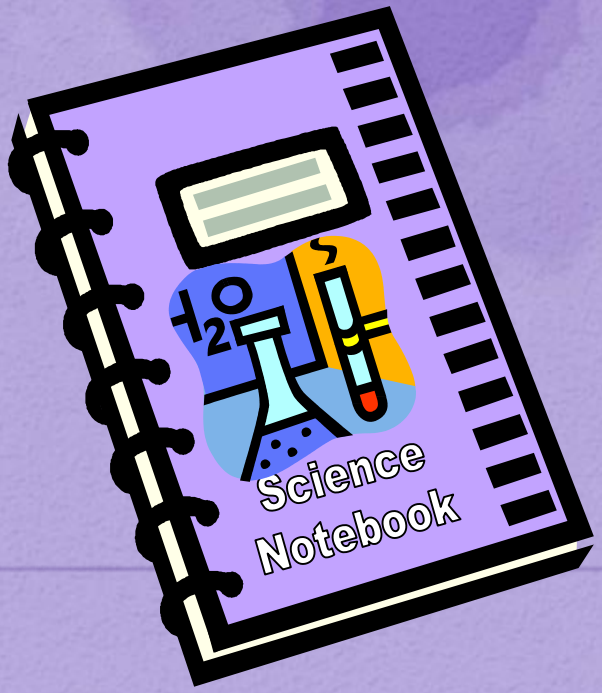
Interactive Science Notebooks



Does this sound familiar??

- **I can't find my notes….homework…quizzes**
- **I can' remember what we did yesterday in class…..**
- **I was absent last week and can't find my notes…..**

Here is your answer…

Interactive Notebook

What is an interactive notebook?

- A place to record information
- Enables the student to process ideas and make connections
- Culmination of student work throughout the year
- Demonstrates content learned and reflective knowledge by the student

Benefits of Using Interactive Notebooks

- Develop students' thinking to prepare for 21st-century workforce
- Increase communication between the stakeholders
- Differentiating instruction

How IN used in the science curriculum?

- Explore ideas in class and students individually form hypothesis
- Students participate in an inquiry based investigation—gather data, observe, form questions, make sketches, and formulate ideas about topic being studied.
- After investigation is over, students and teachers come together as a class for a discussion.

- Develop overarching question or problem researched during the unit of study. All learning during the unit will be linked back to this question.
- Lab investigations—starts with key questions
- Students write in notebook, then discuss in groups.

Classroom Snapshot

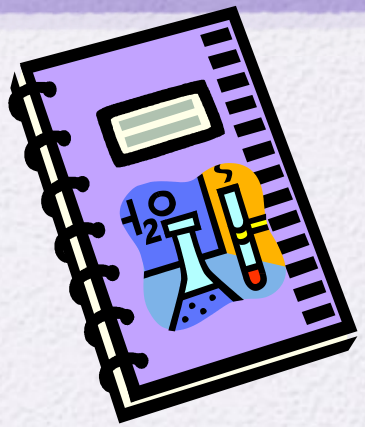
- What should you see when students use interactive notebooks in your classroom?
- The notebook should be open at all times—during a lab, while using the textbook, and during student discourse.
- You should see students writing—the notebook should be filled with writing from the beginning to the end.

- When you open a notebook you should see writing on every page. You should see text features such as highlighting, color, graphics, headings, and writing—should also see student work getting progressively better– observe the thought process of the student with self-reflection embedded in the work.

So… an Interactive Science Notebook is….

- A student thinking tool
- An organizer for inquiry questions and what I learned…
- A way to access and process the learning utilizing various modalities (writing, drawing, and discussion)
- A place for writing rough drafts based on hands-on learning
- A formative assessment tool for teachers

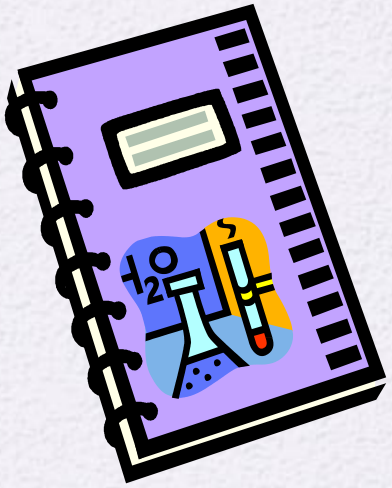
Why Use Interactive Science Notebooks?



- Improve organization skills
- Improve critical thinking skills
- Express understanding creatively

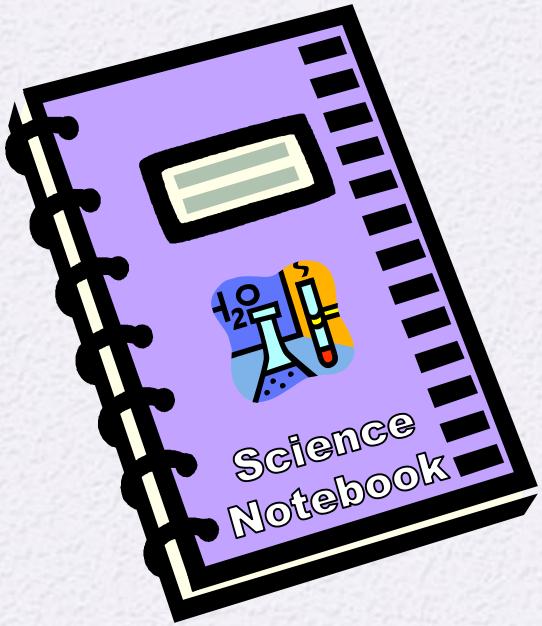
Why are we using Interactive Science Notebooks?

