# InterActive Science Notebook

InterActive notebooks will be used in this class to help you learn and remember key scientific concepts. Why does this type of notebook work? This notebook style uses both the right and left brain hemispheres to help you build neural networks. By providing space for you to record

information and refer to it quickly, this too increases your ability to remember and use the information later. You’ll also have an opportunity to interact creatively with the new knowledge you’re gaining.

InterActive Notebook supplies due by the first day of school.

1. A composition notebook with sewn in pages (at least 100 pages)
2. Tape (or glue)
3. Highlighter
4. Colored Pencils/ Pens
5. Pen and pencil with eraser

### Instructions

See the sample below for the set-up for the first seven pages. Number all the pages that follow in the upper right hand corner. Left side pages are even; right side pages are odd.

Input pages are for writing down information you are given or you have read – when your teacher lectures, or you get input from books, videos, scientific articles, NPR audio clips or speakers. When you get information about how to set up a lab, or safety requirements – this is also considered input.

Output pages show your understanding of information. Basically it’s your manipulation of information given to you in class. You work with input from lecture notes, etc., but **present** it in your own way.

Pages don’t have to be specifically left or right sides. You can put pages in order according to completion during the progress of the class. When gluing information, handouts, etc. in your notebook, use a **glue stick or tape** only. Do not use rubber cement or Elmer’s glue as pages will stick.

**(inside cover)**

Students glue/tape in a copy of the InterActive Notebook rubric.

**(right side)**

**1**

Notebook Title Page:

Course, Teacher, Room, Student’s Name, Picture, etc. (student constructed)

**(left side)**

**2**

Students glue/tape in copy of *output*

guidelines.

**(right side)**

**3**

Students glue/tape in

copy of *input* guidelines.

**(left side)**

**4**

Students glue in a

copy of the Student Reflection page guidelines.

**(right side)**

**5**

Students glue in a

copy of parent review page.

**(left side)**

**6**

Students construct a

Title page for the first unit of study.

Title: Graphic: Date:

**(right side)**

**7**

Students glue in the

table of contents for the first unit.

# Interactive Notebook: Grading Scale

|  |  |
| --- | --- |
| **Points** | **Expectations** |
| 10 | Nothing missing, complete notes, summaries, excellent organization, detailed output pages, and thorough reflection |
| 8 | No more than 3 missing or incomplete assignments. |
| 6 | No more than 5 missing or incomplete assignments. |
| 4 | Missing more than 5 assignments. No note summaries and partial notebook reflection |
| 2 | Missing more than 5 assignments. No note summaries. No notebook reflection. Missing details in outputs. |
| 1 | Missing the majority of the work for the notebook check. |

**UNIT TABLE OF CONTENTS**

|  |  |
| --- | --- |
| **Units** | **Title Page Number** |
| Unit 1: Ecology |  |
| Unit 2: Cells |  |
| Unit 3: Genetics Part 1 |  |
| Unit 4: Genetics Part 2 |  |
| Unit 5: Evolution |  |
| Unit 6: Classification |  |

## InterActive Notebook: INPUT

InterActive notebooks will be used in this class daily to help you learn and remember important science concepts. *Why do they work?* This notebook style uses both the right and left hemispheres of the brain to help you sort, categorize, remember and creatively interact with the new knowledge you are gaining. The more you process information the more you begin to understand it. This leads to longer retention.

**What goes on the input pages? ANYTHING NEW THAT YOU LEARN GOES ON INPUT PAGES!** Input is all information that you are supposed to learn. Some examples of input are: thrilling notes: lecture, guest speaker, text or other source; vocabulary words; video notes; teacher question; readings; questions and answers; sample problems; scientific articles and lab information and procedures.

*Always start the page by recording the date and subject title at the top.*

* Input pages are for **writing down** information you are **given in class**.
* Take notes in any manner/style that fits your learning. A sample of Cornell-Style is below. NOTE: You do NOT have to take notes in Cornell-style. It is simply one option.
* Summarize at the end of lectures. Do the summary ASAP in your own words.
* Write legibly IN BLUE OR BLACK INK. Use highlighting and color to make important information stand out.
* Any other type of **INPUT** you get in class.

### Sample Cornell-Style Notes Topic: Photosynthesis

|  |  |
| --- | --- |
| **Student Questions**  Why are plants green instead of red or blue? (L1)  How does photosynthesis work to make food? (L2)  What’s the difference between transmit and absorb? (L2)  \*Ask in class tomorrow: What is the key difference between Photosystem I and Photosystem II? Do all plants need both? What about shade plants? (L2) | **Factual Information**  Scientists note that plants are green. Many hypotheses have been proposed to understand plant color.  Photosynthesis means “to put together with light” meaning that plants use a process to produce food and energy from light.  Plants are green b/c they transmit green light.  Photosystem I: Sun’s energy breaks water in two. e- are set free and boost the levels…  Chlorophyll (pigment) absorbs the E during sunlight hrs. NADPH+… |
| **SUMMARY:** According to the textbook, the author states that all plants use the process of photosynthesis. First, photosynthesis means a process that plants use to produce food and energy from light. You can see that from the name: Photo=light, synthesis=put together. Second, all plants are green. They are green because they transmit, not absorb green light. Lastly, chlorophyll is a pigment that absorbs energy in Photosystem I. Since plants transmit green light, chlorophyll must be green because of this as well. In conclusion, the color of light plays an important role in the production of food through photosynthesis. | |

InterActive Notebook: Output/Analysis

Page 3

The output pages demonstrate your *understanding* of the information from the input pages. You work with the input, and INTERACT with the information in creative, unique, and individual ways. We’ll use the 12 “clock” questions to help focus your attention and guide your learning of the science content and concepts.

