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| **8. Electricity in the home LESSON PLAN**  **—** | | |
| **PROJECT ACTIVITY**  **1.** Please [click here to view the EEF Teaching and Learning Toolkit strand on Peer Tutoring](https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/peer-tutoring/).  **2.** Please follow this [link](https://docs.google.com/forms/d/e/1FAIpQLSeSc4jl4PtoZWba65ja9iJAVEuSQuKOJZuMSUe3wQ4bvtIqBg/viewform) to answer the questions below.  **a.** (Multiple choice) To what extent is peer tutoring used in your school?  **b.** (Optional) Please share any examples/ideas for how peer tutoring could be used to support pupils’ learning in physics (please note: these ideas do not have to be for Yr7/8 electric circuits) | | |
| **LESSON SUMMARY**  This lesson applies the concepts learned through the course to familiar situations where electricity is used – in the home and society in general. There is a particular focus on safety, and how the ideas of current, resistance and potential | | difference allow us to understand these issues. Also included is a diagnostic assessment which can optionally be used to gauge student progress over the course of the topic. |
| **OBJECTIVES** | **1.**  Understand electrocution  **2.**  Understand safety features of domestic appliances | |
| **EQUIPMENT LIST** | **•**  Visualiser for demonstration of marking [optional] | |
| **RESOURCES** | **•**  PowerPoint presentation  **•**  Worksheet  **•**  Exit ticket/assessment [optional] | |
| **DIFFERENTIATION/**  **ADAPTATIONS** | **•**  Glossary of key words can be provided for reading support  **•**  Slightly shortened version of article available  **•**  Example of response can be used to explain how to peer-assess  **•**  Exemplary response to writing task is narrated prior to the task happening | |

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| **TIMETABLE & DESCRIPTION OF ACTIVITIES** | | |
| TIME  ACTIVITY  RESOURCES | DESCRIPTION | RESEARCH |
| 00:00 – 00:10  Starter  PowerPoint | **Slide 6:**  Starter: switching parallel loops on and off, how this contrasts with series loops (see slides) | 4d. Memory: Encourage pupils to elaborate on what they have learnt – Students have not explicitly learned what happens in this circuit, but they will apply knowledge of current flowing in parallel branches to devise an explanation. [Link](https://educationendowmentfoundation.org.uk/public/files/Publications/Science/EEF_improving_secondary_science.pdf#page=27) |
| 00:10 – 00:25  Understand electrocution  PowerPoint  Worksheet | **Hook question:** how can birds sit on electric cables and not die?  The answer is given in an extract of popular scientific writing. The extract is read out loud as a class to ensure that all students can engage.  **Task 1**: Students answer comprehension questions based on text. | 6c. Language of science: Use activities to engage pupils with reading scientific text and help them to comprehend it. – Pupils should have the opportunity to engage with authentic scientific books and texts. [Link](https://educationendowmentfoundation.org.uk/public/files/Publications/Science/EEF_improving_secondary_science.pdf#page=35) |
| 00:25 – 00:55  Understand safety features of domestic appliances  PowerPoint  Worksheet | Keeping safe around electricity – brief teacher presentation on how electrocution happens (if the human body provides a connection between two regions with a PD across them it will conduct current) and how it is prevented by the use of insulating materials.  **Task 2:** Extended writing task “Explain what precautions an electrician should take when fixing a plug socket”. Students are provided with success criteria.  Students are provided with a mark scheme for peer assessment, and give each other written feedback scaffolded using a template.  Optionally, for homework, students then write a better version. This may then be taken in by the teacher, who can mark the extended writing, or the second student’s feedback, or both. | 6d. Language of science: Support pupils to develop their scientific writing skills – The writing process involves several components and is iterative. [Link](https://educationendowmentfoundation.org.uk/public/files/Publications/Science/EEF_improving_secondary_science.pdf#page=36)  7c. Feedback: Provide feedback as comments rather than marks – Peer-assessment is given as comments which guide improvement [Link](https://educationendowmentfoundation.org.uk/public/files/Publications/Science/EEF_improving_secondary_science.pdf#page=40)  EEF Teaching and Learning Toolkit, Peer Tutoring strand: The introduction of peer tutoring approaches appears to have a positive impact on learning. [Link](https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/peer-tutoring/)  7d. Feedback: Make sure pupils can respond to your feedback – Students have a chance to improve their attempts based on partner feedback prior to submission to the teacher. [Link](https://educationendowmentfoundation.org.uk/public/files/Publications/Science/EEF_improving_secondary_science.pdf#page=41)  2c. Self-regulation: Promote metacognitive talk and dialogue in the classroom – The partner-assessment activity encourages students to engage with a mark scheme and think deeply about what a high-quality response is. [Link](https://educationendowmentfoundation.org.uk/public/files/Publications/Science/EEF_improving_secondary_science.pdf#page=16) |
| 00:55 – 01:00  Closing quiz  PowerPoint  Exit ticket/optional assessment (could alternatively be used as homework or in a subsequent lesson) | A condensed version of the assessment, drawing on content from the whole course, is available for use as an exit ticket.  The full assessment could also be given here, although it may require shortening the rest of the lesson. | 7a. Feedback: Find out what your pupils understand - It is important that you build up an accurate picture of the current understanding of all your pupils [Link](https://educationendowmentfoundation.org.uk/public/files/Publications/Science/EEF_improving_secondary_science.pdf#page=38) |