DEQ's AIR-FAIR Rules & Guidelines

A Statewide Idaho High School Air Quality Competition



DEQ St. Maries Regulatory Monitor. Photo Taken By: Emily Flores

Program Highlights:

- Open to Idaho high school teams (4–8 students)
- Investigate local air quality using real-world $PM_{2.5}$ data
- Optional use of DEQ-provided PurpleAir sensors (up to 2 per school)
- Complete fun "air-tivities" including research, art, videos, and more by April 1, 2027
- Awards for top projects and recognition as DEQ "Air Ambassadors"

Deadline for teams to apply is October 1st, 2026!

DEQ's AIR-FAIR 2026–2027 Pilot Program Guide

The Idaho Department of Environmental Quality (DEQ) is excited to launch the 2026–2027 "AIR-FAIR," a statewide pilot program that encourages Idaho high school students to become citizen scientists by exploring air quality in their communities. Using existing air quality data, data collected using DEQ-provided PurpleAir sensors, or a combination of both, students will analyze and interpret real-world environmental information. The AIR-FAIR program focuses on fine particulate matter ($PM_{2.5}$), which consists of tiny airborne particles that can affect human health and the environment.

The program will run from January 1 through April 15, 2027, with winners announced on May 1, 2027.

Participating teams may request up to two PurpleAir sensors per school, depending on their project needs. The sensors can only be installed outdoors on school campuses where an electrical outlet and Wi-Fi are available. Teams do not need a PurpleAir sensor to participate and may complete their projects using existing DEQ or EPA air-quality data.

Working in teams of 4–8 students, participants will investigate environmental questions, explore local air quality events, create scientific and artistic projects, and develop outreach materials to educate others about air quality and environmental stewardship. Teams can choose from a variety of topics, and students are encouraged to pursue ideas that match their interests. Teams earn points by using air quality data to complete optional "air-tivities" such as:

- Research Question Analysis
- Research Question Poster
- Art Project
- Infographic
- Two-Page Paper
- Video
- Social Media Campaign
- AQI Awareness Campaign
- Policy Pitch or Community Action Plan

Team Eligibility:

Must include 4-8 students currently enrolled in a recognized public, tribal, private, or charter high school with one adult affiliated with the school.

Projects will be evaluated using an effort-based rubric that recognizes creativity, critical thinking, effective use of air quality data, scientific reasoning, and student engagement. Awards will be presented in several categories, including Best Research Project; Best Art Project; and 1st, 2nd, and 3rd Place for the highest scoring teams. The five winning teams will serve as DEQ's "Air Ambassadors" of the year.

Participation is open to eligible high school teams throughout Idaho. Applications and PurpleAir sensor requests will be evaluated based on project needs, geographic representation, and available resources. Teams may still participate using existing air-quality data if DEQ is unable to fulfill their sensor request. The deadline for a team to apply for the AIR-FAIR pilot program is **10/1/2026.** An application form must be submitted for each team competing within a school. Each team should share the same adult advisor who acts as the main point of contact for DEQ staff and is responsible for the PurpleAir sensor if requested.

AIR-FAIR Timeline

August 15 - September 31	**Outreach and School Recruitment** DEQ promotes AIR-FAIR statewide and recruits interested schools.
October 1	**Team Registration Deadline** Schools submit participating teams and advisor information to DEQ.
November 1	**School Selection & Purple Air Distribution** Selected schools are notified and receive PurpleAir sensors and program materials.
December 1	**PurpleAir Installation Deadline** PurpleAir sensors should be installed and operational.
January 1 - April 15	**Air-tivity Competition** Teams collect data, complete air-tivities, and submit projects.
April 15	**Submission Deadline** All air-tivity submissions must be received by DEQ.
May 1	**Winners Announced** DEQ announces overall winners and special award recipients
May 31	**PurpleAir Return Deadline** PurpleAir sensors are returned to DEQ unless arrangements have been made for continued participation.

Team Application Eligibility Requirements

The AIR-FAIR is open to high school students attending an Idaho public, private, Tribal, or charter school. Each team must have an adult advisor who is a staff member at the participating school and will serve as the team's main point of contact with DEQ. A school may have multiple teams competing against one another as long as they share the same adult advisor who assumes responsibility of any PurpleAir sensors that were requested. Completing a research question air-tivity is optional and is not required to participate in the AIR-FAIR. Requesting a PurpleAir sensor is optional and is not required to participate in the AIR-FAIR.

