

Name: _____

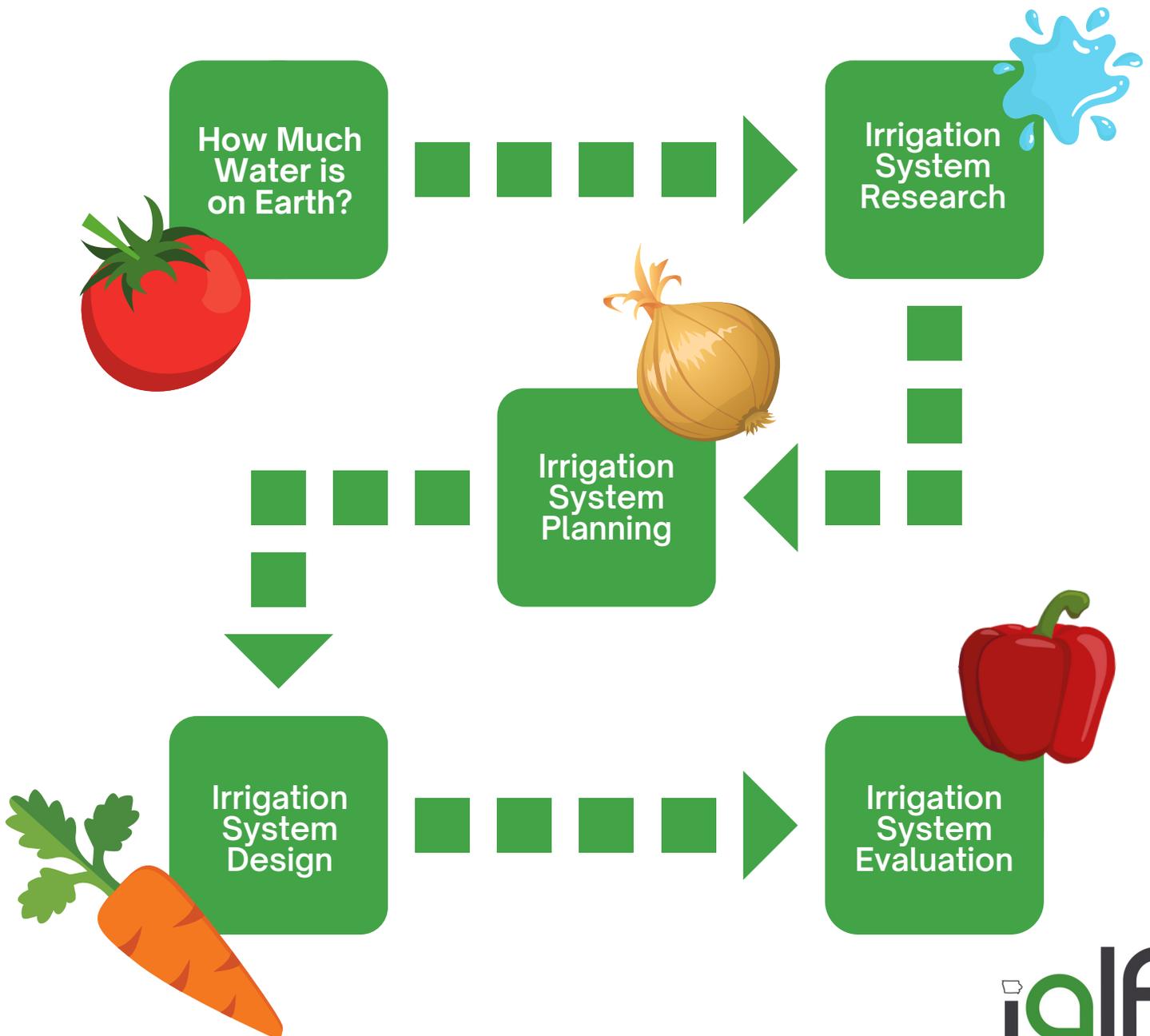
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