Welcome Back!
Inquiring Young Minds Want to Know

Day Four

Morning Wake-up!
Children are Born Investigators

Let’s Review

- What questions did we find answers to yesterday?
- How did we find the answers? What did we do?
Make Some Observations

- Make some observations of the container I have of water
  - What do you see with your eyes?

Make Observations:

<table>
<thead>
<tr>
<th>See</th>
<th>Hear</th>
<th>Smell</th>
<th>Feel</th>
<th>Taste</th>
</tr>
</thead>
<tbody>
<tr>
<td>What size is it? What shape is it?</td>
<td>Do you hear a sound?</td>
<td>Does it smell/odor?</td>
<td>Does it feel soft/hard? Does it feel light or heavy?</td>
<td>X</td>
</tr>
</tbody>
</table>
What do Think? What do you Wonder?

Connections

It reminds me of ___________
because ________________.
What happens when we put these crystals in water?

- What steps could we take to find out?
- Think-Pair-Share

What did you find out?

- Before we put the crystal in water
- After we put the crystal in water
THE BOX & T-CHART

Similarities

Before Water | After Water

Differences

Change

- Use the four question strategy to design a new question to explore.
Ideas

<table>
<thead>
<tr>
<th>Crystal</th>
<th>Water</th>
</tr>
</thead>
</table>

What could we observe?
Did changing the temperature make a difference on how fast the crystals changed?

**THE BOX & T-CHART**

**Similarities**

Hot Water          Cold Water

**Differences**

Betsy Rupp Fulwiler
## COMPARE AND CONTRAST
Writing Frame

| Start with how things are the same or similar. | The _____ and the _____ are the same because they both __________. |
| Add more details as needed. | In addition, they both ______________. |
| Explain how they are different. You can compare the same property or characteristic in the same sentence. Use "and", "but", or "whereas" to set up the contrast. | They are different because the _____, but the _____ does not. |
| Add more details as needed. | Also, the ______, whereas the ______________ does not. |

Betsy Rupp Fulwiler

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**Break-Clean Up**

*Be back in 10 minutes*
Teacher and Learner Responsibility in Science Activities

- Who determined the question or problem posed in the activity?
- Who determined the procedures or design of the activity?
- What determined the results or analysis of the findings?
Comparing Shifted and Unshifted Activities

- Read over the handout
- Who makes the decision in each of the teacher and learner responsibility categories

Identifying the Purpose for Shifts

- Read through the three different versions of the same lab
- With your partner, what shifts can you see between the activities?
- What do you think the teachers was trying to accomplish in the Measuring Shadows activity?
The 5 E Model of Lesson Planning

Engage
Explore
Explain
Extend
Evaluate

Effortless Learning

You are going to see some sentences. Please spend no more than 4 seconds reading each of the following sentences, and read each one only once. Most importantly, try not to use any fancy strategies.
Effortless Learning

- John walked on the roof.
- Susan picked up the egg.
- Beth hid the axe.
- Alex flew the kite.
- Jordan flipped the switch.
- Hugh built a boat.
- Eric hit his head on the ceiling.
- Kristi quit his job.
- Alan fixed the sail.

Modified from Bransford and Stein (1984)

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Effortless Learning

- _____ walked on the roof.
- _____ picked up the egg.
- _____ hid the axe.
- _____ flew the kite.
- _____ flipped the switch.
- _____ built a boat.
- _____ hit his head on the ceiling.
- _____ quit his job.
- _____ fixed the sail.

Modified from Bransford and Stein (1984)
Effortless Learning

- _____ walked on the roof.
- _____ picked up the egg.
- _____ hid the axe.
- _____ flew the kite.
- _____ flipped the switch.
- _____ built a boat.
- _____ hit his head on the ceiling.
- _____ quit his job.
- _____ fixed the sail.

Modified from Bransford and Stein (1984)

Effortless Learning

- Santa Claus walked on the roof.
- The Easter Bunny picked up the egg.
- George Washington hid the axe.
- Ben Franklin flew the kite.
- Edison flipped the switch.
- Noah built a boat.
- Wilt Chamberlain hit his head on the ceiling.
- Richard Nixon quit his job.
- Christopher Columbus fixed the sail.

Modified from Bransford and Stein (1984)
Why?

Why easier second time than first?

Think, Pair, Share

Break

Clean up and be back in 10 minutes!
As you are relaxing, think of examples of the types of questions and connections to your classroom.
Small Groups Work Time

Working with your group, take an activity you brought and modify it based on what we have done this week.

Closing thoughts...