

‘LAW’

DRONES GONE WILD

“WHEN DRONES BREAK THE RULES”

DIVE INTO REAL LIFE CASE STUDIES TO
LEARN THE IMPORTANCE OF FOLLOWING
DRONE REGULATIONS.



Lesson Objective:

- To analyze incidents involving drones breaking rules, integrating knowledge of FAA regulations to understand causes, consequences, and preventive measures.

Materials Needed:

- Computer or tablet for internet access
- Smartboard or projector for presentations
- FAA drone regulations printed or online

Resources:

1. FAA We are Not Playing (Page 2)
2. Drone Violation Incident Checklist (Page 3)
3. Case Study: [The Bengals Bungle Video](#) (Click to access)
4. High Flying Hazards (Page 6)
5. High Flying Hazards [Wings Case Study](#) (Click to access)
6. Drone Detective Activity (Pages 8-13)

Lesson Steps:

1. Review what was learned during Trust Certification.
2. As a class discuss basic rules for drone flight focusing on the following:
 - a. flying over people, flying over a stadium, visual line of sight, and flying at night.
3. Read and review Resource 1: FAA We are Not Playing.
4. In small groups have students use Resource 2: Drone Violation Incident Evaluation Checklist to evaluate The Bengals Bungle case study (resource 3).
5. Use the discussion questions to discuss what they learned from The Bengals Bungle case.
6. As a whole class or in small groups have students read, and review Resource 4: High Flying Hazards.
7. Discuss what they learned from the High Flying Hazards.
8. Complete Drone Detective Activity:

45 MIN
LESSON

45 MIN
LESSON



The FAA has teamed up with the Stadium Managers Association (SMA) to create an educational campaign for fans and local communities regarding the restrictions and regulations of flying drones over stadiums. With the increasing popularity of drones there has been a rise in people attempting to capture drone videos of both college and professional sports teams during game days. In an interview with NBC news, NFL security chief, Cathy Lanier stated that there were 2,500 incidents of drones flying over or near stadiums last season compared to 1,300 the year before. These events have led to increased concern for public safety during games. Ms. Lanier worries about a scenario where a drone creates panic in the stands leading to potential injuries to both fans and players. In addition, there is also the problem of games being delayed and play suspended when a drone is spotted over a stadium. There is also the potential for the drone to cause injuries due to loss of power or signal dropping it onto patrons or player or for the drone to fly too close or into people causing injury.

The FAA has the following statement on it's website:

- Flying drones in and around stadiums that seat 30,000 people or more is prohibited by law beginning one hour before and ending one hour after the scheduled time of any of the following events:
 - Major League Baseball Game
 - National Football League Game
 - NCAA Division One Football Game
 - NASCAR Sprint Cup, Indy Car, and Champ Series Race

DRONE VIOLATION INCIDENT CHECKLIST

Purpose: This checklist is for you to use when evaluating case studies involving drone violations, specifically focusing on flying over people, flying over stadiums, flying at night, and flying without visual line of sight. It serves as a tool to assess compliance with FAA regulations and identify potential safety issues.

FLYING OVER PEOPLE

- Verify if the drone is categorized under the FAA's permissible models for flying over people.
- Check if the incident occurred in a densely populated area or over a crowd.
- Assess whether the drone had the required safety features (e.g., propeller guards).
- Determine if the operator provided notice to people in the area before flying.
- Evaluate if there was an emergency response plan in place for accidents.

FLYING OVER STADIUMS

- Confirm if the flight occurred during a stadium event (sporting, concerts, etc.).
 - Verify the time of the incident—was it during an event or within the restricted time frame before and after events?
 - Check for FAA waivers or special permissions granted for the flight.
 - Assess if there were safety measures in place (e.g., coordination with stadium authorities).
- Evaluate the potential risk to spectators and property in case of a drone malfunction

FLYING WITHOUT VISUAL LINE OF SIGHT

- Verify if the drone operator maintained a visual line of sight throughout the flight.
- Check if the operator used a visual observer or technological aids to assist with VLOS.
- Assess the potential risks posed by the loss of visual line of sight (e.g., obstacles)
- Determine if the flight path was in a high-risk area (e.g., near airports, in urban areas)

FLYING AT NIGHT

- Confirm if the operator had a waiver or special permission for night flying.
- Check if the drone was equipped with proper lighting for visibility and identification.
- Assess the environmental conditions (e.g., weather, visibility) during the incident.
- Determine if the drone operation interfered with any manned aircraft.

RESOURCE 3: CASE STUDY: THE BENGALS BUNGLE

04

A drone enthusiast and football fan decided they wanted to capture some video of a Cincinnati Bengals football game to post on their YouTube channel. Watch the video and use the Drone Violation Checklist to assess what violations the person committed. There will be some violations that won't be apparent on the video, but check as many as you can observe.

Drone vs. Cincinnati Bengals video



Once you have completed your checklist review of the Bengals video read the FAA We are not playing information as a class review and answer the discussion questions below.

Discussion Questions:

- What laws did this person break?
- Why was this incident so unsafe?
- Do you see anything in the video that could have made this incident even worse?
- What were the consequences for this person's actions?
- How could this have been prevented?