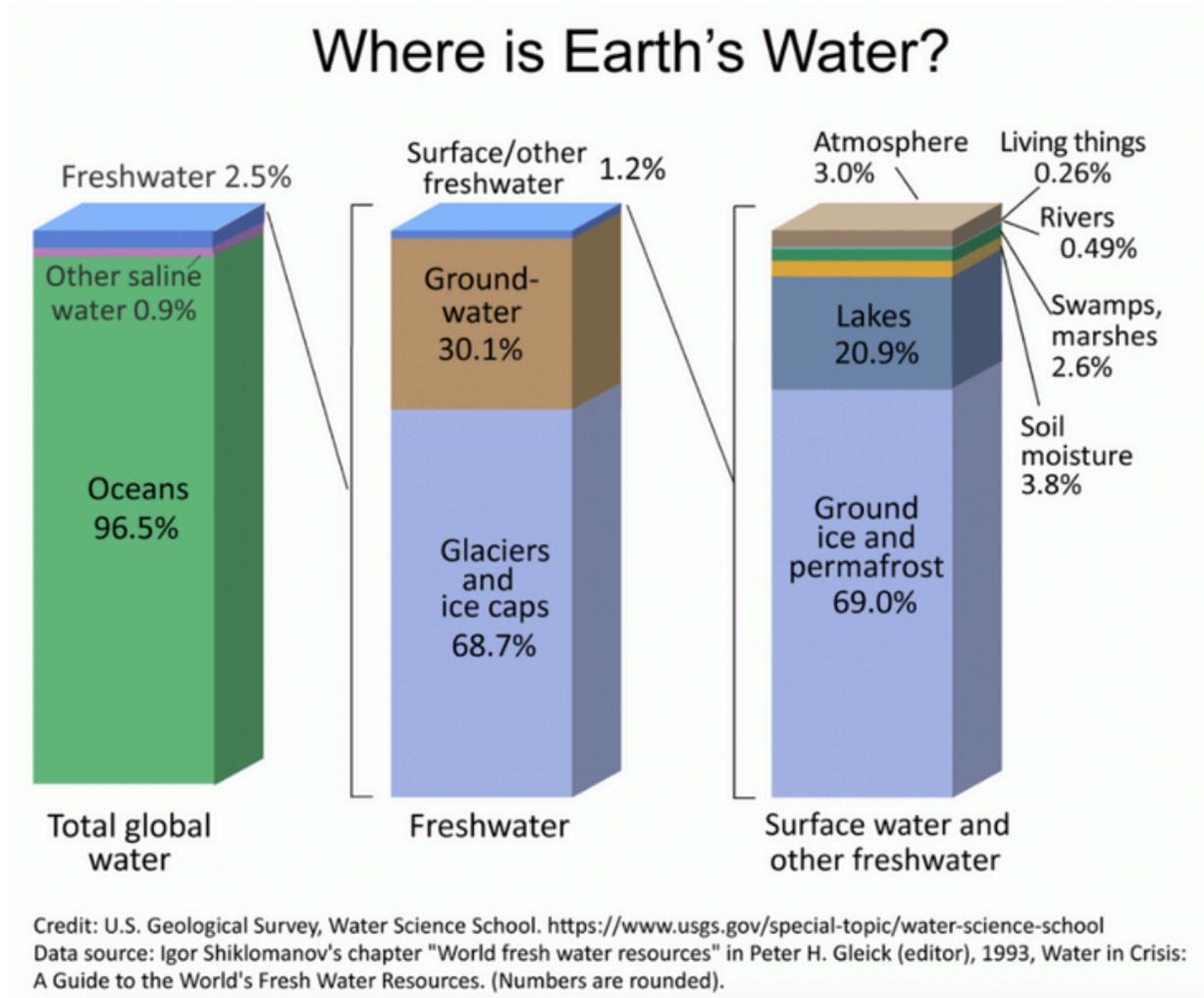
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AN IRRIGATION INVESTIGATION



