

# Sky Science

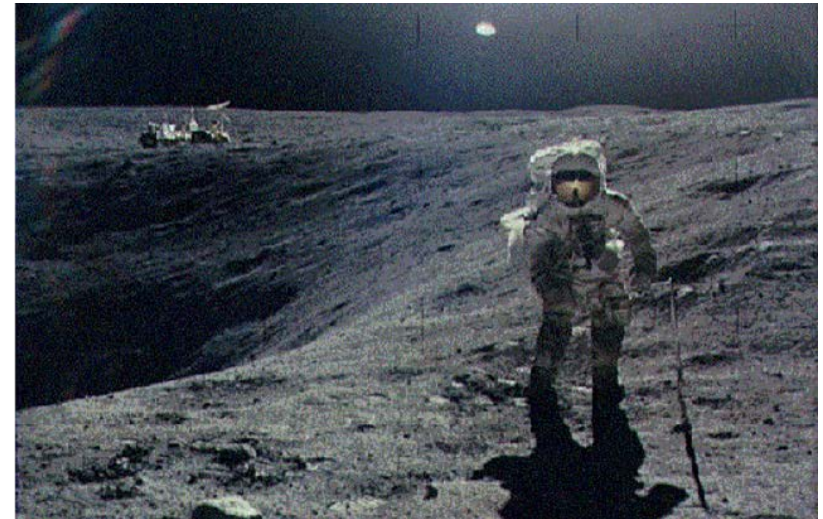
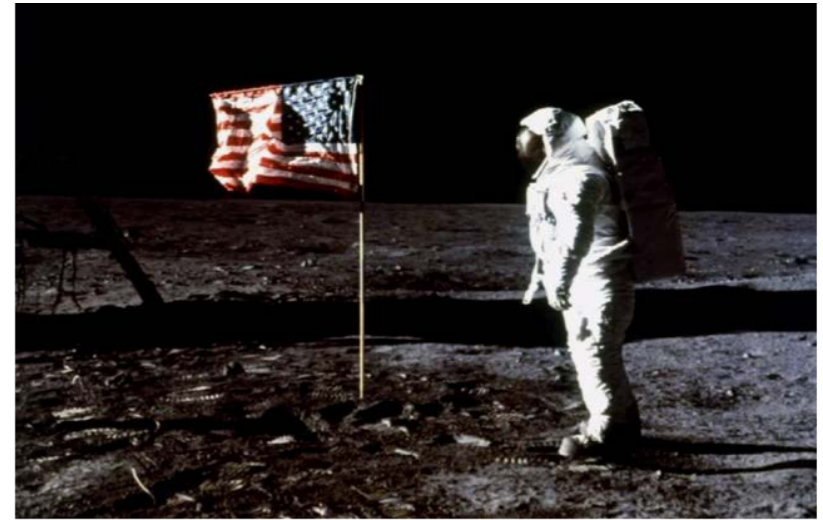
Investigating and critiquing a model



CALIFORNIA  
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# Observe & Question



# Focus Question

Why do we see the colors we do in  
Earth's sky?

# Investigate & Observe

- What colors do you see, and where?



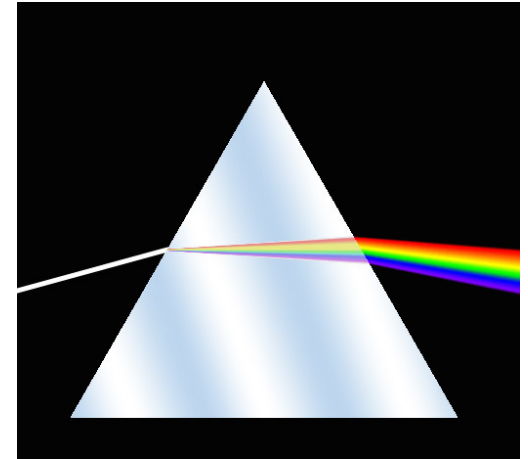
Lights are going off!

# An initial explanation

1. Based on what you know about light and color, what do you think is happening to the light in the bucket?
  - Discuss and share ideas as a group.
2. As a group, write **one** explanation that you can agree on, and provide evidence:
  - » At first we think \_\_\_\_\_ because \_\_\_\_\_.

