

DISCREPANT EVENTS

BACKGROUND INFORMATION:

A *Discrepant Event* is something that surprises, startles, puzzles, or astonishes the observer. Often, a discrepant event is one that does not appear to follow basic “rules of nature” and the outcome of a discrepant event is unexpected or contrary to what one would have predicted. The event throws the child "off balance" intellectually which most likely will motivate them to further investigate the science concept. This strategy is often used in elementary science classes because most children feel the need to have questions answered, and there are many discrepant events that occur in the realm of scientific knowledge. This will promote problem-solving skills on part of the child. The child will be guided while finding a solution, but he or she will discover the reason for the discrepant event. Discrepant events can be used:

- to engage students in inquiry
- as a demonstration followed by discussion to introduce a new topic
- to engage students in science processes skills
- as a small group lab activity
- as a mind-on warm-up to stimulate critical thinking
- as a take home lab activity
- as a challenge for students to create investigative lab activities to find out more about the event

ASSIGNMENT:

- 1) Work with **one other classmate** and find or develop a discrepant event (See resources below).
- 2) Be sure that the needed equipment and materials are available.
- 3) **e-mail the instructor** a brief description of your discrepant event so it can be **approved** (we don't want people presenting the same event- the earlier you find one the better the chance it hasn't already been claimed).
- 4) Follow the below **EXPECTATIONS**

EXPECTATIONS:

- a) **Present** a discrepant event (5-10 minutes) in next week's class. **Both team members** should take an **active role** in the presentation.
- b) Present the event to your peers as **if you were presenting it to your students**. All materials should be ready and brought to class next week.
- c) Include an **accompanying document** that contains the following:

- A section that **outlines** the materials needed, subject(s) or content, time required, target grade level
- A **summary of the science concepts/content** behind your discrepant event demonstration.
- A **description** of some misconceptions that the students might have regarding the science content and how does the discrepant event support students in questioning their existing ideas?
- A **list of questions** that you would use: **a)** to set up the event **b)** during the event **c)** to follow-up or summarize the event
- A bibliography of sources or references

HELPFUL HINTS:

Planning a Discrepant Event:

1. Go through the demonstration at least once before class begins.
2. Think carefully about and write out the questions you will ask during the demonstration.
3. Consider the time the demonstration will take (10 minute max.).

Conducting a Discrepant Event:

1. Make it easily visible.
2. Speak loudly enough to be heard in the back of the room.
3. Use dramatic techniques to excite and involve students.
4. Teach inductively, start your demonstration with a question.
5. Allow at least three seconds for students to reply to your questions.
6. If necessary use whiteboard or overhead to explain concepts and/or draw diagrams.

RESOURCES:

Below are some web sites that have examples of discrepant events. The library also has various trade books that may have ideas.

<http://tiger.coe.missouri.edu/~pgermann/DiscEvent/>

<http://physics.unco.edu/sced441/demos99.pdf>

<http://www.mcrel.org/whelmers/index.asp>

<http://www2.stephens.edu/brent/kristen/introduction.html> (click [Back To Activities Page](#) at the bottom to view examples)

<http://www.arches.uga.edu/~bcramond/home/DiscrepantEvents.htm>

<http://www.plu.edu/~vedrosr/discrepant.html>

EVALUATION RUBRIC:

Areas being Assessed	Value	Exceeds Expectation (5)	Meets Expectation (4)	Does Not Meet Expectation (3)	Score	Comments:
Classroom Presence (i.e. poise, enthusiasm, speech, volume)	X 2					
Use of Questioning (i.e. meaningful, various levels, used to guide the inquiry process)	X 3					
Student Engagement (i.e. hook, sustained)	X 4					
Explanation of Concept (i.e. scientifically sound, clear, concise, complete)	X 4					
Closure (i.e. highlight main points, reviews main concepts)	X 2					
Written Documentation (i.e. the expectations listed)	X 5					
Total Score:	100 Possible					

