**Conductors & Insulators Quiz**

**Name: Date:**

1. **(P.3.3.) Which of these materials makes the BEST CONDUCTOR?**
   1. **Gold**
   2. **Ceramic/Porcelain**
   3. **Plastic**
   4. **Styrofoam**
2. **(P.3.3.) Which of these materials would be a good INSULATOR?**
   1. **Gold**
   2. **Scandium**
   3. **Aluminum**
   4. **Styrofoam**
3. **(P.3.3.) What makes non-metals good INSULATORS of Thermal and Electrical energy?**
   1. **Their atoms are more dense which makes them not as close together**
   2. **They are good at blocking atoms from moving from one place to another**
   3. **Their atoms are very dense which makes them really close together**
   4. **Their atoms are attached but not very strong which makes them pass energy better**
4. **(P.3.3.) Why are some coffee cups composed of ceramic/porcelain material?**
   1. **Ceramic/Porcelain materials are conductors that limit heat transfer**
   2. **Ceramic/Porcelain materials are insulators that limit heat transfer**
   3. **Ceramic/Porcelain materials are conductors that aid heat transfer**
   4. **Ceramic/Porcelain materials are insulators that aid heat transfer**
5. **(P.3.3.) Gusset Plates are located on bridges. These are metal plates that will allow the bridge to expand when there is a lot of weight on the bridge and contract back when there is nobody driving on the bridge. Why are Gusset Plates so important to a bridge?**
   1. **Gusset Plates allow a bridge to expand and bend without breaking when weight is applied to the bridge therefore saving it from collapsing**
   2. **Gusset Plates allow a bridge to break under the pressure of weight**
   3. **Gusset Plates are not that important to the bridge**
   4. **Gusset Plates allow a bridge to take on less weight therefore saving it from collapsing**
6. **(P.3.3.) What makes metals good CONDUCTORS of Thermal and Electrical energy?**
   1. **Their atoms are not as dense which makes them not as close together**
   2. **They are good at blocking atoms from moving from one place to another**
   3. **Their atoms are very dense which makes them really close together**
   4. **Their atoms are attached but not very strong which makes them pass energy better**
7. **(P.3.3.) What is the primary difference between CONDUCTORS & INSULATORS?**
   1. **Conductors help/aid heat and electrical energy transfer which Insulators stop heat and electrical energy transfer**
   2. **There is no primary difference between conductors and insulators**
   3. **Conductors stop heat and electrical energy transfer which Insulators help/ aid heat and electrical energy transfer**
   4. **Conductors have atoms that are spread very far apart while insulators have atoms that are very dense which allows heat and electrical energy to transfer**
8. **(P.3.3.) What is Thermal Energy?**
   1. **Light Energy**
   2. **Sound Energy**
   3. **Heat Energy**
   4. **Earthquake Energy**
9. **P.3.3.) The Golden Gate Bridge in San Francisco has many cables so it can take on the weight of the millions of cars that travel on it today. It also has Expansion joint strips. How do Expansion joint strips ensure the safety of the Golden Gate Bridge?**
   1. **Expansion joint strips allow the Golden Gate Bridge to contract when it is hot in the summertime and expand when it is colder in the winter**
   2. **Expansion joint strips are not that important to the bridge**
   3. **Expansion joint strips allow the Golden Gate Bridge to expand when it is hot in the summertime and contract when it is colder in the winter**
   4. **Expansion joint strips allow the Golden Gate Bridge to withstand any natural disasters**
10. **(P.3.3.) A hurricane rips through Pinetops NC and tears down all the telephone poles in the area. The utilities company is called to put them back up. They all wear rubber gloves while working with the wires. Why are they wearing rubber gloves?**
    1. **Rubber gloves are good insulators and will block the transfer of electricity energy to the worker**
    2. **Rubber gloves are good insulators and will help/aid the transfer of electricity energy to the worker**
    3. **Rubber gloves are good conductors and will block the transfer of electricity energy to the worker**
    4. **Rubber gloves are good conductors and will help/aid the transfer of electricity energy to the worker**