# Some “just in time” information

- ✓ Three ways that light **interacts** with matter:
  - **Transmit** (passes through)
  - **Reflect** (bounces off of)
  - **Absorb** (turns into another form of energy—for example *heat*)
- ✓ Light is can also **scattered** = redirected in random directions by **interacting** with small particles in its path.
- ✓ White light is the combination of many colors of light.



As a group, write **one** explanation that you can agree on, and provide evidence:

At first we think \_\_\_\_\_ because \_\_\_\_\_.

# Plan to investigate

1. As a group, decide *one* thing to change in your model to *test* your initial explanation.
2. Based on your explanation, what effect do you predict this change will have on what you observe?



# Reflect & Revise (or confirm)

1. Based on what you observed, do you need to revise your explanation?
  - *Now we think \_\_\_\_\_ because\_\_\_\_\_.*
  - *We confirm our thinking because\_\_\_\_\_.*
2. What are you wondering now? What would you want to try next?

# Sharing discoveries

- » Leave your latest investigation set-up, notes, and explanations visible on your table.
- » Visit at least one neighboring lab to see what they have been up to.
- » Return to your lab and share any new ideas or questions.

# Modeling the sky

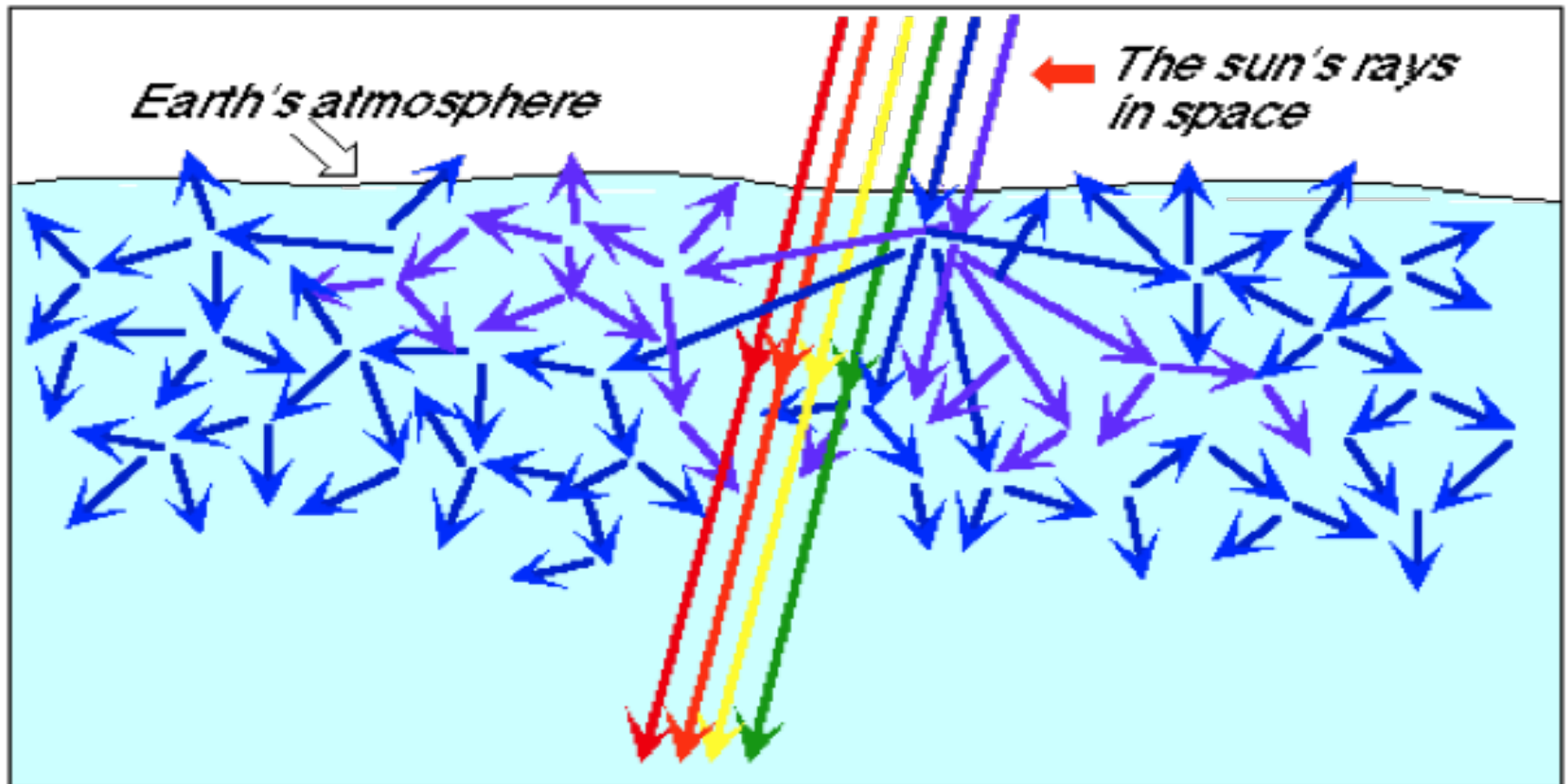
Think-Pair-Share:

