

Ideas for Low-Tech Home Science

“In the midst of every crisis, lies great opportunity” ~ Albert Einstein

At BOCES 4 Science, we know that many schools are engaging students in digital learning. However, we believe that students can continue to learn and investigate scientific concepts off the internet -- by simply going outside.

In other words, take advantage of the resources that students DO have: the world at their doorstep.

IDEA: Ask students to investigate nature that is around the place where they live. Depending on appropriateness for age, students could be asked to keep science notes (or a science notebook) about nature observations they can make daily (or a few days each week).

Students can **Observe & Describe**:

- The weather of the day
- Amount of sunshine compared to amount of cloud cover
- Day length in hours
- Temperature at different times of the day
- Location and length of shadows during the day (use rocks to mark the end of the shadow)
- Signs of spring
- Number of birds observed (of different species if possible)
- Number of mammals observed
- Number of amphibians or reptiles observed
- Amount of activity by all animals compared to temperature of the day

In the notebook (or just on paper), students can record what they wonder about what they see... Students can list the **Questions** they have about their observations...

Students could make a drawing (aka a **Model**) that describes what one spot looks like now and make a new drawing every 2 days or so. Students should include labels for the objects in their drawing and be sure to date it.

At-Home Investigations can take many different forms. They begin with a **Question**. Students decide what they need to find out to answer the question. They decide to collect specific information (Data). To find **patterns in the data**, students make their data into a table or a graph. Finally, students share what they learned.

The pages that follow are *just ideas* for how students *could* collect data. Sometimes the best learning happens, however, when it is entirely directed by the student.

