**Listening Exercise 169**

Technology

Guidelines:

1. Review the questions.
2. Listen to the audio twice (click the icon). (If link does not work from email, save to computer and then open).
3. Answer the questions. If unable to answer from the audio, refer to the transcript.
4. Consult the transcript, vocabulary, translation and answers to confirm correct responses and gauge understanding.



**Questions**

1. What is the main topic?
   1. Renewable energy
   2. Mars exploration
   3. Wind energy
   4. Meteorite shower
2. Which two countries are mentioned?
   1. China, Italy
   2. France, Germany
   3. Namibia, Switzerland
   4. United States, Mexico
3. Which element is the central focus of the study?
   1. Mineral
   2. Solar
   3. Water
   4. Wind
4. What process are they trying to improve?
   1. Artificial generators
   2. Mineral Mining
   3. Space travel
   4. Storage of energy
5. How will it improve?
   1. Artificial materials
   2. Greater size
   3. Higher temperature
   4. More efficient
6. What happens when hydrogen separates from water?
   1. Rotation
   2. Explosion
   3. Oxidation
   4. Radiation

|  |  |
| --- | --- |
| La energía renovable podría conseguir ayuda del espacio sideral en el futuro. Científicos suizos han encontrado que fragmentos prehistóricos de meteoritos de Namibia puedan ser utilizados para crear agentes catalíticos de alto rendimiento para ayudar almacenar energía de fuentes como el sol o el viento. | Renewable energy could get help from outer space in the future. Swiss scientists have found that prehistoric fragments of Namibian meteorites can be used to create high-performance catalysts to help store energy from sources such as the sun or wind. |
| Según el investigador, Florian le Formal, el equipo del Instituto Federal Suizo de Tecnología en Laussane convirtió lascas de piedra extraterrestre en electrodos para probar su efectividad como agente catalítico. | According to the researcher, Florian Le Formal, the Swiss Federal Institute of Technology team in Laussane converted extraterrestrial stone chips into electrodes to prove their effectiveness as a catalytic agent. |
| “Después de tomar diferentes lascas removimos el óxido formado durante el proceso de cortar, las pegamos en un pedazo de cristal para mantener la estabilidad mecánica y soldamos un cable eléctrico cubriéndolo con un pegamento no reactivo.” | "After taking different flakes, we removed the rust formed during the cutting process, glued them onto a piece of glass to maintain mechanical stability and welded an electric wire by covering it with a non-reactive glue." |
| Pasaron una corriente eléctrica a través de los electrodos para extraer el hidrógeno de las moléculas de agua en un proceso llamado oxidación. Es la composición única del meteorito la que los hace tan útiles, especialmente si son impurezas de níquel o cobalto. | They passed an electric current through the electrodes to extract hydrogen from water molecules in a process called oxidation. It is the unique composition of the meteorite that makes them so useful, especially if there are nickel or cobalt impurities. |
| “En esta prueba observamos que el rendimiento del meteorito mejoró durante la reacción química debida a una capa activa y catalítica formada sobre el meteorito durante los experimentos. “ | "In this test we observed that meteorite performance improved during the chemical reaction due to an active and catalytic layer formed on the meteorite during the experiments." |
| El experimento prueba el potencial para que materiales naturales sean utilizados como electro-catalíticos de alto rendimiento en el futuro. | The experiment tests the potential for natural materials to be used as high-performance electro-catalysts in the future. |

**Vocabulario**

|  |  |
| --- | --- |
| sideral | **sidereal** (astral, of or pertaining to the stars, outer space) |
| catalítico | **catalytic** (Catalysis is the increase in the rate of  a chemical reaction due to the participation of an additional substance called a catalyst) |
| rendimiento | **performance** |
| almacenar | **to stock, store** |
| Laussane | **Laussane** (city in Switzerland) |
| lascas | **Splinters** |
| extraterrestre | **alien** |
| electrodos | **Electrodes** |
| óxido | **oxide** (a compound of oxygen and another substance) |
| pegamento no reactivo | **Non-reactive glue** |
| extraer | **extract** |
| hidrógeno | **hydrogen** |
| moléculas | **Molecules** |
| oxidación | **oxidation** (The combination of a substance with oxygen) |
| impurezas | **Impurities** (a small amount of a substance added to a pure semiconductor to control its electrical conductivity) |
| níquel | **Nickel** |
| cobalto | **cobalt** |
| electro-catalíticos de alto rendimiento | **High performance electro-catalysts** (catalysts that participate in electrochemical reactions) |