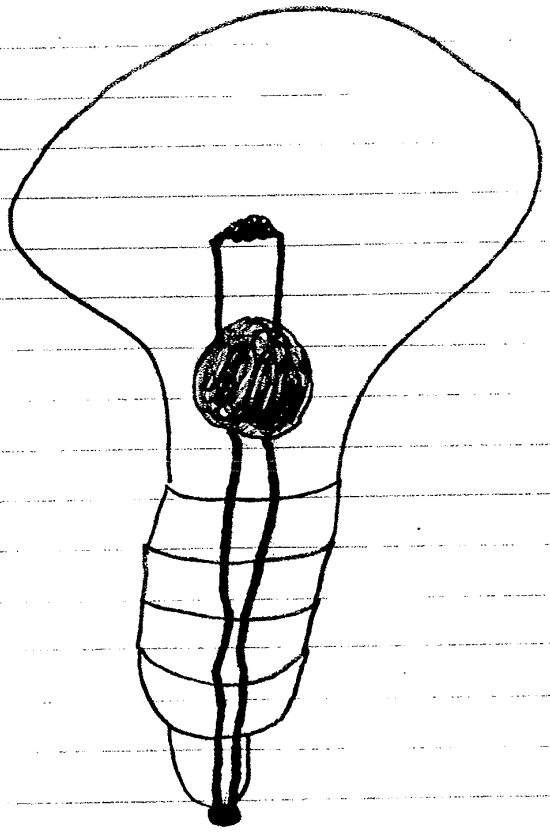
Observations Sample A

4th Grade Joshua P.

2/4/10

Where does electricity flow in a bulb?



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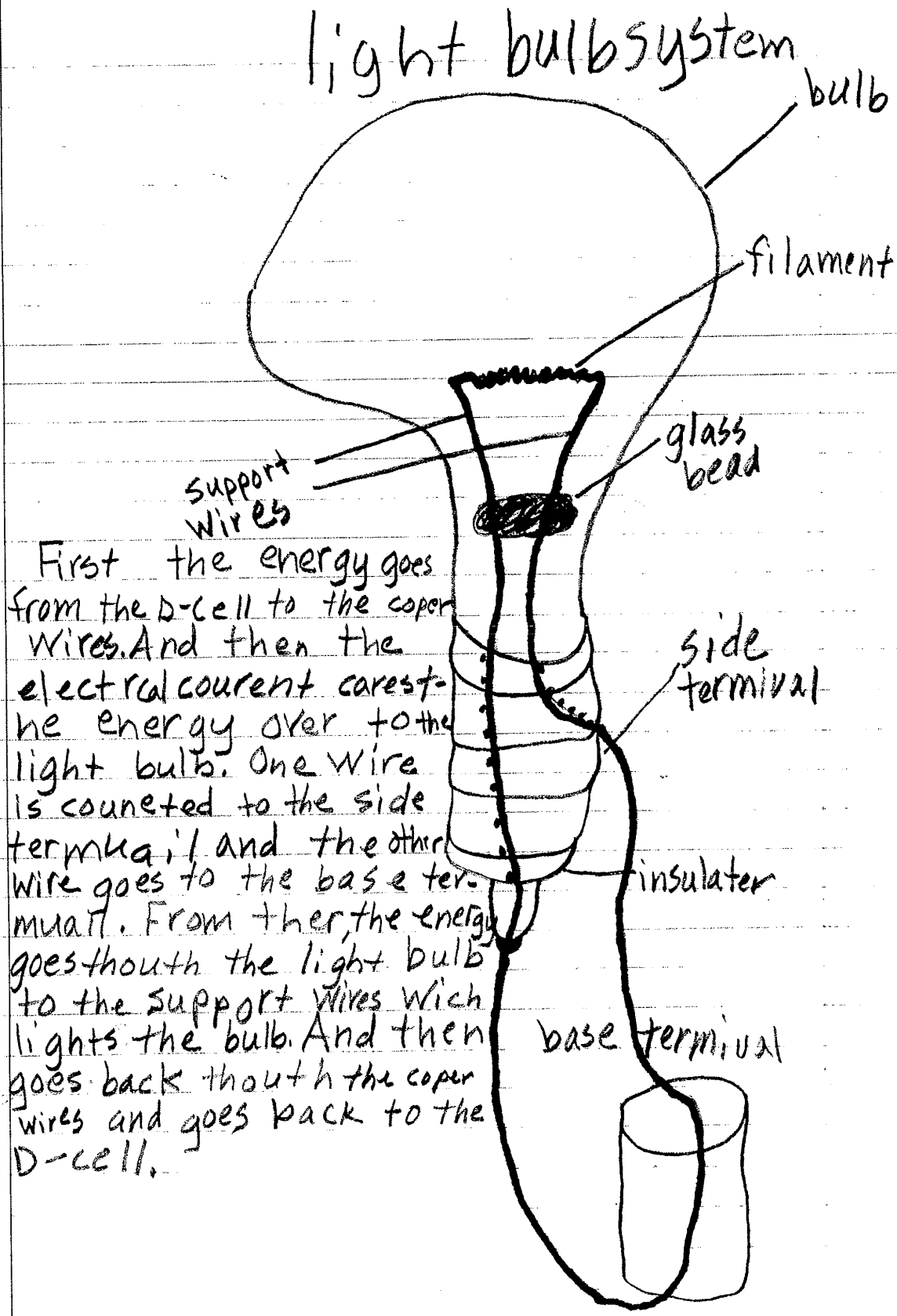

