**Waves: Sound and Light Unit**

**Materials List for Supply Bins**

**Introduction to waves and Sound Unit**

**Lesson #1: What Are Waves?**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| Student record sheet | 50 |
| Bin (to fill with water) | 1 |
| Ball | 1 |
| Sound box (includes speakers) with rice | 1 set |
| Large cloth (or parachute) | 1 (ask classroom teacher at least 1 week before about parachute) |

**Lesson #2: Types of Waves**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| Rubber rope | 3 |
| Slinkies | 3 |
| Colored tape | 1 roll |

**Lesson #3: Properties of Transverse Waves**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| Pipe cleaners | 2 bags |
| Play-Doh | 4 tubs |
| Masking tape | 1 roll |
| Markers (not provided) |  |
| “A World in Motion” handout | 50 |
| Explain Everything presentation guidelines and rubric handout | 50 |

**Lesson #4: Pitch Perfect: What is Sound?**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| Bottles (fill with water) | 12 |
| Metal spoon | 4 |
| Tuning forks | 2-4 (borrow from the physics department) |
| Pitch Perfect experiment worksheet | 50 |

**Lesson #5: Sound and Communication**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| Part 1: | |
| “A History of Communication Technology: Inventing the Telegraph and Morse Code” pamphlet | 50 |
| Morse code worksheet | 50 |
|  |  |
| Part 2: | |
| Small paper cups | 1 box |
| Large plastic cups | 1 box |
| Styrofoam cups | 1 box |
| Fishing Line | 1 spool |
| Yarn | 1 spool |
| Twine | 1 spool |
| Paper clips | 1 box |
| String Phone experiment worksheet and datasheet | 50 |
| String Phone experiment station instructions | 9 |
| Rulers (not provided) | 1 per group |
| Scissors (not provided) | 1 per group |

**Lesson #6: Ears**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| “Hearing Sounds” article | 50 |
| Ear diagram Fill-in-the-blanks worksheet | 50 |
| Pop-up tent | 1 |
| Yellow Play-Doh | 1 container |
| Yarn | 1 ball |
| 2-liter bottles | 2 |
| Mustard | 1 bottle |
| Toy hammer | 1 |
| Toy drumstick | 1 |
| Triangle | 1 |
| Bin | 1 |
| Duster | 1 |
| Jump ropes | 3 |
| Pillow | 1 |

**Light Unit**

**Lesson #1: Introduction to Light**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| “Discover Light: Electric and Magnetic Waves” pamphlet | 50 |
| Experimental Record Sheets | 50 |
| Black cloth with hole | 1 large piece |
| Can with no top and hole near the bottom | 1 |
| Bin | 1 |
| Rectangular glass dish | 1 |
| Dish towels | 2 |
| Flashlight | 1 |

**Lesson #2: Transparent, Translucent, and Opaque**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| Science Journals |  |
| Ball | 1 |
| Flashlight | 5 |
| Sorting Activity Bag  **Transparent items:**  Plastic wrap  Plastic water bottle  Laminating material  Clear plastic lid  Water  **Translucent items:**  Bubble wrap  Tissue paper  Waxed Paper  Piece of white paper  Colored plastic folder  **Opaque items:**  Felt  Tin foil  Cardboard  Stack of white paper  Styrofoam | 1 set (1 of each item in each set) |
| Shadow Activity Bag: Cardboard cutouts of the following shapes  Semi-circle  Crescent  Square  Circle  Triangle  Star  Pentagon  Rectangle | 5 sets (1 of each item in each set) |

**Lesson #3: Reflecting Light: Periscopes**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| Periscope kits | 50 |
| Mirrors | 2 |
| Tape | 2 rolls |
| Glue (not provided) |  |
| Protractor | 1 |
| Writing utensils (not provided) |  |
| White paper (not provided) |  |
| Crayons or markers (not provided) |  |
| Pre-made periscopes\* | 1-2 (made yourselves) |

**\*Ask Jen or Molly for periscope kits to test them 1 week before this lesson.**

**Lesson #4: Bending Light**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| Experimental Record Sheet | 50 |
| Popsicle stick | 5 |
| Rectangular glass container | 1 |
| Glass rod | 1 |
| Glass beaker | 3 |
| Clear plastic cup | 1 |
| Index cards | 50 |
| Markers (not provided) |  |

**Lesson #5: Colors**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| Flashlights | 3 |
| Flashlight filters | 3 (1 red, 1 green, 1 blue) |
| Rubber bands | 3 or more |
| Large books (not provided) | 2 (in classroom) |
| Mirror | 1 |
| White Card | 2 |
| Black Card | 1 |
| Exploring Color Record Sheets | 50 |
| Color Venn Diagrams Sheet | 50 |

**Lesson #6: Optics and the Eye**

|  |  |
| --- | --- |
| **Item** | **Amount** |
| Convex and Concave Lenses worksheet | 50 |
| Parts of the Eye worksheet | 50 |
| Convex and concave lenses | 5 of each |