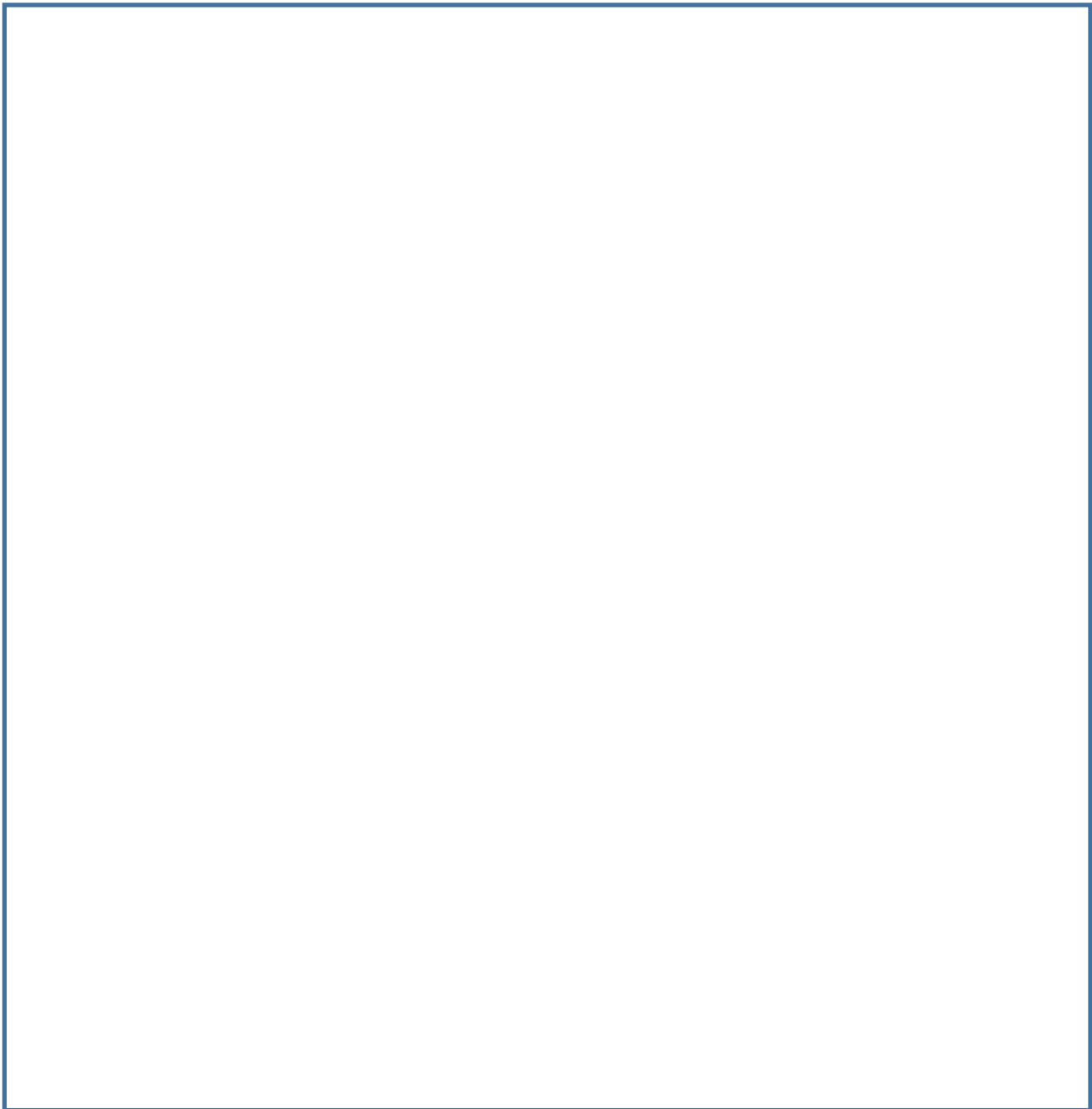
This Science Journal belongs to _____

Use the space below to sketch what you observe in nature. Include:

- A date that you made the sketch
- The location
- Labels on each picture

Make observations. Ask questions about things you see. Imagine how to find answers to your questions. Can you investigate them yourself?

You can be a Nature Scientist!

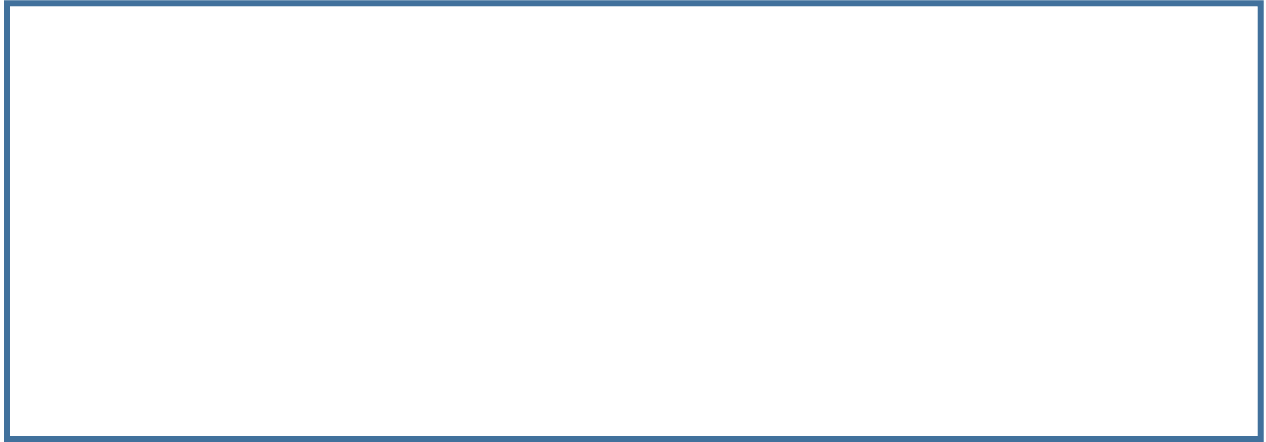
A large, empty rectangular box with a thin blue border, intended for students to draw and sketch their observations of nature. The box occupies the lower two-thirds of the page.

Today's Weather:

Date _____

Time _____

Draw a picture of the sky today. Is it cloudy or sunny outside?



How does the air feel outside? Is it cold, hot, warm, freezing?

Take the outside temperature if you are able.

Today's temperature is: _____ It feels _____.