First the energy goes from the D-cell to the coper wires. And then the electrcal courent carest-he energy over to the light bulb. One wire is counted to the side termkail and the othir wire goes to the base ter-muall. From ther, the energy goes thouth the light bulb to the support wires wich lights the bulb. And then goes back thouth the coper wires and goes back to the D-cell.

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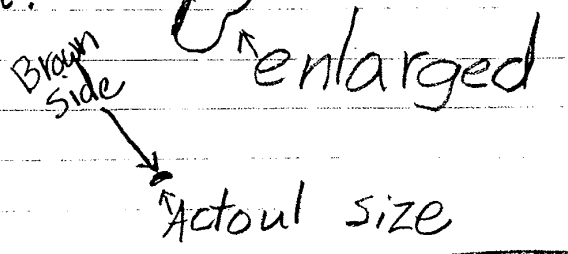
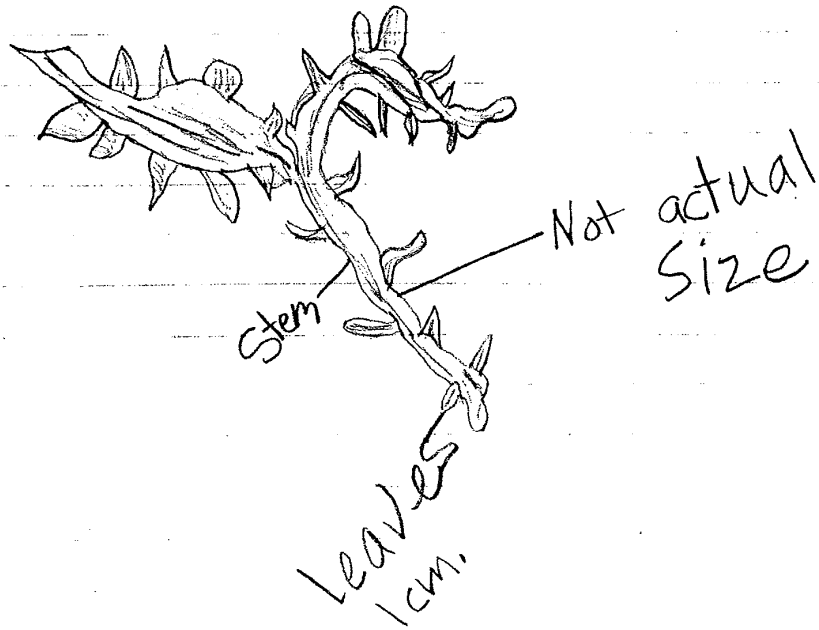
9-25-09

duck weed looks like green bean! One side is green one side is brown!



elodea
smells like salt water.
looks like Bamboo.
all leaves look like peddels



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Observations Sample D

1 2 3 4 5

In your observations, remember to include such details as **color, amount, size, shape, odor, movement** and **behavior** (living things), **changes**, and other important details.

6 7

TERRARIUM OBSERVATIONS

Components	Date: 9/17/09	Date: 9/22/09	Date: 9/24/09
Soil	Wet, Black, white	1. Black soil Damp white speck (2 mm)	wet black soil with white specks
Alfalfa	25 seeds	1. bottom of stem white top green sproting a little 1 cm	Whiteish purple stems with ovel shaped leaves 2 cm 18 alflafa
Grass	25 seeds	1. light brown seeds And a bark brown steam none	27 Grass 4cm white bottom light green shtrait
Mustard	25 seeds	No germinashon	one germinated has herat shaped leares light green 1mm
Twigs, bark, lichen	1 (3)	light green lichen	
Leaf litter (dead leaves)	1		
Rocks	0 0		
Water (dropperfuls)	80	(1)	10 10 10 10 10 10 10
Crickets			
Isopods			

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Observations Sample D

1 2 3 4 5

4th Grade continued

In your observations, remember to include such details as **color, amount, size, shape, odor, movement** and **behavior** (living things), **changes**, and other important details.