### What goes on the OUTPUT pages?

* + Brainstorming
  + Discovery headlines
  + Biography posters
  + Riddles
  + Your questions
  + Cartoons
  + Poetry
  + Song Lyrics
  + Metaphors and Analogies
  + Data and graphs you generate
  + Analysis writing
  + Quick writes
  + Four square analogies
  + Mnemonics
  + Graphic organizers
  + Pictures
* Venn diagrams
* Other diagrams
* Reflections
* Flowcharts
* Significant statements
* Responses to the “clock” questions
* Mind-mapping
* Concept maps
* Drawings
* Commentary
* Writing prompts
* Flights of fancy
* Hypothesis development
* Other creative avenues for processing information

**Things to know about output pages**

Always use complete sentences.

Always use color… It helps the brain learn and organize information.

Labs and activities are output pages.

Homework problems are output pages (but they don’t take the place of processing your notes!)

**2** What’s the best way to remember the topic?

**3** Write the lyrics for a song on this topic.

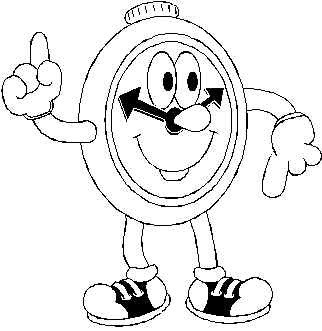
**4** Make Vocabulary Cartoons for this topic.

**10** Use a Venn Diagram to compare these two ideas.

**11** Write a science fiction story.

**12** Make a visual illustration explaining the topic.

**1** Explain the application of this info to real life.



**9** Write and solve prob- lems using this information.

**8** Create a concept map to show relationships.

**7** Write a letter to about this topic.

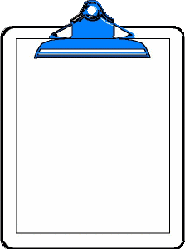
**6** Write four “What if…” statements about this topic.

**5** Paraphrase this informa- tion into two sentences.

## InterActive Notebook: The Reflection

Toward the end of each unit, you will be called upon to reflect upon your work. This writing sample is completed in your notebook, although may be typed and glued into the notebook. While there is no required length, high quality reflection uses 1-2 pages of the notebook. Attach the parent review form (with comments and signature) at the bottom of the right-hand page at the end of each unit.

1. Select up to two items that represent your best work. **In a reflective paragraph**, address the specific reasons why you chose these items at your



best work, as well as what these assignments reflect about your skills as a science-student.

1. Indicate your overall rating of your notebook based on

the 1-10 rubric. Include several sentences using specific details, on why you’ve chosen this rating.

Has your notebook improved from past notebooks?

1. What specific standards did we cover in this unit (remember these are on my website/ your roadmap)? Which activities or study skills have you employed to help you learn these topics? Explain.
2. What are your goals for improvement in this class? List specific areas in which you feel you need to improve or need help improving.
3. Pick one topic that was confusing to you. Explain how you might change your study habits to make it more understandable.

High-quality reflection includes

your consideration of the following in reference to your best work: what you learned from the activity; how you learned from it; what big ideas it relates to; what aspects of the work were high quality; what you would do differently in the future (and why); what makes you proud of this particular work; what made the activity worthwhile for you; how does this work impact your view of the world; what information did you learn that was new to you; etc. High-quality reflection also examines your skills as a student and a scientist. Skills you might discuss are organization, analysis, logic, creativity, thoroughness, accuracy of information, ability to put new information together, understanding new concepts, etc.

***Please note:*** *Reasoning that it was “fun” or just that you liked it, is NOT adequate reflection.*

## InterActive Notebooks: Parent Review

Dear Parent/Significant Adult:

This interactive notebook represents your student’s learning to date and should contain the work your student has completed in class such as notes, homework, class work, reflection on the unit, etc. It should be neat in appearance, have all materials glued/taped in and include color.

In order to initiate and continue communication between you, your student, and me, I ask that you please take some time to look at this notebook with him/her, read the reflection, and comment on your student’s work to date. Please respond to any of the following:

The work we found most interesting was because…

What does the notebook reveal about your student’s learning habits or talents?

My student’s biggest concern about his/her learning is…

**Parent/Significant Adult Signature:**

Comments? Questions? Concerns? Feel free to contact me mattsonh@fultonschools.org

**Interactive Notebook: Table of Contents**

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