

3rd - 5th Grade Project Ideas

Project Division	Project Idea	Overview	Possible Materials
Maker Division - Model	Water Cycle in Action	Create a model that shows how water evaporates, condenses, and precipitates. Include labeled stages and movement arrows.	Plastic container, cotton balls, blue beads, arrows, labels, glue.
Maker Division – Model	Simple Machines at Work	Build a model showing one or more simple machines (pulley, lever, incline plane, etc.) in action.	String, pulleys, rulers, cardboard tubes, toy wheels, craft sticks.
Maker Division – Model	Design a Sustainable Home	Students design a model home that uses renewable energy such as solar panels or wind turbines.	Cardboard, aluminum foil, paper fans, recycled materials, solar cell (optional).
Maker Division – Model	Journey of a Food Web	Model how energy flows through a food web using 3D representations of producers, consumers, and decomposers.	Clay, yarn (to show energy flow), labels, paint, poster board.
Maker Division – Model	Weather Station	Design and build a model of a weather station that collects data like wind, rainfall, and temperature. Explain how each tool helps meteorologists	Cups, straws, paper plates, cardboard, string, thermometers, tape, markers.
Maker Division – Model	Energy Converter Model	Students build a model showing how energy can change forms, like light to heat or motion	Paper, cardboard, small bulbs, mirrors, foil
Maker Division – Engineering/Invention	Lunchbox of the Future	Design a lunchbox that keeps food warm or cool, organizes snacks, and reduces waste.	Insulating materials (foam, foil), cardboard, Velcro, recycled plastic
Maker Division – Engineering/Invention	Magnet Sorting Machine	Students design a device that uses magnets to separate objects by material	Magnets, paper clips, cardboard, tape, cups

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Maker Division – Engineering/Invention	Automatic Door Opener	Invent a model that opens a door using levers or pulleys, great for helping someone carry heavy bags.	String, pulleys, craft sticks, cardboard, paperclips, glue
Maker Division – Engineering/Invention	Water Saver Shower	Create an invention that helps reduce water waste during a shower or handwashing.	Plastic bottles, tubing, tape, recycled cardboard, measuring cups
Maker Division – Engineering/Invention	Backpack Safety Light	Engineer a wearable or attachable light system for backpacks to keep walkers safe at night.	LED lights, small batteries, Velcro, fabric scraps, glue
Maker Division – Engineering/Invention	Trash Sorting Machine	Build a model machine that can sort trash into recycling, compost, and waste bins.	Cardboard, labels, marbles, ramps, small boxes, tape
Maker Division – Engineering/Invention	Save the Beanstalk	The Giant keeps chopping down Jack's beanstalk! Students design a protection system or escape plan for Jack.	Cardboard tubes, clay, pulleys, string, toy figures
Maker Division – Engineering/Invention	A Better House for the Pigs	Students design and test three models of houses for the pigs, using data to determine which can withstand the "wolf's wind."	Cardboard, craft sticks, straws, fan, glue, tape
Maker Division – Engineering/Invention	Little Red's GPS	Red Riding Hood gets lost in the forest. Students design a navigation device, communication system, or map reader to help her.	Cardboard, paper, compasses, LEDs (optional), markers
Maker Division – Engineering/Invention	Rumpelstiltskin's Name Finder	The Queen must find Rumpelstiltskin's name! Students design a device to collect clues, search scrolls, or scan text.	Paper rolls, cardboard, foil, string, plastic lenses
Maker Division – Engineering/Invention	Three Billy Goats' Bridge Builder	The goats need a bridge to cross the river safely. Students design and test bridge models for strength and stability.	Craft sticks, string, paper clips, glue, small weights
Maker Division – Engineering/Invention	The Princess and the Pea Problem	The princess cannot sleep on the pea! Students create a mattress design that hides the pea but keeps the princess comfortable.	Fabric, foam sheets, cotton balls, small container, cardboard.

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Maker Division – Engineering/Invention	Design a Flood Barrier	Students create and test a flood barrier that prevents water from reaching a model town	Clay, foil, cardboard, small containers, water tray
Experiment	Which Liquid Evaporates the Fastest?	Students test different liquids (water, vinegar, juice, oil) to see which evaporates fastest at room temperature.	Cups, liquids, timer, ruler, data chart
Experiment	How Does Ramp Height Affect Speed?	Students change the height of a ramp to see how slope affects how fast a toy car travels.	Toy cars, ruler, books (for ramp), stopwatch, measuring tape
Experiment	Do Plants Grow Better in Soil or Sand?	Students test plant growth in different materials to see which helps plants grow best.	Soil, sand, bean seeds, cups, water, ruler, chart
Experiment	Does the Type of Bridge Affect Its Strength?	Students design and test different bridge types (beam, arch, truss) to see which can hold the most weight.	Paper, straws, tape, coins, ruler
Experiment	How Does Temperature Affect Dissolving?	Students test how quickly sugar dissolves in cold, warm, and hot water.	Beakers or cups, sugar, thermometer, spoon, stopwatch
Experiment	Which Shape of Parachute Falls Slowest?	Students test parachutes of different shapes or materials to see which falls slowest.	Tissue paper, plastic bags, string, small toys, stopwatch
Experiment	Does the Type of Liquid Affect Plant Growth?	Students water plants with different liquids (water, juice, soda) to see which helps plants grow best.	Cups, bean seeds, soil, liquids, ruler, chart
Experiment	What Type of Material Keeps Ice Cold the Longest?	Students test insulation materials (foil, fabric, plastic) to see which slows ice melting the most.	Ice cubes, bowls, foil, fabric, timer, thermometer
Experiment	Friction Force Tester	Students pull an object across different surfaces to measure how friction affects motion	Toy car, spring scale, sandpaper, carpet, ruler

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Experiment	Plant Power Experiment	Students test how light color or water type affects plant growth	Bean seeds, cups, colored cellophane, ruler, notebook
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