

Level 5 Module 3 Materials

Orbit and Rotation with Capstone Project on Forces and Energy

The lists below summarize the materials necessary to implement the Level 5 Module 3 curriculum. The lists compile items from the Materials Tables for each lesson set but separate items available for purchase in *PhD Science*® kits from those items the schools provide. The suggested quantities are for a class of 24 students and up to 6 groups of students.

Schools that purchase kits receive materials in the Kit Items list. Schools may also purchase refill kit items, identified by ♻️, for subsequent years of implementation. Schools that do not purchase kits must provide those materials in addition to the materials in the School Supplied list. School supplied items are commonly available in classrooms or in stores. In addition to the listed materials, teachers may need access to such items as sunlight, electricity, uncarpeted areas, and sturdy level surfaces (tables or desks).

To learn more about the resources for this module as well as other components of *PhD Science*®, visit greatminds.org/texas.

Orbit and Rotation

Kit Items		School Supplied Items	
<input type="checkbox"/> Balls, rubber	2	<input type="checkbox"/> Aluminum foil, 4.5" × 1.13"	6
<input type="checkbox"/> Bead, 2 mm	1	<input type="checkbox"/> Basketball, adult size	1
<input type="checkbox"/> Bins, clear plastic, 6 qt	2	<input type="checkbox"/> Chalk	1 stick
<input type="checkbox"/> Boxes, cardboard, 12" × 7" × 4", unassembled	6 ♻️	<input type="checkbox"/> Chart paper	15 sheets
<input type="checkbox"/> Clay, modeling, nonhardening	1 lb ♻️	<input type="checkbox"/> Construction paper, black, 9" × 12"	18 sheets
<input type="checkbox"/> Compasses	12	<input type="checkbox"/> Digital camera	1
<input type="checkbox"/> Flashlight with batteries	6	<input type="checkbox"/> Globe	1
<input type="checkbox"/> Globes, mini, 3"	6	<input type="checkbox"/> Glue sticks	24
<input type="checkbox"/> Hand pump with needle	1	<input type="checkbox"/> Highlighters or colored pencils	6 sets
<input type="checkbox"/> Lanterns with batteries	6	<input type="checkbox"/> Knives	
<input type="checkbox"/> Mirror	1	○ Precision	1
<input type="checkbox"/> Paraffin blocks, 4.5" × 2.25" × 0.75"	6	○ Serrated	1
<input type="checkbox"/> Polystyrene foam	6	<input type="checkbox"/> Markers, permanent, black	6

<ul style="list-style-type: none"> ○ Balls, smooth, 2" 6 ↻ ○ Discs, 4" × 4" × 1" 18 ↻ <input type="checkbox"/> Protractors 6 <input type="checkbox"/> Star stickers 100 <input type="checkbox"/> Sticks, wooden, 7" 12 ↻ <input type="checkbox"/> Tape, electrical 1 roll ↻ <input type="checkbox"/> Tealights, LED, nonflickering 12 		<ul style="list-style-type: none"> <input type="checkbox"/> Meter sticks 6 <input type="checkbox"/> Milk 10 mL <input type="checkbox"/> Paper <ul style="list-style-type: none"> ○ Printer, 8.5" x 11" 25 sheets ○ Scratch 30 sheets <input type="checkbox"/> Pencils <ul style="list-style-type: none"> ○ Sharpened 1 ○ Unsharpened 6 <input type="checkbox"/> Pushpin 1 <input type="checkbox"/> Rulers, metric 6 <input type="checkbox"/> Scissors 24 <input type="checkbox"/> Spherical objects, large and of the same size 2 <input type="checkbox"/> Spoons, clear plastic 24 <input type="checkbox"/> Sticky notes 168 <input type="checkbox"/> Tape, clear 1 roll <input type="checkbox"/> Thumb tack 1 <input type="checkbox"/> Toothpicks 24 <input type="checkbox"/> Water 8 qt <input type="checkbox"/> Whiteboard, teacher (optional) 1
Items Required from Other Level 5 Kits		
Module 2		
<ul style="list-style-type: none"> <input type="checkbox"/> Balls <ul style="list-style-type: none"> ○ Table tennis 1 ○ Tennis 1 		

