Same

- have air, water, rock, soil, Light energy
- Both have Producers, consumers, scavengers,
-

Differents

Model Terrarium	Outdoor Ecosystem
Contaned	Not contaned
few Organisms	Many Organisms
No trees	trees
Small space	big space
less variety	more variety

The model Terrarium and the Outdoor Terrarium are the same because they both have air, water, rock, soil, Light energy. Also they both have producers, consumers, and scavengers.

The tow ecosystem are differents because the model Ecosystem has less variety and the outdoor has more variety. Also the Model is contaned but outdoor they are not contaned. And indoor has few organisms and outdoor has Many Many Organisms. Inadshion the Model has no trees but Outdoor ha lots and lots of trees.

compairing Seroies & Parallel cirrcuits

Can be complete circuit
bulbs are of Same brigtnes
D-cell, copper wires, light bulb

Diffrences

Series	pairllel
one Path way	Multiple Pathways
They go off if you were to unscrew a bulb the other would go out	They stay on if you were to unscrew a bulb
add another bulb it will get dimmer	stays the same if you add another bulb

5/28/10

How are seroise cirrcuits and pairillel cirrcuits the same?

seroise cirrcuits are the same because they both are complete cirtcuits another reason is they both are made of the same items light bulbs, copper wires, D-cells ect. another reason they are the same is they both start at the D-cell and end at the D-cell My final reason is they both travel into the light bulb the same way.

How are seroise cirrcuits and pairillel cirrcuits diffrent?

Well pairillel cirrcuits have many path-ways unlike seroise cirrcuits another reason pairillel and seroise cirrcuits are diffrent is if you were to add another bulb to the pairillel cirrcuit the light in the bulb would stay the same brightness on the other hand seroise cirrcuits would get dimmer this accurse because seroise cirrcuits don't give as much of of equeal ehergy as Pairillel cirrcuits which makes the bulbs dimmer My final reason they are diffrent is you need to have atleast 2 pathways in order to make a pairillel cirrcuit and seroise you only need 1

12-8-09

How does the information we have from our tests compare with the information found on food labels?

There are some simlarty from labeul and the class results. The labeul saids that rice has 2g of protein and the results saids the rice has protein too. Anuther one is that the ladul saids that rice has 0g fat and are results saids that rice busit have fat.

There also so diffris. One diffris is that are results sow that there is a trase of glucose but the labul dusint say enething about glucose.

Fourth Grade, Sample A—*Ecosystems* Unit: Alexus

- As an added investigation in the *Ecosystems* unit, students go outside to observe a real ecosystem and then discuss the similarities and differences between that real ecosystem and the model ecosystem they have created and observed in their classroom. After a discussion about what they observed outdoors, students then observe their models, filling in a box and T-chart as they talk with their partners about the similarities and differences they notice. After a class discussion and later a writing minilesson, the teacher has students use the Compare and Contrast writing frame and their own box and T-chart to write a comparison.
- Alexus has made a clear, detailed, organized, and accurate box and T-chart and written comparison. The skill she can learn next is how to check off things in her organizer as she includes them in her writing, which will be especially helpful as she learns how to do even more complex writing in the intermediate grades.

Fourth Grade, Sample B—*Circuits and Pathways* Unit: Rachel

- After students have done a number of investigations with series and then with parallel circuits, they compare and contrast the two kinds of circuits.
- Rachel is an articulate and verbal student who does not necessarily need to follow a writing frame, especially if she has made an accurate and detailed box and T-chart. In this case, her organizer is accurate and quite detailed, although her writing shows that she knows even more about the two circuits than she has included in her organizer. The only inaccuracy is her last sentence in the first paragraph. "They," meaning the circuits, cannot "travel into the light bulb the same way." In both circuits, *electric current* travels through the bulb in the same way.
- Some next steps for Rachel would be to learn how to combine sentences to convey more complex thinking. For example, she could combine the first and second sentences, and then the third and fourth sentences ("Series and parallel circuits are the same because they both are complete circuits and are made of the same items—bulbs, copper wires, D-cells, etc. In addition, they both . . .").
- Articulate students like Rachel naturally write complex sentences with sophisticated thinking. They often need help in organizing their paragraphs. For example, if Rachel had followed her T-chart, she would have written about pathways in each circuit in the first sentence rather than writing a partial answer in the first sentence, then including more specific information in the last sentence.
- Another issue with articulate, bright students is that they make inferences as statements of fact, as Rachel does when she writes "this accurse [occurs] because seroise [series] cirrcuits don't give as much of of equeal energy as pairillel cirrcuits which makes the bulbs dimmer." When students need to make an inferential statement like she does, teach them how to introduce it with phrasing that indicates it is their thinking, not a fact, as in "I think this happens because" or "So I think this means that . . ."

Fourth Grade, Sample C—*Food Chemistry* Unit: Savannah

- In this unit, students test liquids and foods to determine what nutrients are in them. Toward the end of the unit, they compare their test results of rice with the label on a package of rice.
- Savannah has written a clear, accurate, and organized comparison of her tests and the food label. Her teacher modeled how to use the box and T-chart during a discussion and modeled the Compare and Contrast writing frame during a writing session. She removed the box and T-chart and shared writing before the students made their own entries. Note that Savannah uses her own language within the frame and still is clearly communicating her thinking in an organized way. She receives special education services in literacy yet clearly can make strong entries when writing about her science investigations and scientific thinking.