

**Situation: If we change \_\_\_\_\_  
what will happen to \_\_\_\_\_  
compared to our control?**

### Predict

We predict that ... (use labeled diagrams)

1

4

### Explain

Do the observations match the prediction?  
What have you learned?

### Explain

We think this will happen because ...

2

### 3 Observe

Record with pictures and words

## P.E.O.E STEPS

- ex. Ball in a Tube activity (revised ball-string Grace et.al., 2001, pg 283)
- ex. Candle in water covered by glass jar.

1. Understand the situation or challenge – no surprises.

### PREDICT

2. PREDICT : write a prediction statement for the event.  
“IF \_\_\_\_\_ THEN \_\_\_\_\_.”
3. Draw a well labeled diagram of your prediction.

### EXPLAIN

4. EXPLAIN: write an explanation of your prediction drawing from your understanding, experiences, theories, models and or insights gained from your research on the topic (background info may be provided or your own research may be required) – point form.
5. Share your predictions with your group and/or class.
6. Modify your prediction or explanation based on the group discussion.

### OBSERVE

7. OBSERVE - Decide what evidence you can collect, or measurements you will take, to check your prediction.
8. Carefully collect evidence, and take measurements.  
(you may use scientific equipment and techniques)
9. Record your observations.

### EXPLAIN

10. EXPLAIN: write an explanation for your observations. Use theories or models to help explain your evidence and measurements?  
(background info may be provided or you may need to complete your own research to support or refute your findings) *Believe your observations – don't worry about what you were supposed to see. Excellent opportunity for a group note.*
11. ANSWER any follow up questions from the activity.