- Record data
- Study for tests
- Record progress
- Communication



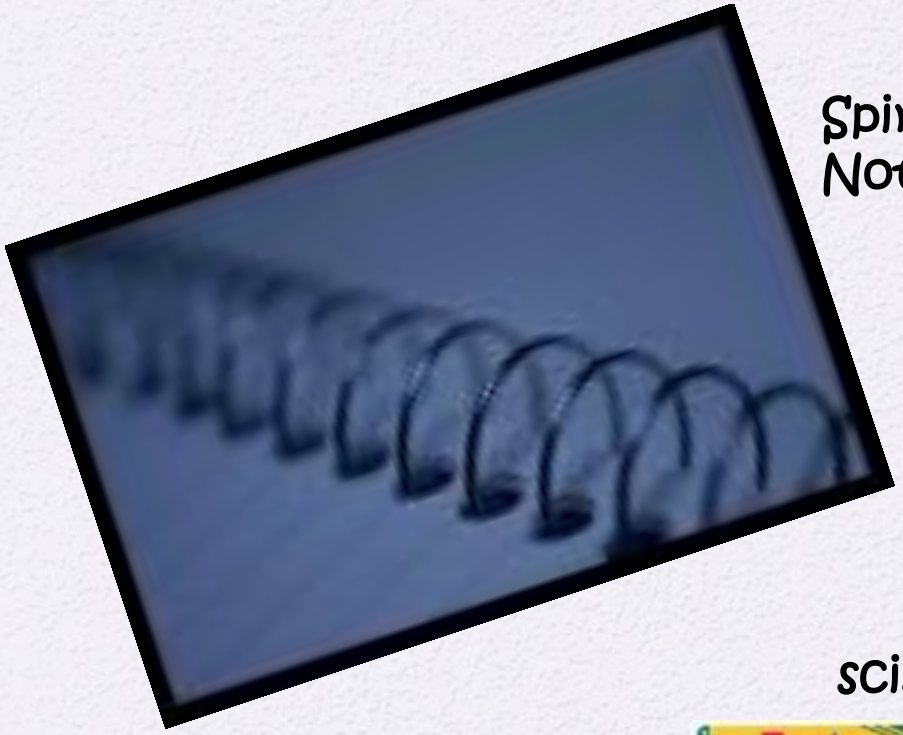
Impact of Hands-on Science & Science Interactive Notebooks on Student Achievement

Research shows that student understanding and literacy skills improve when students do hands-on minds-on science and use science notebooks to make sense of their science investigations.



Science Interactive Notebook Setup

Science Notebook Supplies

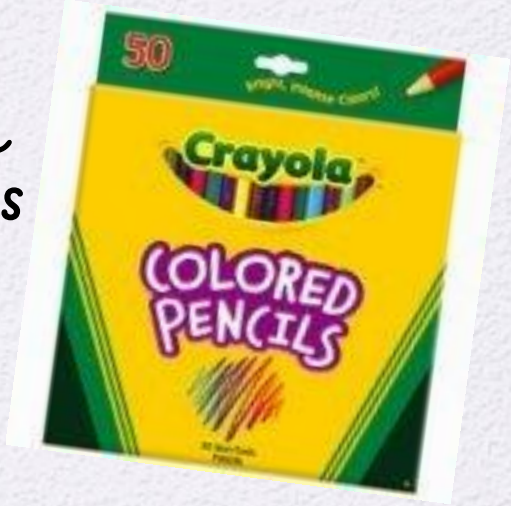


Spiral Notebook

Glue or glue stick

pens & pencils

scissors



colored pencils

NO MARKERS!

Right Side? Left Side?

What Goes Where?

Left Side = Student Output

Lots of Color

The brain remembers things in color better

(Showing Understanding and Creativity)

- **BOCA=beginning of class assignment**
- **Concept Maps**
- **Drawings**
- **Reflective Writing**
- **Questions**
- **Data and Graphs**

- **Songs**
- **Poems**
- **Data from Experiments**
- **Cartoons or cartoon strips**

"A Bit More On The Left"

Getting Students to Think About Their Learning

REFLECTION: Use Guiding Prompts:

What are you curious about?

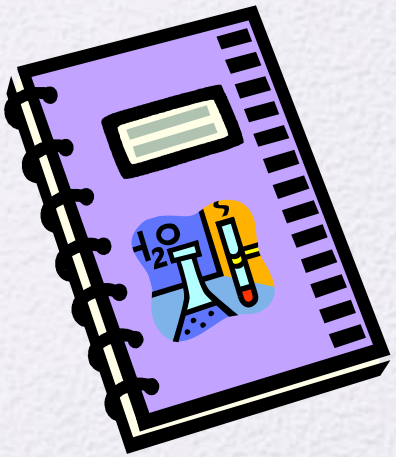
What would you like to test?

What was the main idea?

What are the important details to remember?