Is it windy outside? _____ What evidence of wind do you observe?

Did it rain or snow lately? _____ Can you figure out how much rain or snow fell? What do you need to do to find this out?

How many squirrels did you see today? Use tally marks in the open box below to count the squirrels.

Number of squirrels I saw today	
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How many animals (choose all animals or only one type) did you see today?

Number of _____ I saw today	
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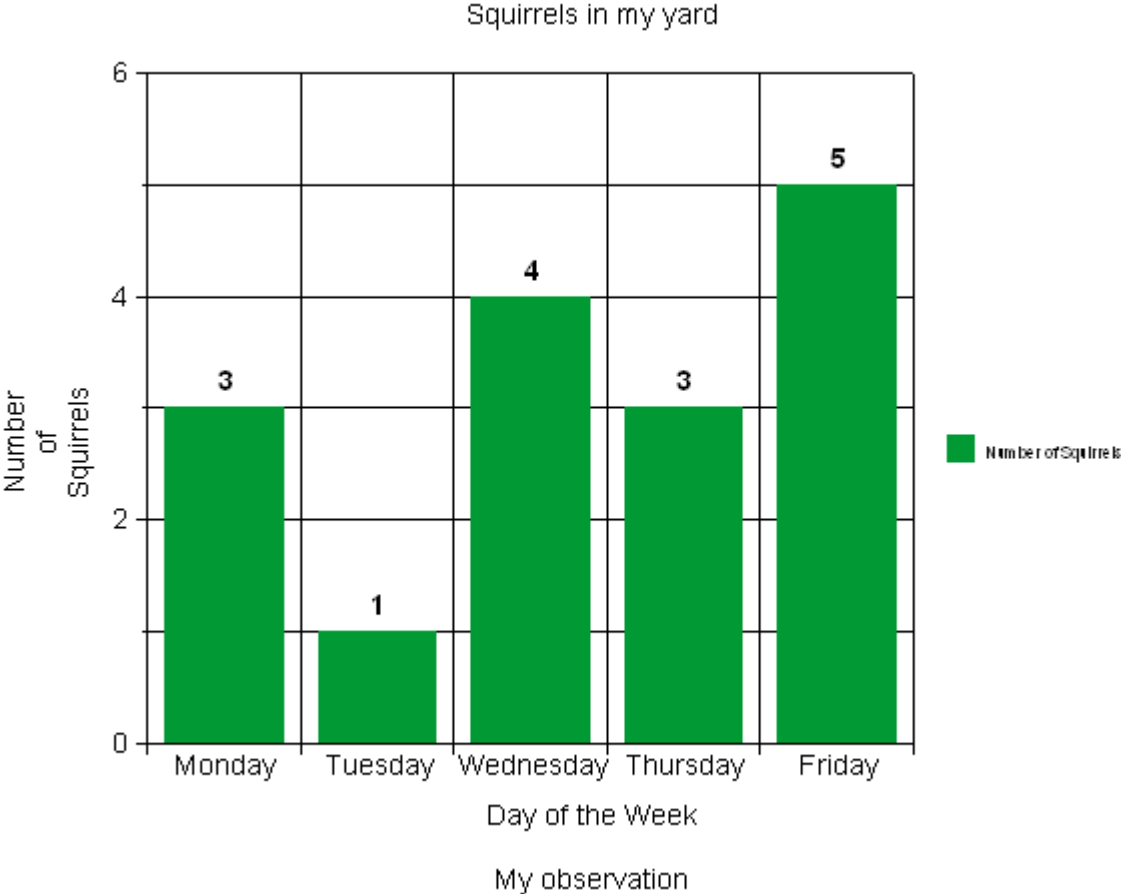
How many flowers did you see blooming today?

Number of flowers I saw today	
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What do YOU want to count? Use the space below.

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Sometimes, a graph helps us see PATTERNS in our data. What patterns do you see in the graph below?