AIR-FAIR Project Standards & Expectations

Team Expectations

- Consist of 4–8 high school students per team.
- Have one designated adult advisor (teacher, coach, or school staff member) who will serve as the primary point of contact with DEQ.
- Use existing air-quality data from a reliable resource, data collected using a DEQ-provided PurpleAir sensor, or a combination of both to complete air-tivities.
- Fill out DEQ's survey at the end of the project that describes your participation experience.

Student Expectations

- Produce original work while working together as a team.
- Properly cite outside information, data sources, and images when appropriate.
- Use $PM_{2.5}$ and other relevant air quality data accurately.
- Follow the air-tivity rubric and submission guidelines.
- Use DEQ provided resources and links as needed.

Advisor Expectations

- Must be an employee of the institution that your team is representing.
- Serve as the primary contact between the student team and DEQ.
- If the team receives a PurpleAir sensor, oversee its safe and responsible use.
- Manage the set up and take down of the PurpleAir sensor.
- Return the PurpleAir sensor to DEQ after project completion, following DEQ's instructions.
- Schools interested in participating in AIR-FAIR the following year may contact DEQ to request permission to keep the sensors over the summer.
- Promote student ownership of projects while providing guidance as needed.

PurpleAir Sensor Expectations

The following expectations apply only to the schools that requested a PurpleAir sensor from DEQ:

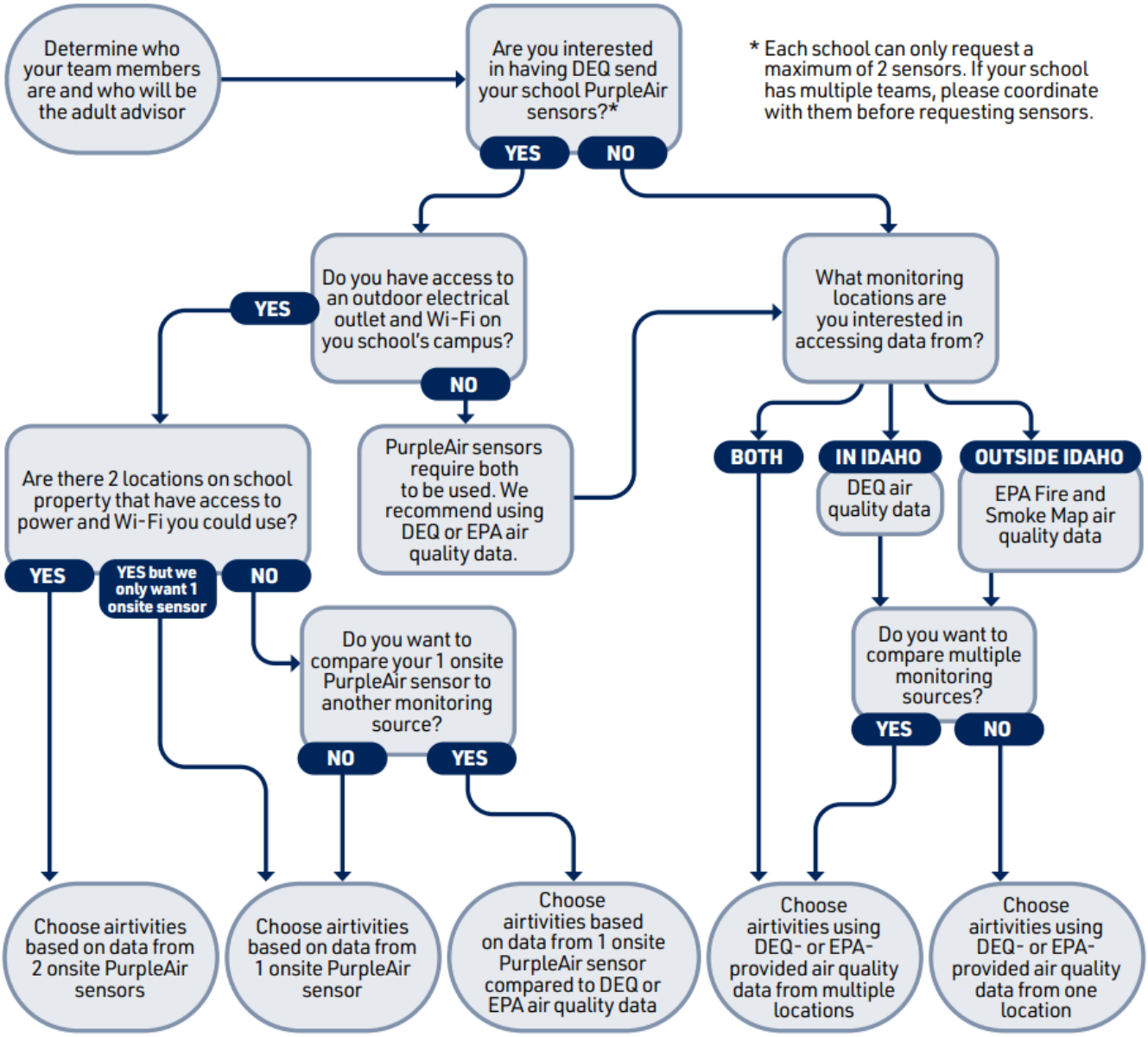
- PurpleAir sensors must remain private on the Fire and Smoke Map.
- Sensors must be installed according to PurpleAir and DEQ guidance on the school property described in the application form.
- Do not modify or relocate the sensor without notifying DEQ.
- Contact DEQ immediately if the sensor is damaged or stops working.
- Return the sensor at the end of the program unless otherwise approved by DEQ for the following year.