With the rise of drone popularity there has been an alarming increase in reported sightings of drones flying near manned aircraft. The FAA now receives over 100 reports a month of drone sightings near manned aircraft! These reports are filed by citizens, pilots and law enforcement.

- Click [here](#) to link to the FAA UAS reports page to learn more.

This is why there are so many rules and regulations for drone pilots to abide by when entering federal airspace. Drones can not only damage individuals or property, but there could also be devastating consequences if a drone impacted a passenger airplane.

Watch the video on the next page to see what researchers are learning about the damage a drone could cause if it collided with an airplane wing. As a class or small group answer the discussion questions below the video,

RESOURCE 4 : HIGH FLYING HAZARDS

Wing Case Study: [Click to play](#)



Discussion Questions:

- How are driving a car and flying a drone similar?
- What impact could a drone collision in the sky have on manned aircraft?
- Who is responsible for maintaining safe practices and following drone flight regulations when in national airspace?
- How could a manned aircraft and drone collision impact people on the ground below?
- In what ways can you reduce the risk of having an in air accident when flying your drone?
- What is one of the key changes in drone manufacturing that could reduce the damage to a manned aircraft in it collides with a drone?
- What else did you learn from the Wings video?

Ever since the Wright brothers helped us achieve manned winged flight, the sky is just another place where we travel. Remember your drone is one of thousands of airborne manned and unmanned craft up in the sky so fly responsibly!



Activity Objective: To analyze real world drone incidents in order to understand the importance of safe drone operation, learn about FAA regulations, and develop critical thinking and analytical skills.

Materials Needed:

- Access to online resources for research
- Drone Violation Charging Instrument

Activity Steps:

1. Divide students into Drone Detective Teams.
2. The teams will research drone incidents/accidents that have occurred over or near stadiums during events or games. (you can broaden the search to any type of incident if you chose)
3. Each team will chose 1-2 incidents to analyze using the drone violation charging instrument.
4. After completing their charging instruments teams will present their “case” findings to the class.
5. The teacher or whole class as a group decides if they will accept or dismiss the case based on the information provided by the detective team.

Resources:

1. Drone Violation Charging Instrument
 - a. download PDF for printing →



Drone Law Violation Charging Instrument

This document is called a 'Charging Instrument'. This instrument is used by detectives or officers as they make a case for charging someone for crimes committed.

Instructions:

- Choose 1-2 drone incidents you found during your online research. For each incident you will complete this form to the best of your ability. Provide as many details as you can on the form.
- Your teacher or classroom student jury will decide if you have presented enough information for charges to be made.
- Make your case strong! Case accepted or case dismissed?

Investigators (team) Name: _____

Date of Investigation: _____

Case Name (Something Creative): _____

Seriousness of Crime: 1-5. 5 is most serious _____

Suspect Information

- Name of Operator (if known):

-Name of Co-Defendants (involved in crime):_____

- Location of Incident: _____

- Type of Drone: _____

- Registration Number (if applicable): _____

Details of Incident

-Weather during incident:_____

-Night or Day:_____

- Date and Time of Incident: _____

- Description of Incident:_____

(write on the back if needed)

Drone Law Violation Charging Instrument cont.

Laws and Regulations Violated

(Tick the applicable boxes and provide details as necessary)

Flying in Restricted Airspace

Details:

Flying Near Other Aircraft

Details:

Flying Over People or Moving Vehicles

Details:

Flying at Night without Proper Lighting

Details:

Not Maintaining Visual Line of Sight

Details:

Flying Under the Influence of Drugs or Alcohol

Details:

Operating a Drone Without a License (if required)

Details:

Operating a Drone Beyond Line of Site

Details:

Other Violations:

Details:

Drone Law Violation Charging Instrument cont.

Proposed Fines and Penalties

Specific wording of federal law, rule, or regulation that was broken: *Write or paste the wording here.

-Per code, rule, or law, recommended fine (\$):_____

- Additional penalties such as jail time or other (if any):

-Flight data from the drones flight software such as DJI Fly:

*Does your case discuss height, speed, BVLOS, or any data (proof) that could come from the drone flight software?

Mitigating Information:

*Was there any information that would make this case more or less serious such as the Pilot in Command's intentions such as deliberate or negligent, cooperation with authorities, etc..?

Drone Law Violation Charging Instrument cont.

Investigative Summary

*Provide a brief summary of the investigation, including key findings and rationale for the proposed fines and penalties.

Legal Precedence or Case Law:

*This is where you prove there has been other people charged with the exact or similar crimes.

Details of previous similar or exact crimes:

Work Cite:

*Where did you find the legal precedence or case law?

Evidence of Harm or Potential Harm:

Documentation of any harm caused by the drone, such as injuries, property damage, or other. Be CRITICAL.

Drone Law Violation Charging Instrument cont.

Witness Statements: Testimonies from people who witnessed the incident can be crucial. These could be bystanders, other drone operators, or relevant authorities who were present.

Expert Testimony: In some cases, expert testimony regarding drone technology, aviation law, or the impact of the drone’s operation in the specific context might be required to establish the seriousness of the violation.

Who: _____

Details: _____

Summary:

Lead Investigator's Signature: _____

Date: _____