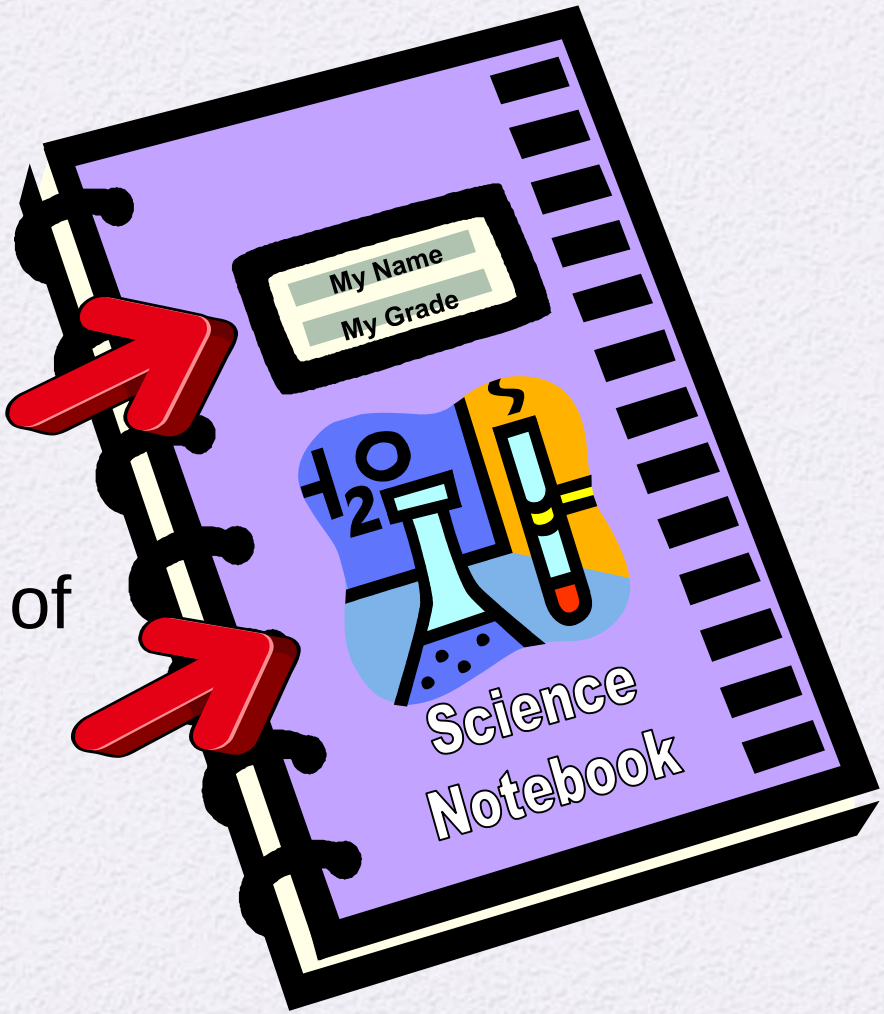
How does this relate to your life?

What don't you understand?



Getting started - Step 1:

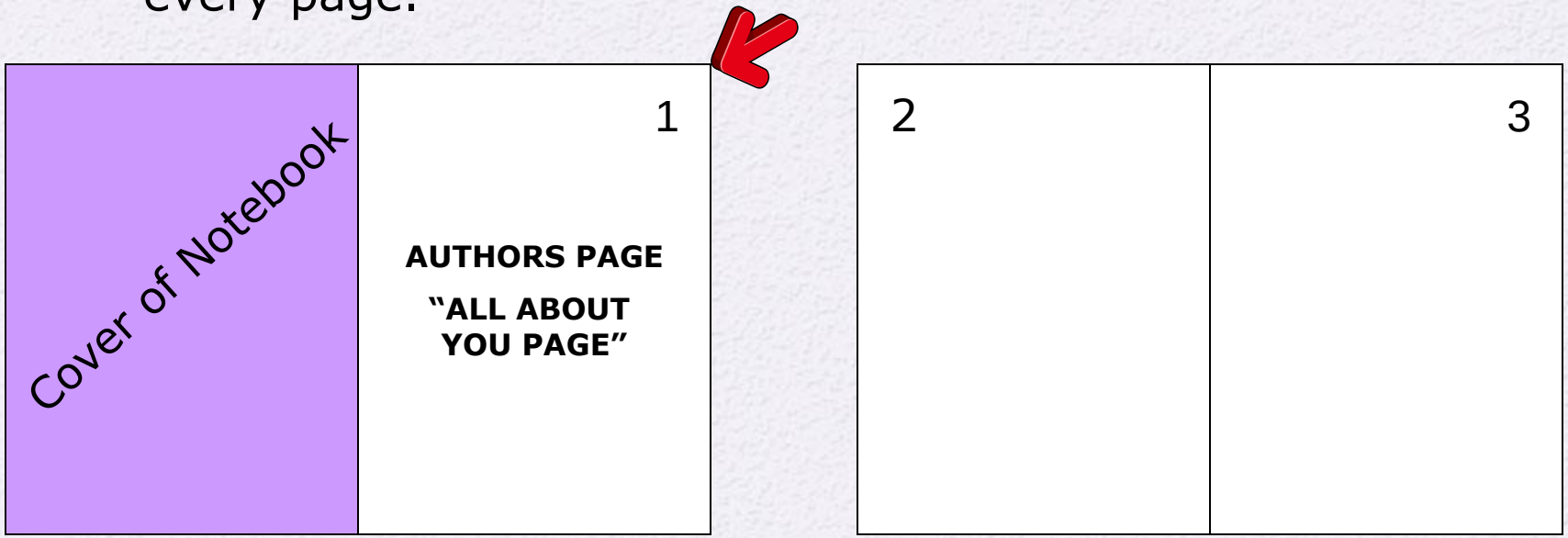
On the cover, write your name and period #. Draw a diagram of something that reminds you of science.