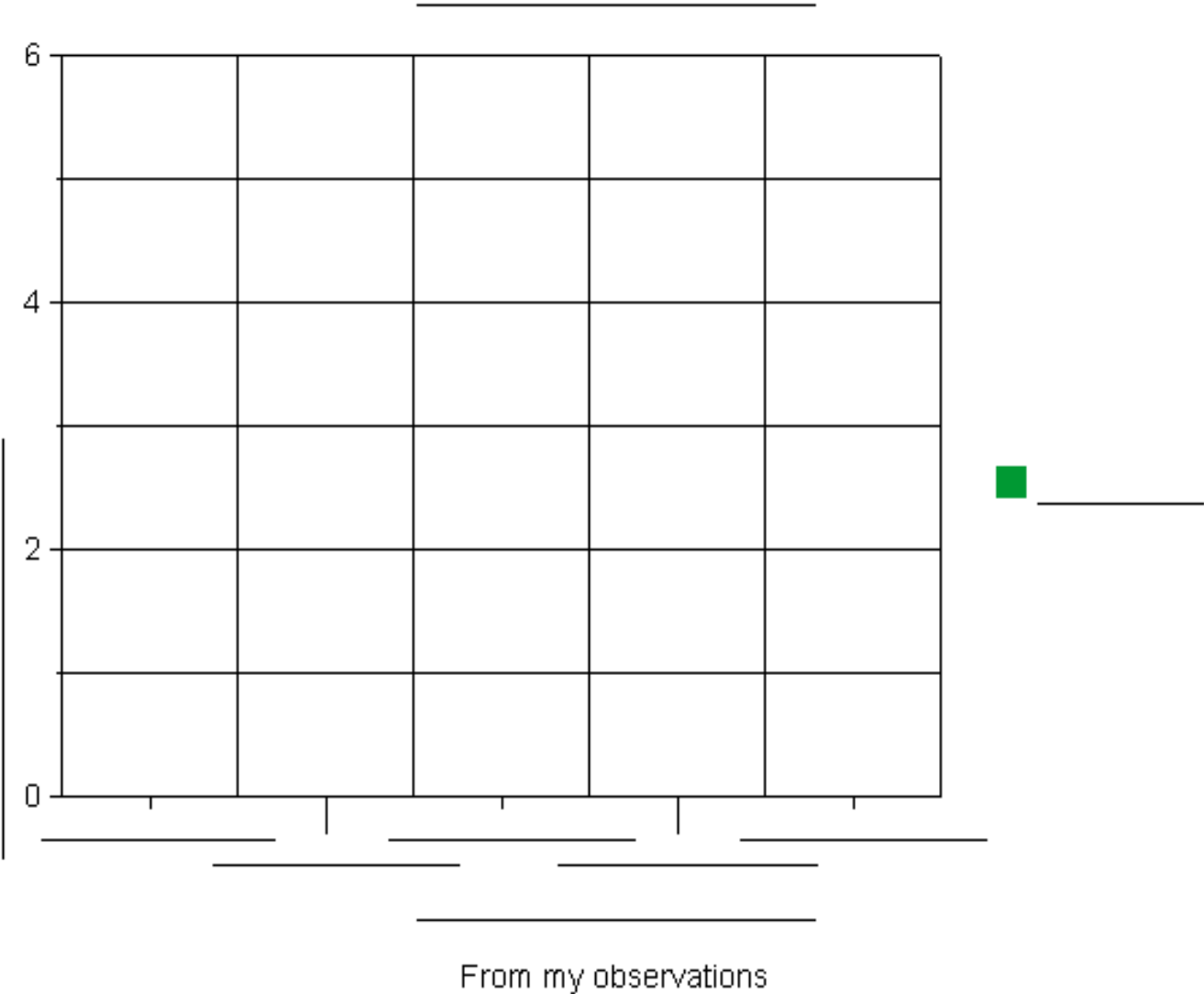


I noticed this in the data:

What do YOU want to find out? What would YOU like to investigate?

Use the space below to collect data about a topic of interest to YOU. You can use tally marks or numbers.

If you want to see PATTERNS in your data, make a BAR GRAPH below:



Claim: I think this is what happened:

I think this because (write your evidence below):
