

Guideline

Wildlife Radio Tracking Race: Find the Signal!

Competition Name: Wildlife Radio Tracking Race

Division: Research

Competition Type: Live On-Site Competition

- Students register ahead of the Summit.
- ONLY compete on-site at the Summit.

Eligibility Levels: Middle (6th-8th) and Secondary (9th-12th Grade)

AGFC Conservation Education Standards:

- **Understanding Arkansas' Fish and Wildlife:** Directly applies to understanding how biologists track and study wildlife.
- **Using Technology for Conservation:** Focuses on using telemetry antennas and radio collar technology.

Competition Overview:

The overall objective of this competition is to introduce students to radio collar tracking technology used in several wildlife research studies on various species. Student teams will be instructed on how to use telemetry antennas to locate radio collars. This will mimic how biologists find collared animals in the wild.

Competition Purpose (Problem or Abstract):

Student teams will be timed on how quickly they can locate their assigned collar. The fastest times win. Teams can be supervised by a Research Division staff member as collars will likely be positioned outside. The division will also have a booth to showcase other technologies used by the team for tracking and for darting animals.

You will showcase your ability to:

- **Operate Telemetry Equipment:** Learn and effectively use a telemetry antenna and receiver.
- **Interpret Signals:** Understand how to interpret signals from a radio collar to determine its location.
- **Navigate & Locate:** Efficiently move through an area to pinpoint the hidden radio collar.
- **Work as a Team:** Collaborate effectively with teammates to achieve the fastest time.
- **Apply Scientific Methods:** Experience a real-world method used by wildlife biologists.

Competition Guidelines:

You will compete in teams to locate a hidden radio collar using telemetry equipment.

Team Size: Maximum of 2 team members.

Competition Format:

- **Instruction:** Before the race begins, all teams will receive a brief instruction session on how to use the telemetry antennas and receivers to locate radio collars.
- **Hidden Collars:** Radio collars will be hidden within a designated outdoor area.
- **Assigned Collar:** Each team will be assigned a specific radio collar to locate.
- **Race Start:** Teams will start simultaneously or in timed intervals, as determined by competition staff.
- **Supervision:** Teams will be supervised by a Research Division staff member during the race.
- **Completion:** A team completes the race once they have successfully located their assigned radio collar and notified a staff member.

Scoring:

- Scoring and judging will be simple for this competition as it will be based on **time**.
- The team with the **fastest time** to locate their assigned radio collar will be the winner.
- In the event of a tie, a tie-breaking procedure (e.g., a shorter, more challenging collar location) will be announced on-site.

Judging:

- Division staff will monitor and document the times of the teams to verify the results.
- The judges' decisions are final.

Important Notes:

- All participants must register ahead of the Summit.
- This is an on-site competition; all equipment will be provided.

Rubric

Wildlife Radio Tracking Race Rubric

This rubric will be used by judges to record times and observe team performance.

I. Time-Based Performance

Points Available	Time-Based (Faster is Better)
Completion Time	Record the exact time (minutes:seconds) it takes the team to locate their assigned collar. This is the primary scoring metric. The lowest time wins.

II. Team Performance & Skill (Observation Only - Not directly scored, but contributes to overall impression)

Observation Criteria	Leading	Developing	Exploring
Effective Use of Telemetry Equipment	Team members demonstrate highly effective and efficient use of the telemetry antenna and receiver to pinpoint the signal.	Team members generally use the equipment effectively, but may have minor inefficiencies or require occasional adjustments.	Team members struggle to use the equipment effectively, leading to significant delays or misinterpretations of the signal.
Strategic Navigation	Team employs a clear, logical, and efficient strategy for navigating the area and narrowing down the collar's location.	Team generally navigates effectively, but their strategy may be less optimized or occasionally inefficient.	Team's navigation is disorganized, inefficient, or lacks a clear strategy.
Communication & Collaboration	Team members communicate clearly and collaborate seamlessly, sharing information and roles to work	Team members generally communicate and collaborate well, but there may be minor breakdowns or uneven	Team communication is poor, leading to misunderstandings, duplicated efforts, or a lack of cohesive teamwork.

	together efficiently.	contributions.	
Problem-Solving	Team quickly and effectively troubleshoots any challenges (e.g., signal interference, difficult terrain) encountered during the race.	Team attempts to problem-solve, but may take longer or require some guidance to overcome challenges.	Team struggles significantly with problem-solving, becoming stuck or requiring substantial assistance.
Adherence to Instructions	Team consistently follows all instructions from Research Division staff and competition rules.	Team generally follows instructions and rules, with minor, infrequent deviations.	Team frequently deviates from instructions or rules.