Periodic Table of the Elements
Maggie
Gonzalez
1st period
H2O

Step 2:

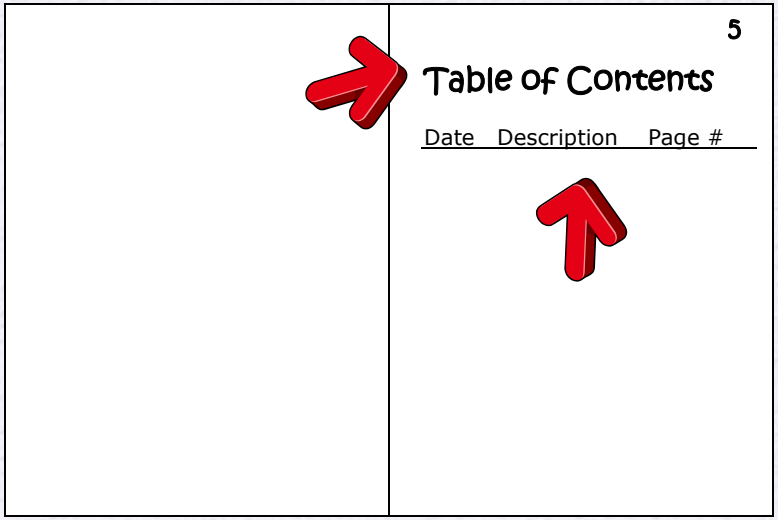
- Starting with the first page, number the first 50 pages. Numbers should be small and at the top outside corner of every page.

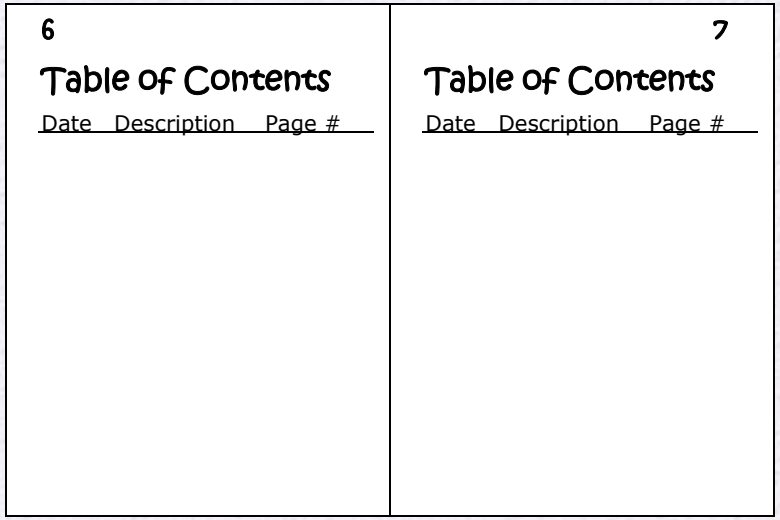


(Skip pages 0-9..These will be REFERENCE PAGES)

Step 3:

At the top of pages 5,6,7 write Table of Contents. Divide each page into 3 columns, date, description, page #.





8

LAB SAFETY CONTRACT

9

INB GUIDELINES

10

INB GUIDELINES

11

Table of Contents Example…

DATE	DESCRIPTION	PAGE #	Grade/ Stamp

Step 4:

Add the following reflection questions on page 1. You will use these as open response questions. When you can't think of something else to do for your left side entry, use one of these. Remember open response means a paragraph and a paragraph has multiple sentences.

	1 • **What are you curious about?** • **What would you like to test?** • **What was the main idea?** • **What are the important details to remember?** • **How does this relate to your life?** • **What don't you understand**?

Right Side=Teacher Input

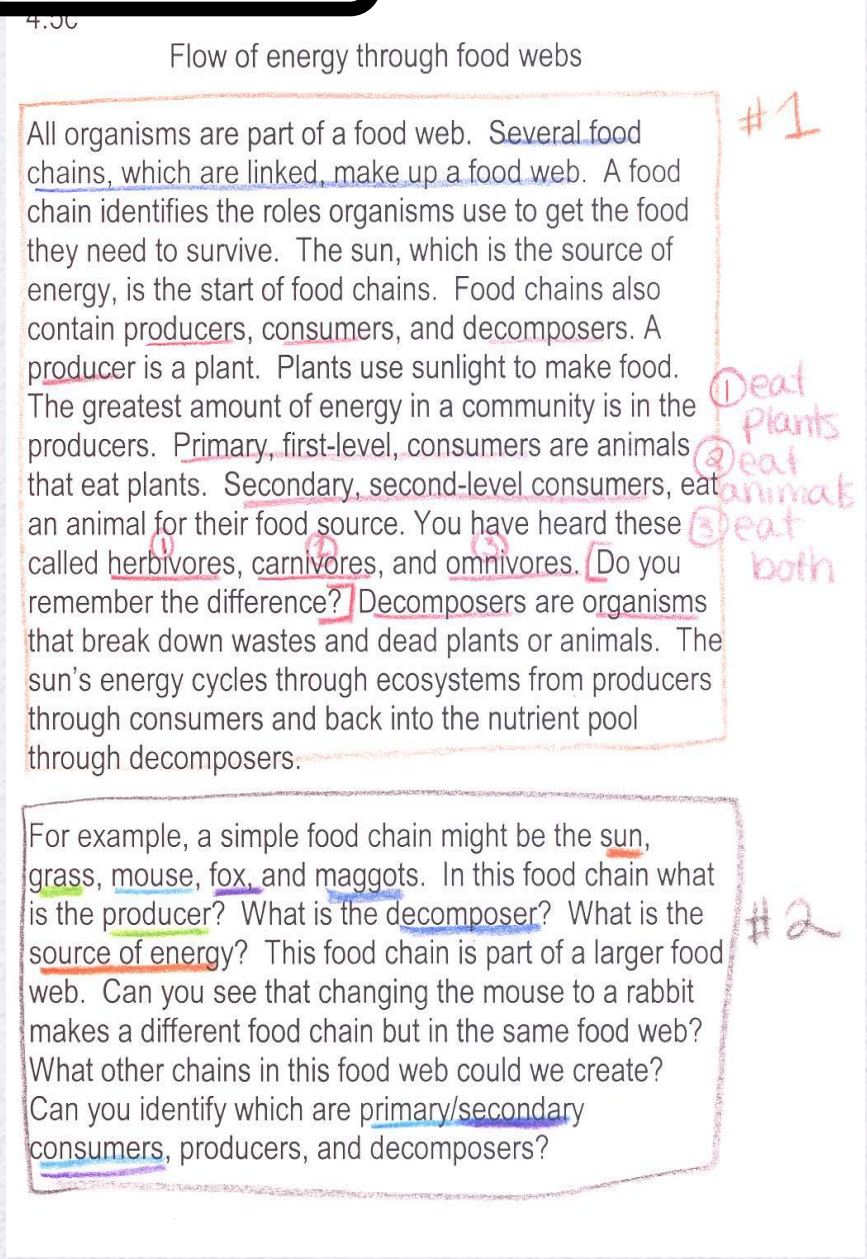
Even Pages = 2,4,6,8..

