and to take advantage of opportunities to achieve higher goals.

Sheehan will be attending WSU for a double major in mechanical engineering and agricultural technology/production management, pursuing a goal of working in the agricultural industry using heavy machinery and precision agriculture technology. Spalding's love of animals began with her involvement in showing dairy and swine in 4-H. She appreciated how connected the 4-H members were in the show barns, and how willing everyone was to help each other. Spalding enjoyed teaching younger 4-H members and the public about her various animal projects. At the age of thirteen she started volunteering at a local veterinary clinic, and has decided to major in animal sciences at WSU CAHNRS because of her passion for animals.

Congratulations to all the 2023 award recipients that dedicated their 4-H experience to learning life-long skills, being role models, and continuing to work towards accomplishing their next steps in higher education. For more information on the Washington State 4-H scholarship opportunities or to support 4-H visit extension.wsu.edu/4h.

State Dog Committee Optional Assessment for 2022-23 Program Year

The state 4-H Dog leaders committee has implemented a sustainable way of funding the needs of the State Dog Project in regard to awards, equipment and other requirements in order to provide an outstanding experience for each of our 4-H members who attend state-level events.

The State 4-H Dog leaders committee asks each county dog program to contribute an assessment, a \$3.00 fee for the exhibitor allotment for your county dog show days at State Fair from the previous year. This is a **suggested** donation amount and since this allotment is based on the county entries at State Fair from the previous year, it provides a sustainable and equitable way for each county to support the State Dog Project.

For example, if your county had a State Fair allotment of ten; your county suggested contribution would be \$30.00 for the current year. You may find out your allotment for the current year from your county Extension office 4-H staff or you may send an email to the contacts listed below. Please note that this assessment is not mandatory and does not in any way affect your county dog program's participation in 4-H state events – but provides an opportunity to support the State 4-H Dog Project.

We would like to receive your donation by August 1st. Please make your checks payable to the WA ST 4-H Dog Project and mail to:

Sarah Gunderson
P.O. Box 850
Carnation, WA 98014-0850

If you have questions regarding specifics details on how the funds are used or allocated, please contact the individuals listed below.

Sarah Gunderson, State Dog committee treasurer
sarahgcpa@gmail.com

Barb Taylor, State Dog Committee member
barb@nventure.com

Kari Smith-Schlecht, State Dog Committee member
jeskarsk9@aol.com

On behalf of the State 4-H Dog committee, thank you for your support.

Submitted by Jennifer Leach, 4-H faculty liaison to the State Dog Committee and assessment request approved by Mark Heitstuman, Interim State Program Director



Ask Dr. Universe: Why Do All Insects Have Six Legs? – Charlie, 10, Ohio



*What's a postdoctoral fellow? How do rattlesnakes rattle? What's it like searching for snakes in the field or taking blood samples from a grizzly bear? Find out on the [**Ask Dr. Universe podcast!**](#)*

Why do all insects have six legs? – Charlie, 10, Ohio

Dear Charlie,

There are about 40 kinds of cats out there—like me. There's only one kind of human on Earth now. But there are more than a million kinds of insects. That's just the insect species we know about.

Every single one of those insects has six legs.

I talked about why that is with my friend [Allan Felsot](#). He's an insect scientist at Washington State University.

He told me there must be some evolutionary reason insects have six legs—like better stability when walking.

“In biology, every ‘why’ question has the same answer,” Felsot said. “Things are the way they are because of adaptations that have allowed organisms to live longer.”

An **adaptation** is a trait that helps organisms survive in their environment. It helps them live long enough to have babies and pass on their genes. Insects and their closest relatives are arthropods. That includes crustaceans like lobsters and shrimp. It includes arachnids like spiders. It includes myriapods like millipedes and centipedes.

Arthropods have traits in common. They have limbs with joints. They have a hard shell on the outside called an exoskeleton. They're symmetrical. If you drew a line down their bodies—from head to tail—they look the same on both sides.



But insects and only a few other **arthropods** have just six limbs. Crustaceans usually have 10 limbs. Arachnids have eight legs. Myriapods can have hundreds of legs. Insects have all the limb genes crustaceans have, but some of those genes are turned off.

That's because having just six legs made life better for some insect ancestor millions of years ago. It survived and left six-legged babies.

One big advantage of having exactly six legs is balance. Felsot says it's called static stability. That means an insect on six legs can speed up then stop fast. It can change the direction it's moving—without falling over.