AI Use and Expectations

- AI sources must be cited if used for any part of the air-tivities.
- AI cannot be used to create art, graphics, or social media posts.
- For projects containing graphics – drafts must be provided in your submittal to show your work.

Team Application Decision Tree

What you need to know when filling out the 2026-2027 AIR-FAIR application form for your team:



Useful Air-tivity Resources & Links

PurpleAir Sensor Sources:

How to Install Your PurpleAir Sensor and Monitor Air Quality

Sensor WiFi and Registration - Sensors - PurpleAir Community

PurpleAir FAQ Help & Support Page

PurpleAir FAQ Discussion Board

PurpleAir Installation Video- How To

Air Quality Data Sources:

AirNow Fire and Smoke Map

EPA Recent & Historical Outdoor Air Quality Data

Idaho DEQ Air Quality Monitoring Map (click on the "Reports" tab to download data)

Idaho DEQ Air Quality Forecasts

Real-time Air Quality Monitoring by PurpleAir

Weather Information & Data Sources:

NWS Weather and Hazards Data Viewer

Windy: Wind Map & Weather Forecast

Additional Air Quality Information:

Air Quality | US EPA

AQI Basics | AirNow.gov

AQI Calculator | AirNow.gov

Air Quality Guide for Particle Pollution 2015

EPA Indoor Air Quality Tools for Schools

Idaho DEQ - How DEQ Protects the Air

NOAA What's in the Air We Breathe?

Project Templates & Useful Links:

How to Build a Science Poster

Research Poster Board Template

AIR-FAIR Rules & Guidelines Packet (print version)

AIR-FAIR Rules & Guidelines Packet (print version)

Air-tivity Rubric & Submission Guidelines

AIR-FAIR Air-tivities Rubric

List of Potential Air Quality Research Questions

AIR-FAIR List of Research Questions

List of Frequently Asked Questions

AIR-FAIR FAQs

DEQ Contact Information

Contact the AIR-FAIR email if your team needs help with the application process, selecting or completing an air-tivity, downloading or interpreting air quality data, using your PurpleAir sensor, or anything related to the program. DEQ welcomes your questions and feedback to make the AIR-FAIR program successful this year and improve the experience for future competitions.

DEQ's AIR-FAIR Website:

https://www.deq.idaho.gov/about-us/outreach-and-education/

The AIR-FAIR website includes:

- Link to the team application form (deadline to apply is 10/1/2026)
- Link to the air-tivity submittal form (deadline for all air-tivities submissions is 4/15/2027)
- Air-tivity rubric
- List of research questions
- Frequently asked questions
- PurpleAir sensor set-up instructions

Official AIR-FAIR Email Address

Air-Fair@deq.idaho.gov

Please address all questions and comments to this email.