

Graphing using Microsoft Excel

Excel tutorial #6- Graphing wavy lines

To graph data that produces wavy lines:

An “absorbance spectrum” was made for two pigments, labeled “A” and “B” for our example, measuring absorbance at wavelengths from 380nm to 700 nm.

To graph this data, the information was selected (see blue highlighted area) and Chart Wizard used. In step one, choose **XY scatter** and this **subtype**.

| | A | B | C | D | E | F | G | H | I |
|-----------|---|-------|------|-------|-------|-------|-------|-------|-------|
| | | 400 | 440 | 480 | 520 | 560 | 600 | 640 | 680 |
| Pigment A | | 0.024 | 0.04 | 0.012 | 0.004 | 0.006 | 0.002 | 0.017 | 0.003 |
| Pigment B | | 0.006 | 0.01 | 0.01 | 0.001 | 0.005 | 0.001 | 0.001 | 0.003 |

Chart Wizard - Step 1 of 4 - Chart Type

Standard Types | Custom Types

Chart type:

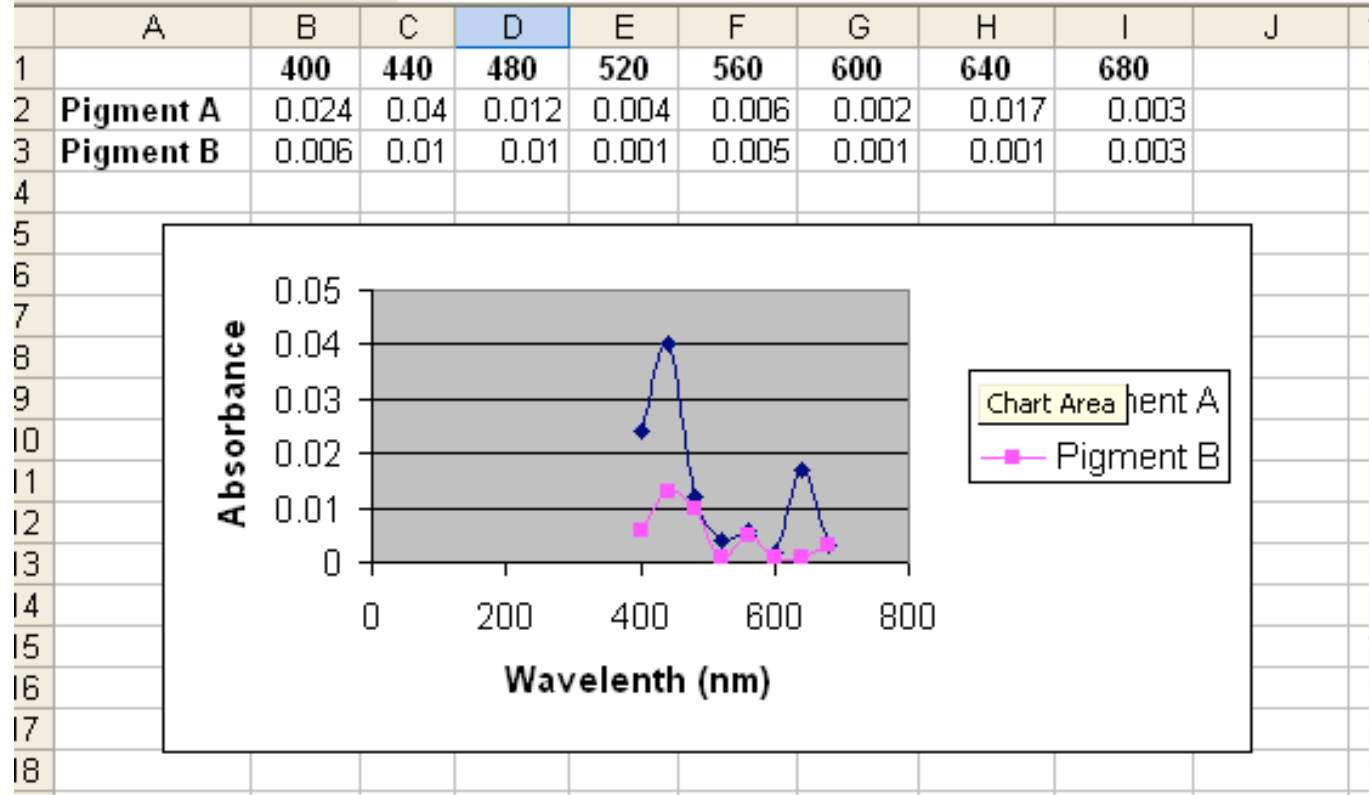
- Column
- Bar
- Line
- Pie
- XY (Scatter)**
- Area
- Doughnut
- Radar
- Surface
- Bubble
- Stock

Chart sub-type:

- Scatter with data points
- Scatter with data points connected by smoothed Lines**
- Scatter with data points connected by straight Lines
- Scatter with data points connected by smoothed Lines and markers

