Directions for the Pendulum Investigation (problem 9-1)

Find a space in the classroom where there is room to work. You may need to move your table or desks out of the way.
Set up your pendulum by attaching your bag of liquid to a meter stick using string, as shown at right.

Assign the following tasks:

- One student holds the meter stick from which the pendulum swings.
- One student holds the bag, releases it when ready, and then stops it when it reaches the end of the paper.
- Two students hold the butcher paper, one at each end, and slide it at a constant rate underneath the swinging pendulum. Be sure to slide the paper parallel to the meter stick and perpendicular to the swing of the pendulum, as shown in the diagram at right.

Tips for a successful investigation:

- The student holding the meter stick should hold the places where the string attaches. Otherwise, the string has a tendency to slide toward the center of the meter stick.
- Use as much of the string as you can so that your pendulum is as long as possible.
- When you are ready, have your teacher cut a very small hole in the corner of the bag. The student holding the bag should pinch this hole closed until the pendulum begins swinging.
- Be sure to slide the butcher paper under the pendulum at a constant rate.
- As you pull the bag up to start the pendulum swinging, hold it taut from the bottom corner so that the bag remains in line with the string (see diagram at right).
- Have an extra bag ready to place the dripping bag into when the investigation is complete.