AN IRRIGATION • How Much Water is INVESTIGATION • on Earth?



How can the limited amount of freshwater on Earth impact humans?

-
-
-
-
-

AN IRRIGATION INVESTIGATION • Irrigation System Research

Note-Taking Guide

 Our Irrigation System: _____

When was your irrigation system invented? Who created it?

How does this irrigation system work?

What problem(s) did this system solve?

Was any local knowledge used during the creation of the system?

What kind of environment(s) and/or region(s) is this system used in?

How does this system conserve water?



AN IRRIGATION • Irrigation System INVESTIGATION • Planning



Help Wanted: Ira's Irrigation System



Dear young engineers,

My name is Ira and I own a farm outside of town. Last year, I planted tomatoes, carrots, bell peppers, and onions. Sadly, I used a lot of water and it was so expensive! Even worse, the yields barely covered the cost of doing business!

I need your help to create a new irrigation system so I can cut back on how much water I use. This is important because we've been in a drought for a few years now. I also want to increase my crop yields so I can save money to put back into the farm. I will give you all the materials you need to test out a new system. I have 5 carrot plugs, 3 onion plugs, 2 bell pepper plugs, and 2 tomato plugs that I will send over right away!

Thank you so much for your help!

Ira

AN IRRIGATION • Irrigation System INVESTIGATION • Planning



Calculations (show your work!)

How many cups of water will the 2 tomatoes need each week?

How many cups of water will the 2 bell peppers need each week?

How many cups of water will all 5 carrots need each week?

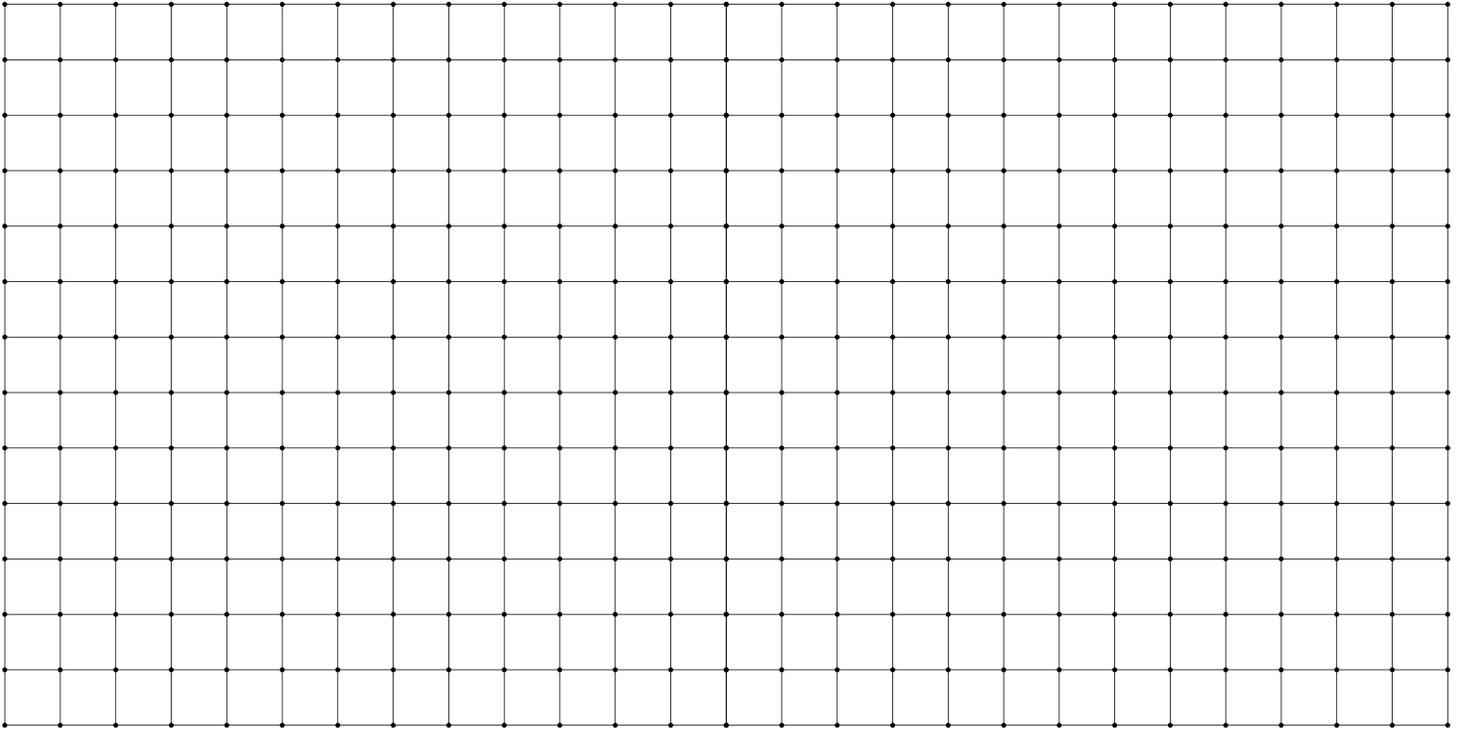
How many cups of water will all 3 onions need each week?

