

# Instructional Scenario

## Using Drones to Monitor Crop Health

Course/Duty Area: Agriscience & Technology/ Exploring the Use of Drones in Agriculture

### Scenario:

Mr. Robinson is a small grain farmer leasing large tracts of land for his operation. This year, he has hired a new spray technician to help keep up with spring fertilizer and herbicide application. Mr. Robinson has noticed yellowing beans around the edges of some of his fields and is concerned that the new technician may have missed some areas when running the broom sprayer for the earlier season fertilizer application. Mr. Robinson has reached out to you as a local drone photographer for some help with evaluating his fields. What kind of services could you provide to help with assessing the effectiveness of the fertilizer application, and how could you work with Mr. Robinson to improve some of his management strategies for his production operations in the future?

### Big Question:

How can you use your drone photography experience to help Mr. Robinson?

### Focused Questions:

- How can drone use save time and money for a producer?
- What capabilities does a drone need to provide the best evaluation of agricultural fields?
- How can planning incorporate the use of drones for an upcoming growing season?

### Student Project or Outcome:

Students will work in groups to create an improved management plan for Mr. Robinson. Different topics may be assigned to separate groups, but the final plan should be cohesive and address potential strategies to improve production yields using drones.

### Project-Based Assessment:

1. If available, students can have the opportunity to fly a drone with a camera at school, looking for problem areas on athletic fields or other grassy areas.
2. Students can evaluate aerial photos of crop fields, looking for and highlighting areas that show differences that may be related to low soil fertility, erosion problems, or crop damage.

### Teacher Resources:

[Monitoring Crop Health with Drones, Maryland Farm and Harvest](#) (YouTube video)

*Scenario submitted by Nick Robinson, Chickahominy Middle School, Hanover County Public Schools*