

Asynchronous Activity 3, Worksheet

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1 How to Submit this Worksheet

1. Download this PDF to your device.
2. Complete the procedure below.
3. Scan your document into a PDF using a Smartphone app, or simply a photo. One example app is SimpleScanner. Websites also exist to convert jpg to PDF format (e.g. <https://smallpdf.com/jpg-to-pdf>).
4. Upload your worksheet PDF to Moodle via the submission link.

2 The Procedure

Repeat the PhET/spreadsheet analysis performed in the tutorial videos on Moodle: *Asynchronous Lessons 3, 4, and 5*. The goal is to show that

$$U = \frac{1}{2}CV^2 \quad (1)$$

That is, the energy should be directly proportional to capacitance, and proportional to the square of voltage. You should create two graphs. One that shows the linear relationship of U and C, and one that shows the quadratic relationship of U and V. However, for the second one, it is probably easier to plot U vs. V^2 .