

## Model of the Surface of the Sun

### Materials:

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| Small plastic plates (petri dishes) | soda bottle caps                  |
| Whole milk                          | red & yellow food coloring        |
| Dish soap (NOT Dawn)                | pepper packets                    |
| Toothpicks                          | paper towels                      |
| Eye droppers                        | Science Journals or record sheets |

### Procedure:

- Place a small plastic plate or petri dish on each group's table and pour in about ½ cup of milk.
- Ask students to pretend the plate is like a clock and to carefully place one drop of yellow food coloring at 12:00 and 6:00. Place a drop of red food coloring at 3:00 and 9:00.
- Demonstrate how to place a small shake of pepper in the middle of the plate without disturbing the food color dots.
- Instruct students to carefully dip their toothpick into the dish soap. On the teacher's signal - instruct students to dip a toothpick into the center of the plate and take it out. Observe for several about 10 seconds.
- Swirling of colors will occur.

### Questions:

- What happened when the soap was added to the milk? (Rapid swirling and churning occurred)
- What happened to the dots of food color? (They swirled together)
- What happened to the pepper? (It moved around the dish)
- How is the model like the surface of the Sun? (The sun has gases swirling all over it's surface, with some dark spots called sunspots that move)
- Models have limitations because they are not exactly like the object they represent. How is the model not like the Sun's surface? (The Sun's surface is not made of milk, it is very hot, and sunspots are not made of pepper)

### Background Information:

The Sun is a star.. The Sun is made of hot gases. The surface of the Sun is always moving or swirling. The gases on the Sun erupt and explode causing flares to occur and forming sunspots. Sunspots appear to be dark spots on the Sun's surface. These spots are cooler then the other gases. Sunspots develop in a few hours and may last for many months. The Sun is the largest object in our Solar System. The Sun is the major source of heat and light energy for the Earth.

### Literature Connections:

*The Sun Our Nearest Star* -(Let's Read-And-Find-Out Book) by Franklyn M. Branley ISBN # 0-06-445073-2  
*Stars – All Aboard Reading Level 1* By Jennifer Dussling ISBN # 0-448-41148-2  
*I Am A Star – Hello Reader Level 1* By Jean Marzollo ISBN #0-439-11320-2  
*Sun up, Sun down* by Gail Gibbons ISBN #0-15-282782-X  
*The Sun Is My Favorite Star* by Frank Asch ISBN # 0-15-202127-2