



**Topic:** Insulators

**Suggested units:** Inventors/inventions, history of the railroad, communication

**Objective:** Students will understand the role of insulators in history

**Introduction:** Show the class an insulator (preferably a glass one) or show them a picture of an insulator by itself. Invite discussion about what it is/does.

**Lesson:** Teachers will need to adapt the lesson itself to the unit of study as well as to the age group. Additional information can be found from sources on the resource list.

**Basic information:**

Telegraph/telephone lines were strung along poles that usually followed the railroad lines. Because the poles were made of wood, the signal would follow the pole to the ground instead of continue along the wire. Insulators were then necessary to prohibit contact between the wire and the pole. Wire grooves were used to hold the wire in place. Shapes were experimented with to determine which shape would get the water off fastest because the mineral deposits would create a path of conductivity to the pole and down to the ground and then the signal would be lost. Drip points and petticoats (inner skirt) were also used to help the water run off. In later years, insulators would be made of porcelain instead of glass.

Many important facts traveled along the wires on the first insulators including the end of the Civil War and the assassination of Lincoln.

**Wrap up:** Encourage students to look for insulators on their way home from school. Tomorrow they can share where they saw them, what colors they were, what shape, etc.

Age-related worksheets can be done at this time.

K-2<sup>nd</sup> – coloring page of an insulator or of lines along a track.

3<sup>rd</sup> -6<sup>th</sup> – word search of vocabulary terms

7<sup>th</sup> – 12<sup>th</sup> – crossword puzzle of vocabulary terms