Capstone Project on Forces and Energy

Kit Items		School Supplied Items	
<input type="checkbox"/>	Alligator clip cords	40	
<input type="checkbox"/>	Batteries, D	12 ☉	<input type="checkbox"/>
<input type="checkbox"/>	Battery holders, D	12	Aluminum foil
<input type="checkbox"/>	Buzzers	6	1 roll
<input type="checkbox"/>	Clay, modeling, nonhardening	1 lb ☉	<input type="checkbox"/>
<input type="checkbox"/>	DC motors	6	Beads, glass, flat
<input type="checkbox"/>	Erasers, wedge, medium	18	6
<input type="checkbox"/>	Felt, 9" × 12"	12 sheets	<input type="checkbox"/>
<input type="checkbox"/>	Flashlight bulbs, incandescent	10	Binder clips, large
<input type="checkbox"/>	Flashlights with batteries	6	24
<input type="checkbox"/>	Hall's cars	6	<input type="checkbox"/>
<input type="checkbox"/>	Hook and loop fastener, 6" strips	12 ☉	Blindfolds (optional)
<input type="checkbox"/>	Light bulb holders	6	2
<input type="checkbox"/>	Mirrors	12	<input type="checkbox"/>
<input type="checkbox"/>	Pencils, graphite, artist, 6B	2 ☉	Brads
<input type="checkbox"/>	Protractors	6	100
<input type="checkbox"/>	Sandpaper, 9" × 12"	12 ☉	<input type="checkbox"/>
<input type="checkbox"/>	Spring scales, push, 5 N	6	Cardboard, 6" × 7"
<input type="checkbox"/>	Stopwatches	6	2
<input type="checkbox"/>	Tape, copper foil, 1 cm wide	2 rolls ☉	<input type="checkbox"/>
<input type="checkbox"/>	Tape, electrical	1 roll ☉	Cellophane, colored (optional)
<input type="checkbox"/>	Toy cars, small	2	7 sheets
Items Required from Other Level 5 Kits			<input type="checkbox"/>
Module 1			Chart paper
<input type="checkbox"/>	Erasers, wedge, medium	12	15 sheets
<input type="checkbox"/>	Safety goggles, student	24	<input type="checkbox"/>
<input type="checkbox"/>	Safety goggles, teacher	1	Chenille stems
Module 2			30
<input type="checkbox"/>	Bingo chips	6	<input type="checkbox"/>
			Computers or tablets with internet access
			8
			<input type="checkbox"/>
			Cotton balls
			6
			<input type="checkbox"/>
			Craft sticks
			○ Wax
			30
			○ Wooden
			30
			<input type="checkbox"/>
			Foam sheets, craft, 9" × 12"
			6
			<input type="checkbox"/>
			Glue, liquid, white
			6 bottles
			<input type="checkbox"/>
			Glue sticks
			6
			<input type="checkbox"/>
			Highlighters
			24
			<input type="checkbox"/>
			Hole punch, single hole
			1
			<input type="checkbox"/>
			Index cards, 3" × 5"
			12
			<input type="checkbox"/>
			LED, colored (optional)
			20
			<input type="checkbox"/>
			Manila folders
			2
			<input type="checkbox"/>
			Markers, 4 colors
			1 set
			<input type="checkbox"/>
			Markers, permanent
			6
			<input type="checkbox"/>
			Pencils, 3 colors
			24 sets
			<input type="checkbox"/>
			Meter sticks
			6
			<input type="checkbox"/>
			Nails, steel
			6
			<input type="checkbox"/>
			Objects 4–6" tall (e.g., a stack of books or a shoe box)
			12
			<input type="checkbox"/>
			Paper clips
			25
			<input type="checkbox"/>
			Paper, printer, 8.5" × 11" (optional)
			6 sheets
			<input type="checkbox"/>
			Paper, scratch
			36 sheets
			<input type="checkbox"/>
			Pens, ballpoint
			2
			<input type="checkbox"/>
			Pencil
			1
			<input type="checkbox"/>
			Pencil lead
			6
			<input type="checkbox"/>
			Pennies
			6
			<input type="checkbox"/>
			Poster board, 11" × 14"
			2

<input type="checkbox"/>	Rubber bands	25
<input type="checkbox"/>	Rulers, metric	12
<input type="checkbox"/>	Scissors	6
<input type="checkbox"/>	Sticky notes	162
<input type="checkbox"/>	String	1 spool
<input type="checkbox"/>	Tape	
○	Clear	6 rolls
○	Double-sided (optional)	6 rolls
○	Masking	6 rolls
<input type="checkbox"/>	Whiteboards (optional)	
○	Personal	6
○	Teacher's	1