The **RIGHT** side of the notebook contains information given by the teacher.

Lecture notes
Lab notes
Vocabulary
Basic Knowledge Questions
Reading Notes
Movie, Video notes
Study Guides
PowerPoint notes

RIGHT SIDE

- The **RIGHT** side of the notebook contains information given to the student by the teacher. This is the **ESSENTIAL** information that will **DEFINITELY** be on a quiz or test. Nothing else should go on this side.



4.5c

Flow of energy through food webs

#1

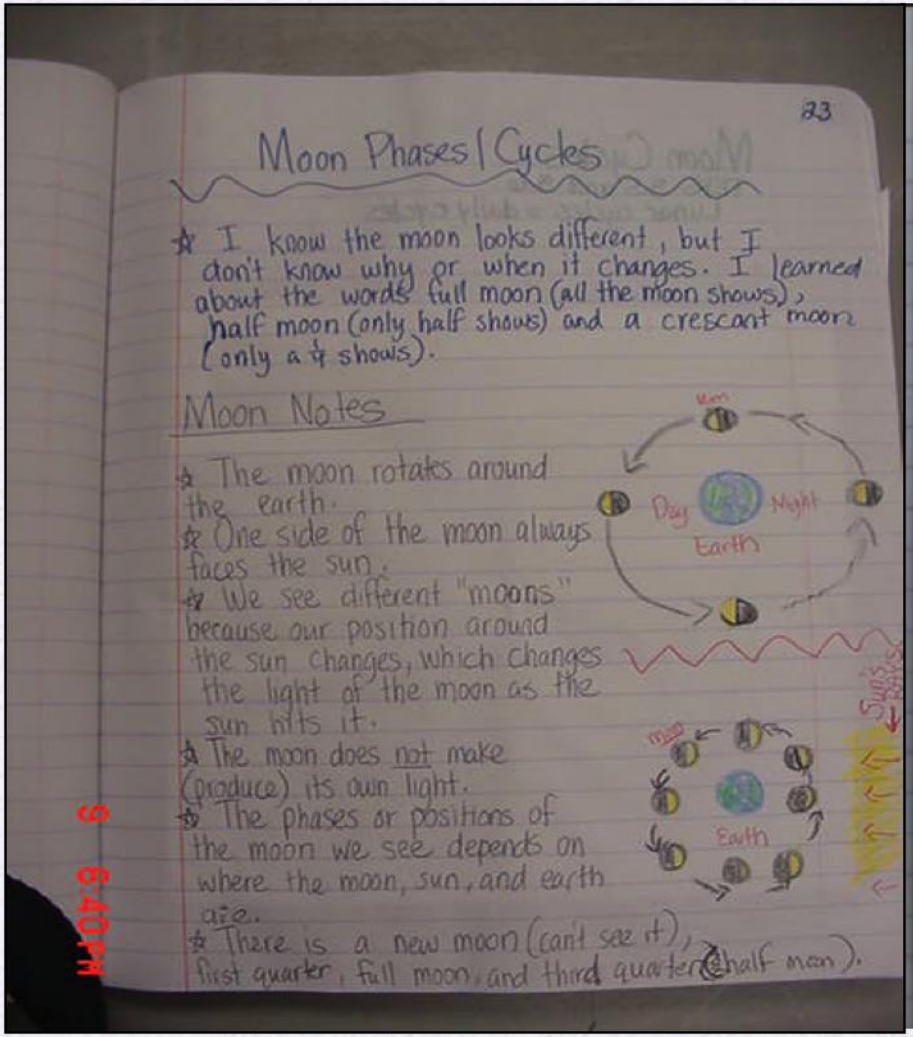
All organisms are part of a food web. Several food chains, which are linked, make up a food web. A food chain identifies the roles organisms use to get the food they need to survive. The sun, which is the source of energy, is the start of food chains. Food chains also contain producers, consumers, and decomposers. A producer is a plant. Plants use sunlight to make food. The greatest amount of energy in a community is in the producers. Primary, first-level, consumers are animals that eat plants. Secondary, second-level consumers, eat an animal for their food source. You have heard these called herbivores, carnivores, and omnivores. Do you remember the difference? Decomposers are organisms that break down wastes and dead plants or animals. The sun's energy cycles through ecosystems from producers through consumers and back into the nutrient pool through decomposers.