Being able to stop and change direction without wiping out helps insects dodge enemies—like hungry birds or people with fly swatters.

That balance has to do with the way insects use their legs while walking. **Insects** usually walk with three legs touching the ground at a time. They might start with one left leg and two right legs on the ground. Then they take a step by putting two left legs and one right leg on the ground and lifting the others up.

It looks like a tripod—the three-legged stand that supports a camera or telescope. Or a stool.

“You can't have a two-legged stool,” Felsot said. “But a three-legged stool or tripod is probably the most stable configuration.”

It's so stable that scientists who **make robots** use insects as models. That's called biomimicry. They're copying the balance insects can achieve, thanks to their biology.

Eventually insects got another adaptation, too—wings! They're the only arthropods that did that. It's one reason they're so successful.

Now that's fly.

Sincerely,
Dr. Universe

Do fish and sharks drink water? – Copper, 9, Florida

Dear Copper,

All living things need water. It's how life works on Earth. But do animals that swim in water drink water?

I talked about that with my friend **Nora Hickey**. She's a **fish veterinarian** at Washington State University.

She told me it depends on the kind of fish. Saltwater fish constantly drink water. Freshwater fish drink hardly any water.

It's all about the salts inside their bodies. Those salts make their muscles and **nervous systems** work.

“If you look at blood from saltwater fish and freshwater fish, they have about the same number of salts in their bodies,” Hickey said.

Saltwater fish and freshwater fish use different ways to keep those salt numbers the same.

It has to do with **osmosis**. That’s the way water moves across a thin barrier to make things equal on each side.

In this case, one side of the barrier is the water inside the fish. The other side is the water outside the fish.

The water inside a freshwater fish is saltier than the water it swims in. So, water constantly moves into their bodies through their skin and gills.

All that water flowing in could dilute the fish’s body salts. That would be bad for their muscles and nervous system. So, freshwater fish constantly pee to remove extra water. They don’t drink much water because they don’t need more.

Saltwater fish are the opposite. Their insides are less salty than the water they swim in. So, water constantly flows out of saltwater fish through their skin and gills. They replace the water by drinking constantly.

Of course, they’re drinking salt water. So, they need to get rid of the extra salt.

They mostly push out the extra salt in their poop. They hardly pee at all because they need to save the water in their bodies.



So, what about **sharks**?

“Sharks are like a combination of freshwater fish and saltwater fish,” Hickey said. Bony fish have swim bladders. It’s like a bag of gas inside them. It helps the fish control how much they float or sink—called buoyancy. Sharks don’t have that. They use the shape of their fins, extra fat in their livers and urea in their blood for buoyancy.

Urea and salts aren't the same things. But they're both dissolved in the water inside the animals' bodies. So, they influence whether water flows into the animal or out of the animal through osmosis.

Thanks to that urea, **sharks** have less water inside than outside. So, water constantly flows into them across their skin and gills. That's just like freshwater fish—but even more dramatic. Sharks can take in 167% of their body weight in water every hour. That means a 10-pound shark could have nearly 17 pounds of water flow into its body every single hour. Sharks don't drink, but they do pee constantly.

All that water coming in is saltwater. So, sharks need ways to remove extra salt. That's like saltwater fish. Sharks have a special gland near the anus that pushes extra salt out of their bodies.

The next time you dip your toes into a river or ocean, remember that freshwater is full of fish pee—and saltwater is full of shark pee. It's good to know what kind of water you're in.

Sincerely,
Dr. Universe

[Get more questions and answers here!](#)



Know a kid with a science question?

Help them submit it for a chance to be featured in a future Q&A.

[Submit a question!](#)

Washington State 4-H Teens Awarded National 4-H 'Lead to Change' Mini-Grant!

Somer Meade

Following a trip to Washington DC for the 4-H Teen Ignite Conference, six Youth Advocates for Health (YA4-H!) Teen Teachers are helping organize a state-wide service project called ***Kind Care Kits***. These kits will include social-emotional

activities for siblings who have a brother or sister who is sick and spending time at Ronald McDonald House (RMHC) and Children's Hospital locations across our state.

In March, these dedicated 4-H teens helped develop the project and submit a grant proposal to National 4-H Council to help fund the project. In early April, they found out their project was selected to advance to the next stage, and in late April, they gave a presentation over zoom on the merits of their project.

