

Name: _____

First Day in the Field

Directions: Read the short story below and answer the questions. Be ready to discuss further as a class.

Jordan is a sophomore in FFA who just landed a part-time job working afternoons at a local vegetable farm. It's early May, and Jordan is excited! This job will look great on his SAE record and will help him save up for a truck.

On the first day, Jordan throws on an old T-shirt, a ball cap and sunglasses left over from last summer. He packs a lunch with several snacks and fills a large water bottle. Sunscreen doesn't even cross his mind.

"I'm not worried," Jordan tells a friend. "It's not even that hot yet! Plus, I'm only working for a few hours. It will be okay. I tan easily; I never burn!"

By mid-afternoon, Jordan has been transplanting seedlings for hours. The sun feels intense and there's no shade in the field. Sweat keeps dripping into his eyes as they squint against the glare. He is staying hydrated though, having drunk two whole bottles of water so far.

Later in the day, when Jordan finally gets home, his skin feels tight and hot. His neck and arms are red, and his eyes are feeling irritated and itchy.

"That's just all part of working hard outside," Jordan thinks to himself. "Farmers deal with this all the time. If they can do it, I'll be fine ... I want to be a farmer one day, so I need to get used to it."



1. What does Jordan believe about the sun?
2. Go back and underline all the assumptions and misconceptions you noticed. Which stands out to you the most? Explain why.
3. Describe one instance where you see UV exposure risk.
4. Which part of the story do you think could lead to long-term problems and not just discomfort? Explain why.
5. What are two changes you would have made if you were in Jordan's boots?

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UV Exposure Investigation

Aligned to the following standards: FPS.03, FPS.05, FPS.08, FFA.PL-A, FFA.PL-B, FFA.PL-C, FFA.PL-D, FFA.PG-G, FFA.PG-I, FFA.PG-J, CCSS.RI.9-10.1, CCSS.RI.9-10.2, CCSS.W.9-10.2, CCSS.W.9-10.10, CCSS.W.9-12.9, CCSS.SL.9-10.1, CCSS.SL.9-10.4, CCSS.RST.9-10.3, CCSS.RST.9-10.7, NGSS Practice 1, NGSS Practice 3, NGSS Practice 4, NGCC Practice 6, NGSS Practice 8, CRP.01, CRP.03, CRP.08

Directions: Working independently, you will rotate through all five stations to test the UV exposure of each.

For **each condition**, you will:

- ❖ Write a hypothesis (what you think will happen and why).
- ❖ Test the UV item (beads/cards/bracelets).
- ❖ Record your observations.
- ❖ Decide whether UV exposure is high, moderate, low or blocked.
- ❖ Connect your results to agriculture-related risks.

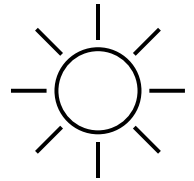
Steps to test each condition:

1. Formulate your hypothesis.
2. Place the UV item into the condition and let it sit for 60 seconds.
3. Record observations.
4. Remove your tested item.
5. Finish the sections on your activity sheet for that condition.

Condition: Direct Sunlight

Hypothesis (before testing):

What do you think will happen to the UV item in direct sunlight? Why?
If I (insert action), then (predict result), because (reason).



Observations (during testing):

Write down what you notice: color changes, speed of change, intensity of color, etc.

Conclusion:

Circle the UV exposure level: High Moderate Low Blocked

Agriculture Connection:

When/where in the agricultural field would you see this condition?

Who/what does this condition affect most?

How could this level of UV exposure affect a person working in this condition?

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Condition: Shade

Hypothesis (before testing):

What do you think will happen to the UV item in the shade? Why?

If I (insert action), then (predict result), because (reason).



Observations (during testing):

Write down what you notice: color changes, speed of change, intensity of color, etc.

Conclusion:

Circle the UV exposure level: High Moderate Low Blocked

Agriculture Connection:

When/where in the agricultural field would you see this condition?

Who/what does this condition affect most?

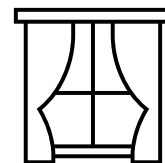
How could this level of UV exposure affect a person working in this condition?

Condition: Under Plastic/Glass

Hypothesis (before testing):

What do you think will happen to the UV item under plastic/glass? Why?

If I (insert action), then (predict result), because (reason).



Observations (during testing):

Write down what you notice: color changes, speed of change, intensity of color, etc.

Name: _____

Conclusion:

Circle the UV exposure level: High Moderate Low Blocked

Agriculture Connection:

When/where in the agricultural field would you see this condition?

Who/what does this condition affect most?

How could this level of UV exposure affect a person working in this condition?

Condition: Covered With Soil/Dirt

Hypothesis (before testing):

What do you think will happen to the UV item when covered with soil/dirt? Why?

If I (insert action), then (predict result), because (reason).



Observations (during testing):

Write down what you notice: color changes, speed of change, intensity of color, etc.

Conclusion:

Circle the UV exposure level: High Moderate Low Blocked

Agriculture Connection:

When/where in the agricultural field would you see this condition?

Who/what does this condition affect most?

How could this level of UV exposure affect a person working in this condition?

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Condition: Covered With a Hat or Fabric

Hypothesis (before testing):

What do you think will happen to the UV item when covered with a hat or fabric? Why?

If I (insert action), then (predict result), because (reason).



Observations (during testing):

Write down what you notice: color changes, speed of change, intensity of color, etc.

Conclusion:

Circle the UV exposure level: High Moderate Low Blocked

Agriculture Connection:

When/where in the agricultural field would you see this condition?

Who/what does this condition affect most?

How could this level of UV exposure affect a person working in this condition?

1. Which condition surprises you the most? Why?
2. Did any condition completely block UV radiation? Explain.
3. Based on your results, list two occupational risks agricultural workers face related to sun exposure.

Agricultural Career Risk Snapshot

Directions: In your group, research your assigned agricultural career and connect UV exposure to the associated occupational risks, then identify realistic protections. Use the AgExplorer website to assist you: [AgExplorer.FFA.org](https://www.agexplorer.org).

Step 1: Background Information

1. Assigned career: _____
2. Describe the typical work setting.
3. List two or three tasks a person in this career would do.

❖

❖
4. Is there a specific season of the year for this career? Explain.
5. Is there a specific time of day a person in this career would work? Explain.

Step 2: Sun Exposure and Protection

6. List specific tasks or work settings in this career where UV exposure occurs (list at least two).

7. Circle the top two sun-related occupational risks that most likely exist for this career:
 - a. Heat Stress
 - b. Skin Damage
 - c. Eye Damage
 - d. Dehydration
 - e. Other: _____

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8. Explain why these risks apply.

Step 3: Risk Snapshot

9. Identify one specific time or situation when sun exposure risk is the highest for this career.

10. Describe one realistic sun safety strategy someone in this career could use and explain why it would help.

Strategy: _____

Why does this work?

Step 4: Reflect

11. Based on what you learned, how could this information apply to your own future in agriculture, FFA activities, an SAE or even your everyday life?