

## Supplemental Figure S2: Sample Educative Feature – Narrative

### **Ms. Carter's Use of Predictions with Students**

Ms. Carter's students would often make predictions without providing reasons for their thinking. For this reason, she felt the predictions students make about the number of batteries would provide an opportunity for students to draw on their experiences with circuits in Lessons 2 and 3 as reasons supporting their predictions. This would help both her and her students recognize the ideas they held and help them expand on their understanding of complete circuits by collaborating with one another and testing their predictions.

To begin the lesson, Ms. Carter displayed the standard (unlit) household light bulb for her students to see and asked them to write **predictions** in their notebooks as to the number of batteries they thought it would take to light the bulb and why. After sharing their predictions, the class decided to begin their trials with five batteries. They continued to test their predictions in increasing increments of three batteries. They conducted the same test with the stripped household bulb. She then held a discussion with her students about what caused the bulb to light and where the wires were located inside the bulb. Each time students made a statement, she prompted them for evidence to support their ideas. She asked questions like, "What do you see that makes you think that?"

To conclude the lesson, Ms. Carter asked her students to draw the circuit with the stripped household bulb in their science notebooks, making sure to label the diagram. She also had them look back at their initial predictions and write a new prediction about the brightness of the bulb if they used 25 batteries. After class, Ms. Carter looked through their written ideas, checking on students' understanding of the concepts, as well as their use of reasons to support their new predictions. She felt this lesson provided opportunities for her students to engage in making scientific predictions by including reasons to support their ideas.