① eat plants
② eat animal
③ eat both

#2

For example, a simple food chain might be the sun, grass, mouse, fox, and maggots. In this food chain what is the producer? What is the decomposer? What is the source of energy? This food chain is part of a larger food web. Can you see that changing the mouse to a rabbit makes a different food chain but in the same food web? What other chains in this food web could we create? Can you identify which are primary/secondary consumers, producers, and decomposers?

Example



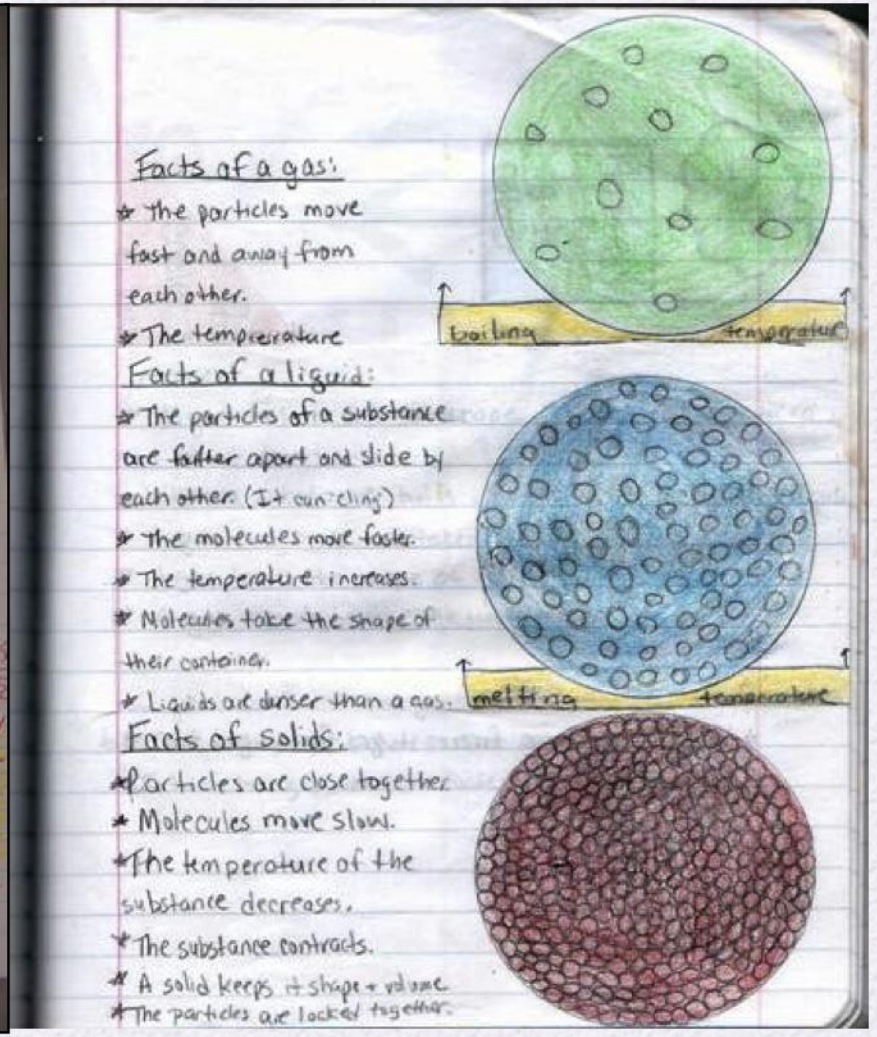
23

Moon Phases / Cycles

☆ I know the moon looks different, but I don't know why or when it changes. I learned about the words full moon (all the moon shows), half moon (only half shows) and a crescent moon (only a ¼ shows).

Moon Notes

☆ The moon rotates around the earth.
☆ One side of the moon always faces the sun.
☆ We see different "moons" because our position around the sun changes, which changes the light of the moon as the sun hits it.
☆ The moon does not make (produce) its own light.
☆ The phases or positions of the moon we see depends on where the moon, sun, and earth are.
☆ There is a new moon (can't see it), first quarter, full moon, and third quarter (half moon).



Facts of a gas:

☆ the particles move fast and away from each other.
☆ The temperature

Facts of a liquid:

☆ The particles of a substance are farther apart and slide by each other. (It can cling)
☆ The molecules move faster.
☆ The temperature increases.
☆ Molecules take the shape of their container.
☆ Liquids are denser than a gas.

Facts of solids:

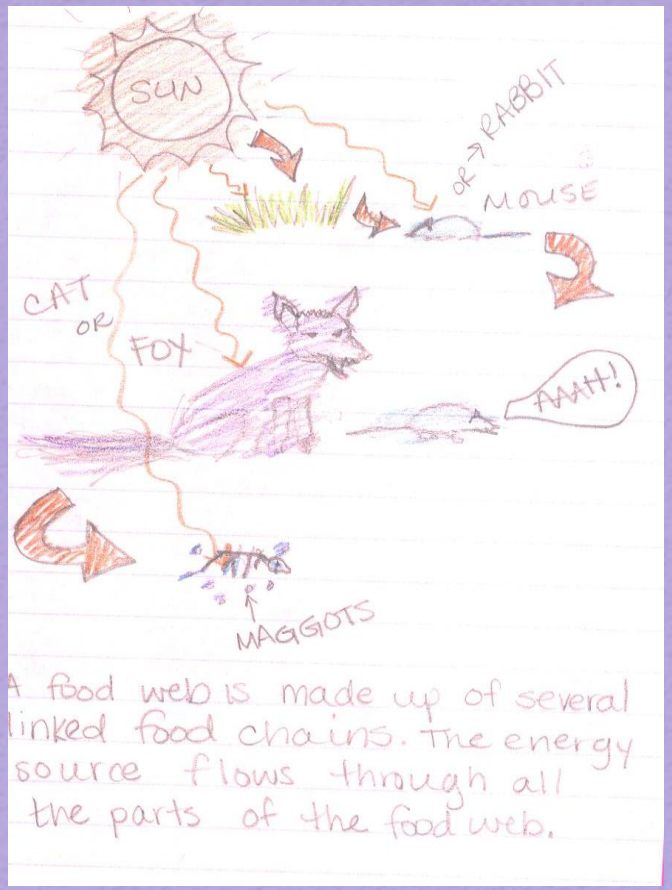
☆ Particles are close together.
☆ Molecules move slow.
☆ The temperature of the substance decreases.
☆ The substance contracts.
☆ A solid keeps it shape + volume.
☆ The particles are locked together.