6 7

TERRARIUM OBSERVATIONS

Date: Oct. 15/09	Date: Oct. 20/09	Date: 10/29/09	Date: 11/3/09
Very dry with white dry specks	smells like compost / white spechts / very wet, dark brown	wet sogy	Wet because of mostier
2cm small green leaves light green steam / 11 alfalfa	4.5 cm / true leaves / 12 Alfalfa's / light green / some are very Dropy	Rotts have gone in deep / 5-6 cm	dropy because of lid bright green
light green 4-5 cm / 25 grass	Very tall about 6-8 cm / light green / smells like plactic / Dropy	biggest one 10 cm / long white roots	turning lighter and lither colerd
3 1/2 / 4 cm / very light light blue and wight steam / big leaves 18	white stemes / 4-7 cm / green leafes with white bleach on them	Has leaves spiky Falling down / looks like a Plant called a fen	has alot of true leafes
4 cm one mustard / dry everthing	all very sogy	lichen is turning lighter / There's more of it	wet { sogy
very dry	crunchy and smells rotten	turning sougy and smells like fish food	very So-gy
grey	no change	Yellow spots	turning lighter
250-315 drop fulls / 2 cups / very wet	? teacher did it	none because the water	no need to mosite water
		light brown with dark strips / also there are dark entenas	We (My group) think are crickets died because we don't see
		The very Big one is taking a nap, or it is dead because it isn't moving. The little little one is runing around	We don't see them some excaped because we saw some dead on the lid.

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Fourth Grade, Sample A—*Circuits and Pathways* Unit: Joshua P.

- In this entry, Joshua makes a clear diagram that shows where he thinks electric current flows in a bulb. This pre-assessment shows that Joshua has a common misconception.

Fourth Grade, Sample B—*Circuits and Pathways* Unit: Joshua P.

- After more experiences with the "lightbulb system," Joshua makes another diagram, which shows that he now has developed quite a strong understanding of the important components of the system and the flow of electric current through the system. You could say, "A scientist might wonder if the current goes through the bulb to the filament through each support wire, or up one support wire, through the filament, and down the other support wire? What could you do to make this more clear to her?" Joshua might have a common misconception that the current goes through each wire into the filament, which lights when the two meet there.

Fourth Grade, Sample C—*Ecosystems* Unit: Sophie

- After students plant two aquatic plants, duckweed and *Elodea*, in their terrarium, they carefully observe each plant, then make a scientific illustration and write notes about their observations. In this class, the teacher has taught them about drawing to scale.
- Sophie has made detailed, labeled illustrations of both plants. Note that in the *Elodea* illustration, the line she draws between the label and the drawing touches the drawing in the correct place. Students often have trouble with this skill. She also includes some important information in her observation about the color of the duckweed.
- In making observations, students need to focus on what they actually observed rather than what something "looked like" or "smelled like." Students naturally then make analogies that typically are not scientific. Asking students what they observed specifically about the plant's size, its shape, its color, and so on will help them make and write much more detailed, scientific observations. (The Observations organizer was designed to help students make and report such observations.)

Fourth Grade, Sample D—*Ecosystems* Unit: Bridget

- To help students construct an understanding of ecosystems, they observe an ecosystem in a terrarium and in an aquarium. The data table shown here is made on an eleven-by-seventeen-inch sheet of paper so that students can record their ongoing observations side by side across the page. This helps them see the changes over time. When they need to compare and contrast their observations from two different days, they can fold the page so one column is adjacent to the other. Note that what students need to observe is numbered and listed at the top of the table so that students remember to write notes about each detail.

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- Bridget has recorded data and made detailed, organized observation notes in her data table. Note that in the last cell in the 10/29/09 column, she begins with a humanized observation and inference rather than a scientific observation: "The very big one is taking a nap." When the teacher sees this entry as she checks in with students during their investigation time, she asks Bridget, "What did you observe that makes you think the isopod is napping?" After talking about her observations with her teacher, Bridget adds, "or it is dead because it is int [isn't] moving." The next time she makes an entry about the isopods, she makes an appropriate entry: "We (my gro-p [group]) think are [our] crickets died because we don't see them Some excaped because we saw some dead on the lid [of the terrarium]."

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