**TAPS Plan for Focused Assessment of Science**

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| **Topic:** Electricity | Year 4  Age 8-9 | Title: Does it Conduct Electricity? |
| Logo for Review strand of Working Scientifically**Working Scientifically**  **Review:** Report on findings from enquires, including oral and written explanations, displays or presentations of results and conclusions. | | **Concept Context**  Recognise some common conductors and insulators, and associate metals with being good conductors.  Construct a simple series electrical circuit. |
| **Assessment Focus**   * Can children explain results and their conclusions? * Can children recognise common conductors and insulators? | | |
| Intelligent Textiles uniform Crown Copyright**Activity** *Today we are electrical engineers.*  Introduce the terms conductors and insulators.  Example context: soldiers wear ‘smart’ clothing which conducts electricity: <http://www.bbc.co.uk/news/technology-17580666>  E.g. a soldier in the desert that has ripped part of ‘smart’ clothing losing part of the GPS circuit, so unable to provide location for rescue. Explain that the soldier has a pack containing a variety of objects: which could be used to complete a circuit to activate the GPS?  Provide each group with a ‘soldier’s backpack’ containing a collection of objects/ materials (including different metals and plastics). Discuss how to find out whether electricity can pass through the materials. Groups test by putting materials into a gap in a circuit with a bulb/buzzer.  Focus pupil recording/presenting on explaining what the results show. E.g. they could produce a radio or video message to send to the soldier explaining how to produce a working circuit and why they are confident that this will work, providing scientific evidence and a list of all possible conductors (in case some are damaged). Reecap on the terms insulators and conductors.  **[Teacher box 4 -  gather evidence in a range of ways.](https://taps.pstt.org.uk/responsive-teaching/)**  **Adapting the activity**  **Support:** Provide a table template & support children recording their results  **Extension:** Challenge with extra items to see if they fit the pattern (e.g. lemon, pencil lead, rusty nail.) Challenge children to apply their findings to explain safety rules.  **Questions to support discussion**   * Which objects completed the circuit? Does that make them conductors or insulators? * Which things conducted electricity? What materials were they made from? * Which did not conduct electricity? What materials were they made from? * Which objects will you advise the soldier to use to repair the circuit? Why? * Can you think of anything else that might/might not conduct electricity? Explain your choices. | | |
| **Assessment Indicators**  **Not yet met:** Can identify some (not all) objects that allow/do not allow electricity to pass through them but does not yet make generalisations.  **Meeting:** Can describe the circuit and explain how their results (orally/written form) show that metals conduct electricity and most other materials do not.  **Possible ways of going further:** Can also suggest other items to fit into the pattern and explore exceptions to the rule. Can apply the terms conduct/insulate to explain safety rules, e.g. not putting knife in toaster. | | |

[Teacher box 4 -  gather evidence in a range of ways. ](https://taps.pstt.org.uk/responsive-teaching/)

Teacher box 4 - gather evidence in a range of ways. See TAPS pyramid for more egs