Left side: Student work (output) ODD PAGES =1, 3, 5, 7, 9

BOCA #1 Fill in the missing word.

Decomposer Producer Consumer

Plants are ____. Lions, tigers, and bears are ____. Worms and mushrooms are____

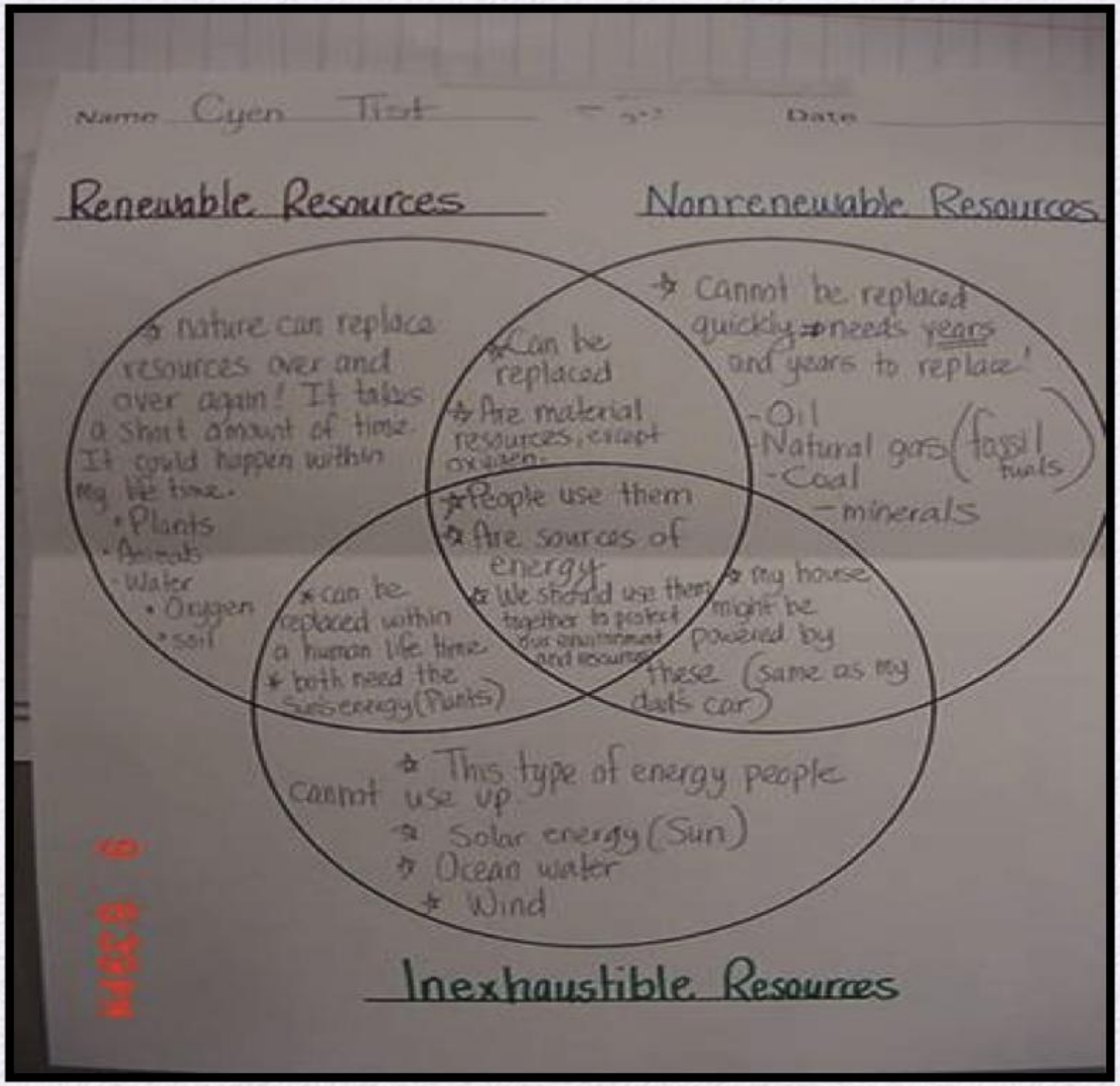


The **DAY'S ACTIVITY** is placed on the **LEFT** side of the notebook.