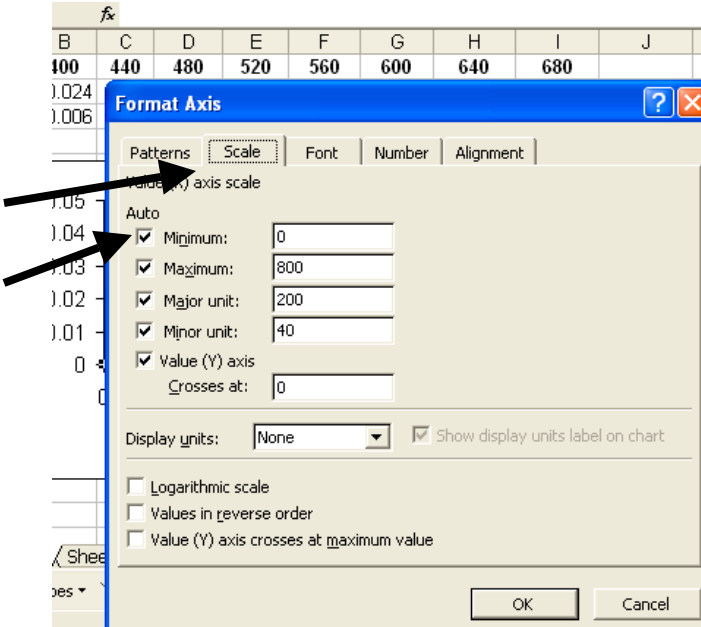
Scatter with data points connected by smoothed Lines.

Complete the next steps in Chart Wizard. The resultant graph is shown on the next slide.

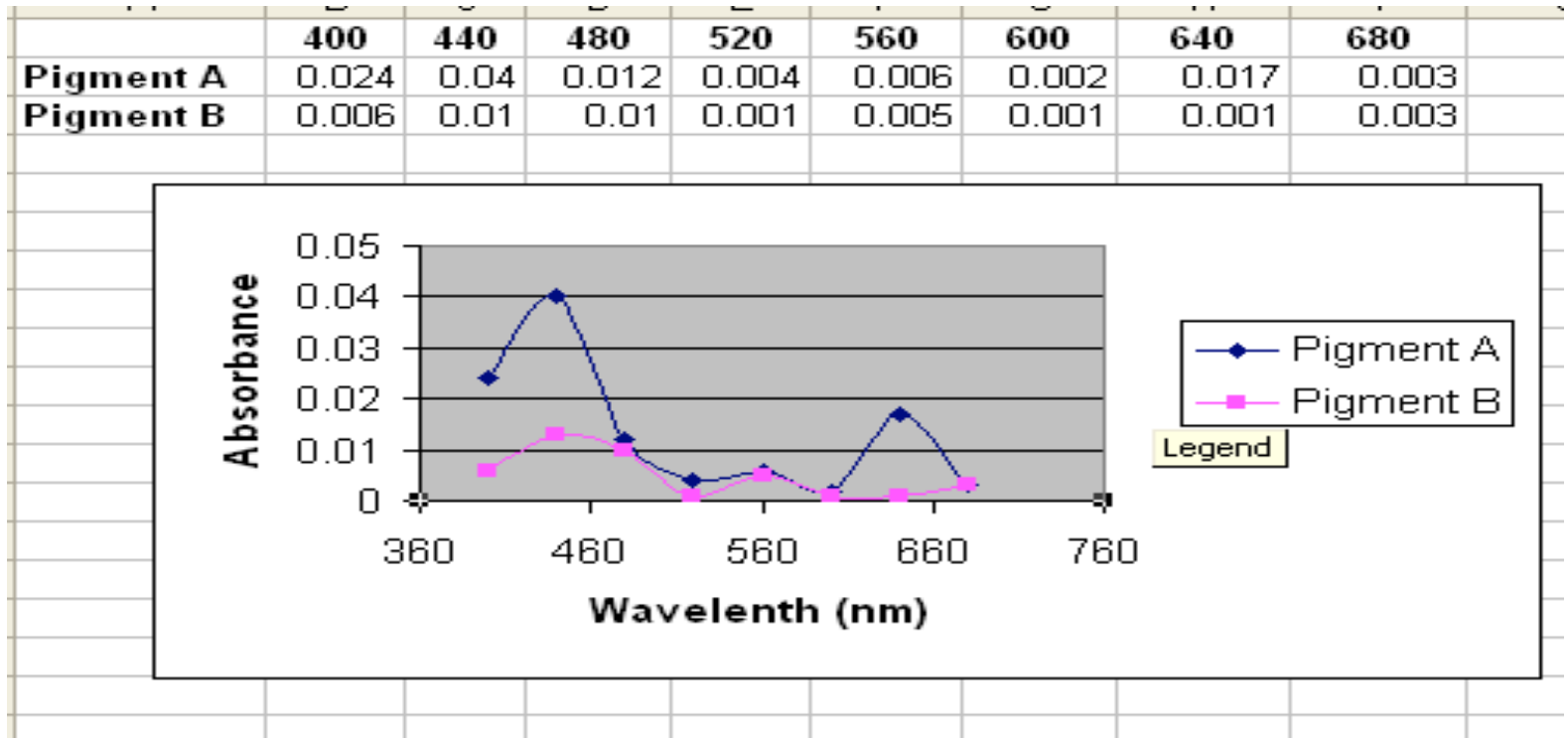


Note that this graph needs to be fixed, since we did not measure wavelengths less than 380nm (and thus the data gets “scrunched”).

To fix this graph, simply right-click on the X axis, select “**Format Axis**” from the drop-down menu, select the “**Scale**” tab on the pop-up menu, enter “360” for the minimum value, Then press “**OK**”.



Now the graph should look like this:



Now, one can make conclusions about which pigment is able to efficiently absorb which wavelengths of light.