

### The scenario

<b>Subject</b>	<b>Electrostatic / Triboelectric charging</b>
<b>Length</b>	4:23
<b>Main goals</b>	Get familiar with electrostatic charging
<b>Detailed goals</b>	to show that electric charge can be produced by rubbing different materials with different clothes and by induction
<b>Structure and description of experiments:</b>	
<b>1. Introduction</b>	Charging of different types of bodies can be easily shown even using home materials.
<b>2. Main subject</b>	Triboelectric charging
<b>Experiments</b>	<ol style="list-style-type: none"> <li>1. We rub a piece of amber with a cloth and show that it attracts small paper pieces.</li> <li>2. We rub an acrylic rod with a cloth and show that it attracts small paper pieces.</li> <li>3. We use an electroscope to show that the rubbed rod is charged – the needle of the electroscope is repelled from inner metal part.</li> <li>4. We try to charge by rubbing a piece of metal (aluminium rod), there is no effect – because we hold this metal with our hand – the charge easily escapes.</li> <li>5. We try to charge metal rod but now hold via insulating foam, the effect is small but exists.</li> <li>6. We move charged plastic rod near the electroscope rod and see the deflection of its needle even without touching it. This is called electrostatic induction.</li> <li>7. We use a charged rod to attract metallic, noncharged can.</li> </ol>
<b>3. Summary, evaluation and remarks</b>	<ol style="list-style-type: none"> <li>1. Electrons from insulating materials can be removed locally by the touch of different materials.</li> <li>2. Electrons from conductive materials can be easily drawn only when the materia is insulated.</li> <li>3. Electrons are free to move in metal – they separate when charged object is near them and are always attracted.</li> </ol> <p><b>Level:</b> primary school and secondary school</p>