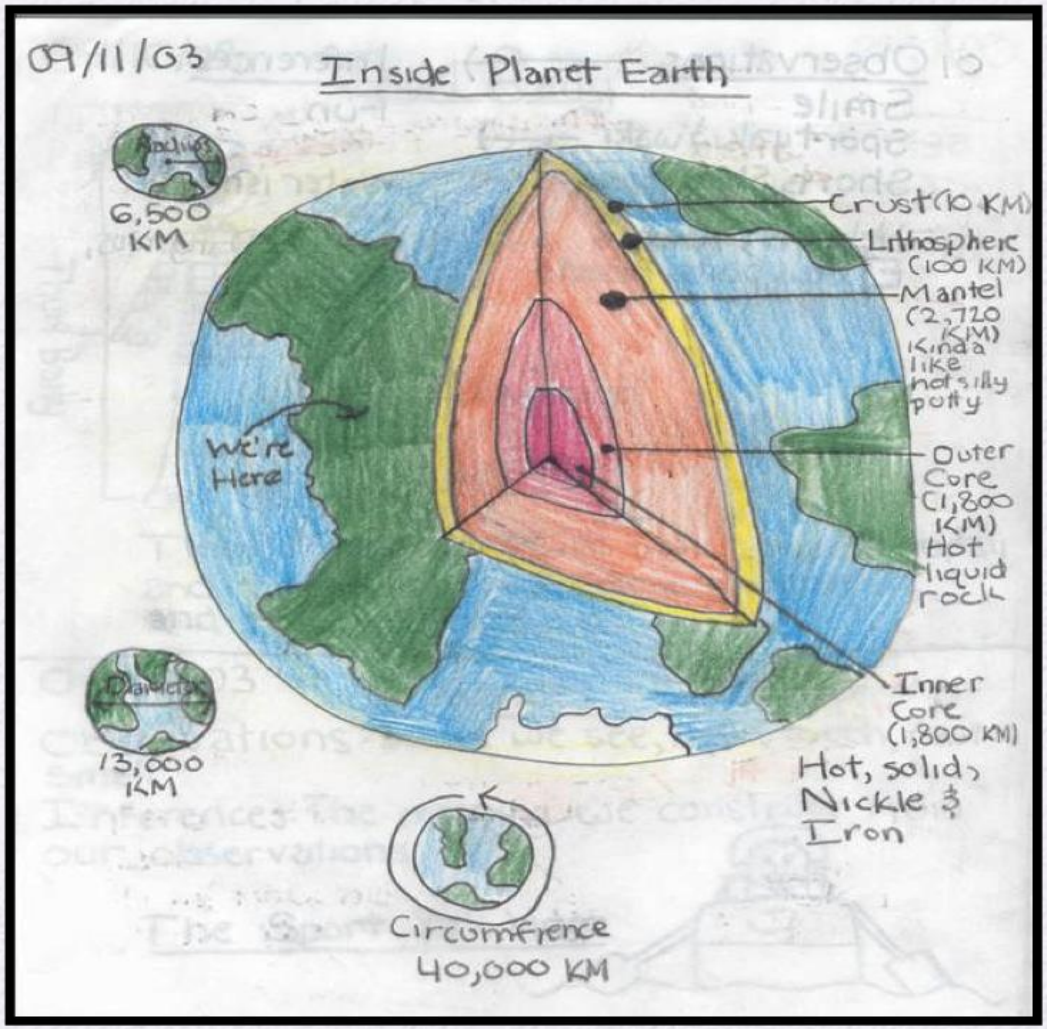
INCLUDES:

- **BOCA**
- **DAY'S ACTIVITY**
  - May be a graphic organizer, a drawing etc.

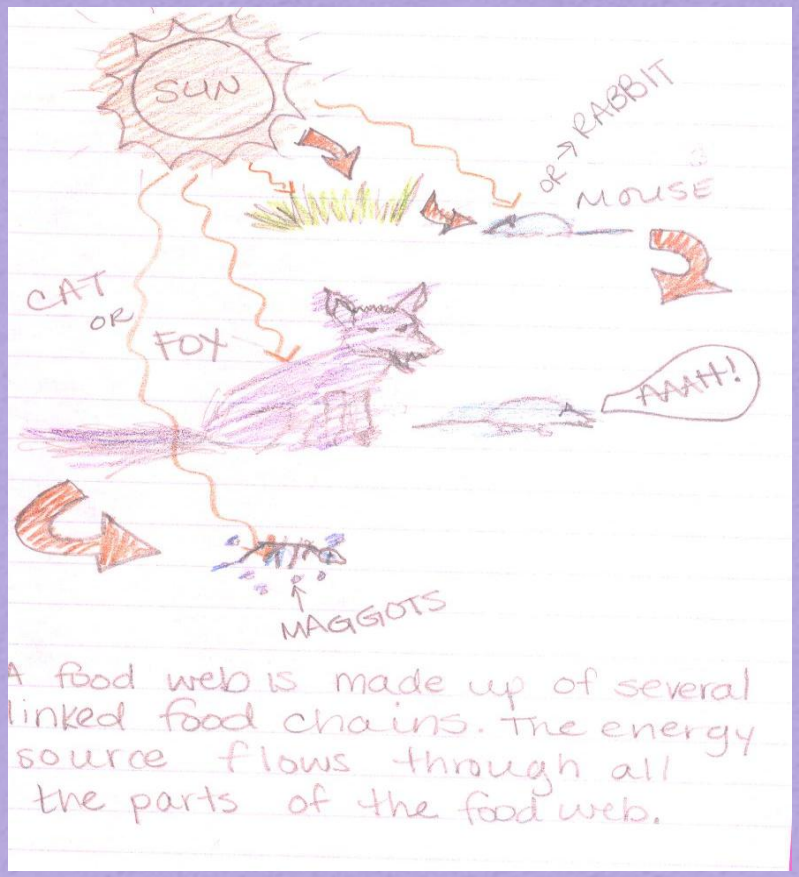
Graphic Organizer



Drawing/Illustrations



OUTPUT
Left=Loves
(your interpretation)



INPUT
(notes from teacher)

4.5c

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We Are READY!