SN EDUCATOR GUIDE

February 1, 2020

Coating Provides Infrared Camouflage

Student Comprehension Worksheet

Directions: After reading "Coating provides infrared camouflage," answer the following questions.

1. How do infrared cameras work?

2. What is the relationship between an object's temperature and the brightness of the thermal radiation it emits? What do physicists call this relationship?

3. Name one way you can see this relationship in everyday life?

4. In what way does samarium nickel oxide appear to defy this relationship?

5. What properties of the material explain this defiant behavior?

6. How did scientists apply samarium nickel oxide? What did they apply it to and what data did they collect?

7. Why does the author describe the coating as a potential "camouflage"?

8. Describe two limitations of using samarium nickel oxide as a camouflage.

9. How does applied physicist Mikhail Kats plan to overcome one of the limitations?