- *Which bucket (milky or plain water) is more like Earth's sky? Why?*
- *Which is more like the moon's sky? Why?*

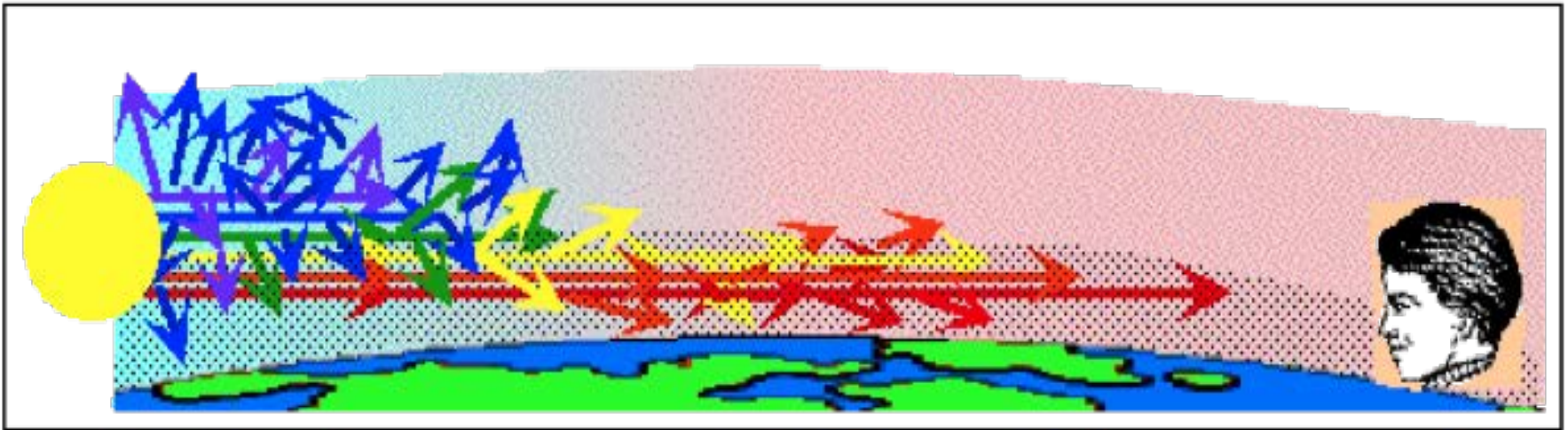
# Think-Pair-Share

What do you think this diagram is intended to show?

- » How does it relate to the **focus question**?
- » How does it relate to our **model**?



# Think-Pair-Share



What do you think this diagram is intended to show?

- » How does it relate to the **focus question**?
- » How does it relate to our **model**?

# Critiquing our model

Part of the model	<b>Is like...</b>	Part of the real world	They are alike because...	They are different because...	
			STRENGTHS	LIMITATIONS	
Water filling the bucket			Space surrounding the earth or the moon		
Milk mixed into the water			Atmosphere		
Flashlight shining through the water		Sunlight			

Focus Question: What do you think now?

Why do we see the colors we do in  
Earth's sky?