How many cups of water will all of the plants need each week?

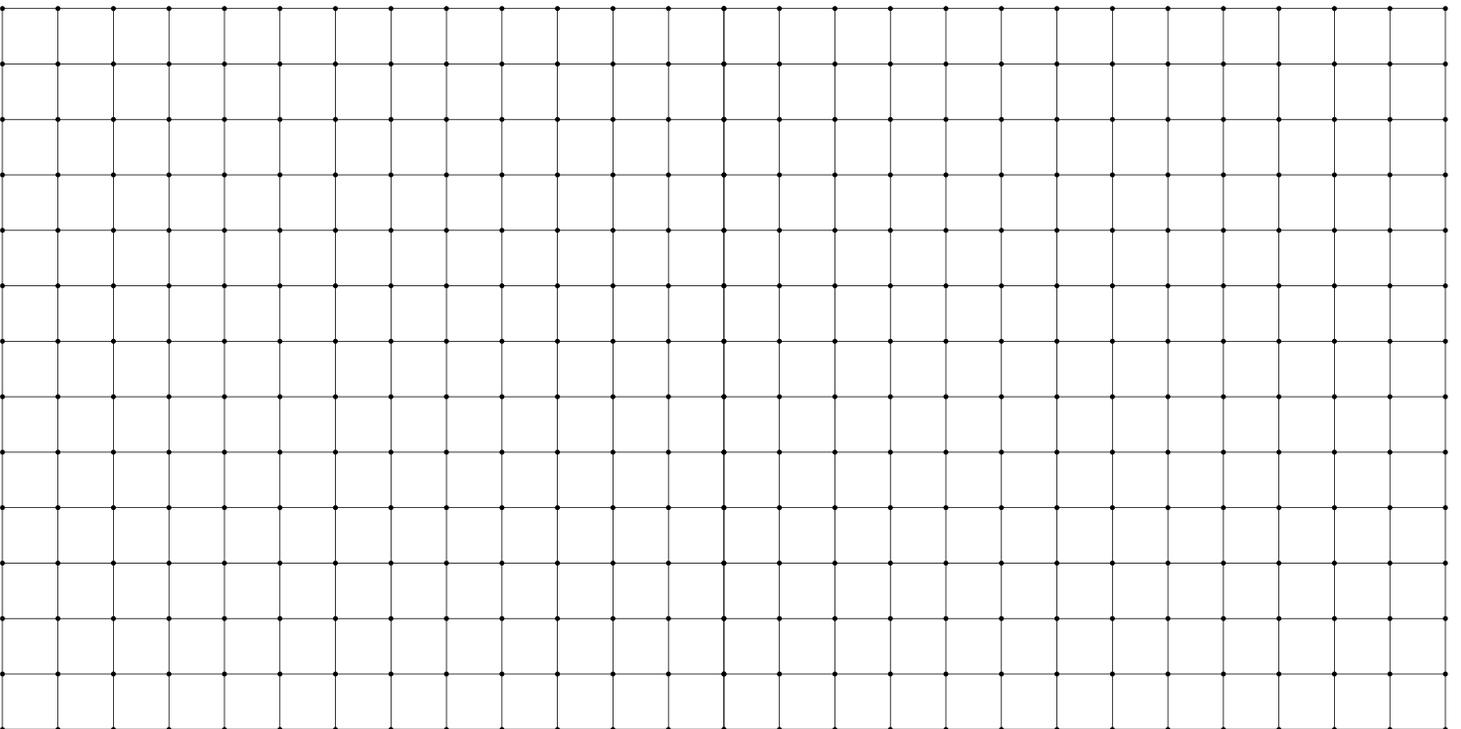


AN IRRIGATION INVESTIGATION • Irrigation System Design

Experimental Layout #1

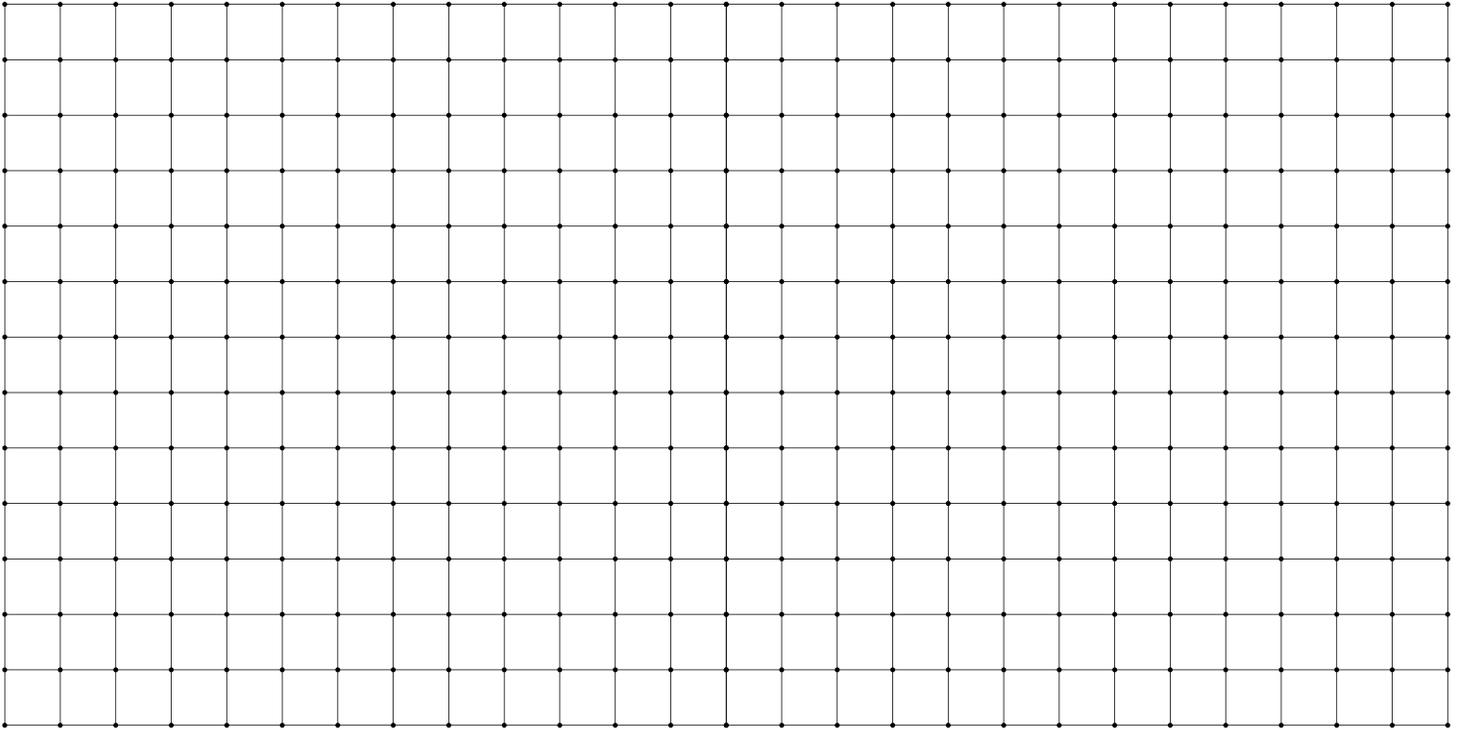


Experimental Layout #2



AN IRRIGATION INVESTIGATION • Irrigation System Design

Final Layout



Explain

How did you decide on the layout of the irrigation system? What factors were important to consider?

How did you decide on the layout of the vegetable plugs? What factors were important to consider?



AN IRRIGATION • Irrigation System INVESTIGATION • Evaluation



Calculations (show your work!)

In The US, it is more common to see measurements in inches instead of millimeters or centimeters. Convert your measurements into inches to help Ira understand your results.

1 millimeter = 0.1 centimeters

1 centimeter = 0.394 inches

