

# OpenSciEd Physics Unit 5

KIT # 470355-612

## Electromagnetic Radiation



### Included Items

#### Lesson #

|            |                                                            |        |                           |
|------------|------------------------------------------------------------|--------|---------------------------|
| 1          | Bluetooth speaker                                          | 1      |                           |
| 1, 5, 2, 8 | Oven mitts                                                 | 2      |                           |
| 2          | Incandescent light bulb, G12 base                          | 1      |                           |
| 2          | Beaker                                                     | 1      |                           |
| 3          | Cardboard packing box (2" x 3" x 4")                       | 16     |                           |
| 3          | Plastic coil spring (1.4" x 20")                           | 8      |                           |
| 3          | Polystyrene ball (30 mm. dia.)                             | 104    |                           |
| 3, 10      | Painter's tape, 50 ft roll                                 | 1      |                           |
| 4          | Alligator clips                                            | 6      |                           |
| 4          | Compasses                                                  | 6      | included in generator kit |
| 4          | Hand-crank DC generator                                    | 1      |                           |
| 4          | Iron nail OR homemade generator tube from P.1              | 1      | included in generator kit |
| 4          | Magnet wire OR homemade generator tube from P.1            | 250 ft | included in generator kit |
| 4          | Neodymium magnets, 3/8" by 3/8" OR generator tube from P.1 | 2      | included in generator kit |
| 4          | Paper tube OR homemade generator tube from P.1             | 1      | included in generator kit |
| 5          | 1/4" (or 6 mm) Deep throat heavy duty single hole punch    | 1      |                           |
| 5          | Graduated cylinder (100 mL)                                | 1      |                           |
| 5          | Heavy duty aluminum foil (50 ft.)                          | 1      |                           |
| 5          | Microwave safe plastic wrap                                | 1      |                           |
| 5, 8       | Microwave safe plastic bowls (1" tall)                     | 4      |                           |
| 5, 8       | Microwave safe plastic cutting board                       | 3      |                           |
| 5, 8       | IR thermometer                                             | 1      |                           |
| 8          | 9"x11" cardboard                                           | 2      |                           |
| 8          | Bright red light neon light bulb indicator lamp            | 80     |                           |
| 8, 13      | Sticky dots (green, yellow, red)                           | 1      | sheet of 35 of each color |

| Sold Separately |                                                                                                                             | Suggested Quantities | Available at wardsci.com Part # |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------|
| <b>Lesson #</b> |                                                                                                                             |                      |                                 |
| 4               | Homemade generator.<br><br>This contains compasses, iron nails, wire, magnets, paper tubes, red LED bulbs, and sticky tack. |                      | 470355-220                      |
| 1, 2, 5, 8      | Microwave oven (10" x 11.75" oven floor )                                                                                   | 1                    |                                 |
| 4               | Sand paper OR generator tube from P.1                                                                                       | 1 sheet              |                                 |

| Locally Sourced |                           | Suggested Quantities | Available at wardsci.com Part # |
|-----------------|---------------------------|----------------------|---------------------------------|
| <b>Lesson #</b> |                           |                      |                                 |
| 1               | Tortilla chips and cheese | 1 cup of each        | not available                   |
| 12              | Clear tape                | 1 roll               | 470003-354                      |

| Std. Class/Lab Equipment |                                                           | Suggested Quantities | Available at wardsci.com Part # |
|--------------------------|-----------------------------------------------------------|----------------------|---------------------------------|
| <b>Lesson #</b>          |                                                           |                      |                                 |
| 1                        | 2x2 sticky notes                                          | 105                  | 470313-758                      |
| 1                        | Colored pens - blue                                       | 35                   | 470151-644                      |
| 1                        | Colored pens - green                                      | 35                   | 470150-410                      |
| 1                        | Colored pens - purple                                     | 35                   | not available                   |
| 1                        | Colored pens - red                                        | 35                   | 470151-642                      |
| 1                        | Microwave safe plate                                      | 1                    | not available                   |
| 1                        | Permanent markers (black)                                 | 35                   | 470152-040                      |
| 1, 2, 5, 8               | Indirectly vented chemical splash goggles                 | 35                   | 470016-082                      |
| 1,3,5,7,8,9,10,13        | Chart Paper                                               | 1                    | 470149-864                      |
| 1,3,5,7,8,9,10,12,13     | Chart paper markers (green)                               | 35                   | 470338-508                      |
| 1,3,5,7,8,9,10,12,13     | Chart paper markers (purple)                              | 35                   | see pack above                  |
| 1,3,5,7,8,9,10,12,13     | Chart paper markers (red)                                 | 35                   | see pack above                  |
| 1, 2, 3, 4, 9, 10        | 8.5" x 11" paper (for exit tickets, models, etc)          | 1 ream               | 470337-341                      |
| 1, 5, 6, 8, 9            | 3x3 sticky notes                                          | 7                    | 470173-822                      |
| 3                        | Glue stick                                                | 7                    | not needed                      |
| 3                        | Hot glue gun                                              | 1                    | not needed                      |
| 3                        | Ring stand rod (3 ft)                                     | 8                    | 470123-468                      |
| 5, 8                     | Microwave-safe glass bowls (100-250 mL) with plastic lids | 8                    | none available                  |
| 9                        | Calculator                                                | 16                   | 470349-970                      |