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SAN FRANCISCO (KGO) -- An eight-year-old Bay Area girl is hoping to make a big impact on both the environment and her favorite sport. She is one of the winners of a national science contest and she is hoping to turn the research she has done into action.

As a soccer player, Claire Dworsky spends a lot of time on the field, but lately her goal is not just to score points, but to protect the environment by learning which fields are greener -- natural grass or artificial turf.

"I'm trying to compare the turf water and the grass water to see if the turf actually hurts plants, people and everything around us," Claire said.

Claire canvassed grass and artificial soccer fields across San Francisco, siphoning up irrigation and rainwater samples, and then sealing them in carefully marked tubes.

Now, she is about to get world-class help in analyzing them.

Adina Paytan is a research scientist at the University of California, Santa Cruz and an expert in water pollution. She and Claire were teamed up after Claire's project was named a winner in the Kids' Science Challenge national competition.

"I think Claire's project is amazingly cool, because she came up with it, based on her personal observations of her environment," Paytan said.

Using high-tech equipment in Paytan's lab, the pair will separate the samples and test them for chemical content. Software helps chart the levels of phosphate, nitrates, and ammonia from fertilizers and pesticide in grass, or deteriorating material in artificial turf.

"And its as good as if I would have done it myself as a scientist from UC Santa Cruz because she worked following instructions closely," Paytan said.

The contest's organizers say the idea is to give budding scientists a taste of what working in the field is like.

"They get to collaborate with world class scientists like Aden Paytan and see their idea become real," Jim Metzner said.

Claire says she ultimately wants to present her results to the city officials in San Francisco to help them make an informed choice about new parks and athletic fields.

Bay Area girl combines love of soccer, science

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"Hopefully by the end of the summer not only will she be able to present to the city council, but she'll be able to write up a paper for a peer-reviewed scientific journal," Paytan said.

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