Purpose: To determine some of the characteristics of static electricity.

Materials:

1. Piece of paper torn into very small pieces
2. Balloon (inflated)
3. The hair on your head (or on the head of a volunteer)
4. Metal paperclips or pins
5. Thin stream of water (just use your kitchen or bathroom sink)
6. A plain glass bottle
7. A plastic bag
8. A magnet

Procedure: Record as "attraction, repulsion, or no effect" for each step.

1. Tear a paper into very small pieces. Starting about 15 cm away, slowly bring the balloon closer and closer to the pieces until it almost (but doesn't quite) touches them.
2. Repeat step 1 by slowly bringing the balloon close to a small amount of paperclips and a very thin stream of tap water.
3. Now vigorously rub the balloon on your hair. Slowly bring the balloon close to the pieces of paper. Repeat for paperclips and a thin stream of tap water.
4. Vigorously rub a glass with a piece of plastic bag. Slowly bring the rubbed glass close to the pieces of paper. Repeat for the paperclips and a thin stream of tap water.
5. Bring a magnet close to the pieces of paper, paperclips, and a thin stream of tap water.

Observations:

<table>
<thead>
<tr>
<th></th>
<th>PAPER</th>
<th>Paperclips</th>
<th>WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balloon NOT rubbed with fur</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balloon rubbed with fur</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass rod rubbed with plastic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnet</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Questions: (Answer on a separate sheet.)

1. Define the term static electricity.
2. How can static electricity be produced?
3. How did static electricity and magnetism differ in terms of their effect on the objects in this lab?
4. Describe the behaviour of:
   a) uncharged objects towards other uncharged objects.
   b) uncharged objects towards charged objects.
   c) similarly charged objects towards each other.
   d) oppositely charged objects towards each other.
5. How does the electrical force between charged and uncharged objects change as the distance between them INCREASES?
6. List 3 everyday examples of static electricity.