Last week, they got the great news that their 4-H 'Lead to Change' proposal was accepted, and they will receive \$2,000 to put towards supplies for the Kind Care Kits. WSU 4-H is also matching the \$2,000, so they will be able to make a total of 400 kits to disperse to three RMHC sites. To help fill any gaps, they are also working with the libraries in their communities to seek donations of art supplies.



Help us congratulate these six teens on their success, as we look forward to taking the project state wide, where teens attending the state conference in June will have the opportunity to help with kit assembly.

- Stella Marsh, Spokane County 4-H
 - Taegan Flake, Spokane County 4-H
 - Abby Hepting, Spokane County 4-H
 - Kaelynn Schultz, Skamania County 4-H
 - Ruth Rausch, King County 4-H
 - Sylvia Corey, Snohomish County 4-H
-

Updated PNW Horse Judges List Is Now Available!

Jennifer Leach

An updated PNW Horse Judges List is now available. It can be found at <https://s3.wp.wsu.edu/uploads/sites/2050/2023/05/PNW-Horse-Judges-3.14.23..pdf>

Counties are encouraged to select 4-H Horse judges off the PNW 4-H horse judges list. However, in Washington our policy is not to mandate that judges come from this list. However, if a county choose to hire a judge that is not on the PNW 4-H horse judge's list—we encourage the counties to select a judge that understands 4-H youth development, has access to the PNW 4-H Horse contest guide, understands and judges according to the Danish system of judging and understands the value of providing positive comments in judging. The philosophy in the Washington 4-H program in horses—is that the “judge is an educator.”

In regard to the PNW 4-H Horse Contest Guide—Washington is still waiting for the final version from our PNW partner, Oregon. In the meantime, we are working on an “addendum” to specifically outline the very minimal changes to the PNW 4-H Horse Contest Guide.

Questions? Please reach out to Jennifer Leach, State Contact for 4-H horses at jleach@wsu.edu



Q and A Sessions for the Washington 4-H Horse Program Continue – Now On First Wednesdays!

Have questions about the Washington 4-H horse program? **Our monthly Q and A for leaders, parents, members, and staff will now be meeting on the first Wednesday of each month via Zoom from 6:30 to 7:30 pm. beginning June 7th.**

Zooms are structured around the theme/parameters of horses and youth development. They are more than “what are the rules.” There is also time set aside for input on future topics for subsequent Zooms. **The Zoom meeting ID is 452-082-9765 with no passcode.** You must have a zoom account to participate.

The meeting will be facilitated by Jennifer Leach, WSU Extension 4-H State Fair Board Staff Liaison.

Feel free to contact Jennifer with any questions at LeachJ@co.cowlitz.wa.us.



Announcement of Dressage Tests for the 2023 4-H State Fair

The dressage tests for English dressage at the 2023 4-H State Fair will be Test 3 for both Training Level 1 and First Level.

Western Dressage has come back for the 2023 4-H State Fair and Test 3 for both Basic Level and Level 1.

4-H horse members will only be able to ride either English Dressage or Western Dressage, but not both, due to time constraints related to arena time.

These tests are available on the respective governing organizations—United States Dressage Federation (USDF) for English (<https://www.usdf.org/>) and the Western Dressage Association of America for Western dressage (<https://www.westerndressageassociation.org>)

The Western Dressage Association of America is the governing body for the Washington State 4-H Horse program. The information in the 2015 PNW 4-H Horse Contest guide on page 20 is outdated. In Washington, we do not use the North American Western (NAW) dressage tests.



*Submitted by Jennifer Leach, WSU Extension 4-H State Fair Board Staff Liaison.
E-mail Jennifer at LeachJ@co.cowlitz.wa.us.*

Reining Pattern for 2023 4-H State Fair Now Available

The 4-H State Fair reining pattern is now posted on the horse page on the WSU 4-H webpage located at <https://extension.wsu.edu/4h/projects/animal-science/companion-performance/horse/>

Reining will once again be offered at State Fair for Seniors only. The reining pattern is the same as last year to encourage participation since this is only the second year of 4-H reining. And also includes the scoresheet as an educational and judging tool.

There will be additional reining patterns for county level use that are reflective of basic reining and/or introductory reining. More to come next week.

For those who do reining—it is a series of circles, stop, back, figure 8, flying changes, roll backs, and/or spins. And based on skill level and/or complexity of the series of movements.

Submitted by Jennifer Leach, Chair of the “Ad Hoc Reining Committee” and 4-H State Fair board 4-H Staff Liaison. E-mail Jennifer at LeachJ@co.cowlitz.wa.us.
