

VROOM, VROOM MACHINES
MATH AND LITERACY KIT

Activity	Environmental Support	Material Adaptations	Simplify the Activity	Child Preferences	Special Equipment/AT	Peer Support	Adult Support
Oral Expression: Sing a song to the tune of “I’ve Been Working on the Railroad”, using different structures to build (tunnels, roads, houses, etc)	Visual (picture or gesture) or auditory cue	Voice output device (ex. talking photo card) for repetitive song phrases	Limit number of structures	Let students choose the next structure in the song	Voice output device and or/picture cards	Peer would assist the child to activate the device	Modeling and visual cue
Vocabulary: Provide opportunities for conversation during dramatic play (use props given – hard hats, tools etc)	Dramatic play materials, verbal direction	Assist with fasteners on dress clothes/accessories as needed	Give a choice between two props	Let student choose the props they want	Use picture of fully dressed student to show end result	Use peers to assist those who need help	Modeling and visual cues
Phonological Awareness: Use picture/word sort to assist in sound/letter discrimination on letter rods	Picture rods	Use PECS pictures instead of picture rods	Limit number of sounds or offer only one sound at a time	Allow student to choose sound	PECS and/or use felt mat as a boundary for a child with a visual impairment	Verbal and/or visual modeling	Modeling and verbal cues
Letter Knowledge: Match upper and lower case letter rods using Count Ten	Count Ten and letter rods	Label each compartment of the Count Ten with the letter to be matched	Limit number of letters to be matched (only use 2-3)	Choose the letter they want to use	Choice board with pointer	Work as teams	Verbal and visual cues
Print/Book Awareness: <i>Busy at Work</i> ; address illustrator, author	Easel for big book; pointer	Interactive story books...characters are manipulatives Create own interactive book	Use a big book version of <i>Busy at Work</i>	Child chooses which truck/ automobile, etc manipulative	Interactive story using Bookworm Cheap Talk so child can	Partner activities	Tell story using interactive book and manipulatives and retell the

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		using Boardmaker Tactile cues to follow text with finger		they want to be	correlate vehicle with its sound		story using Snapshot cards
Written Expression: Practice tracing letters using small vehicles	Visual of letters	Use larger letters and cars for children with motor delays	First letter of child's name Trace simple strokes	Choose letter and/or vehicle	Use black background to create border for workspace for children with visual impairment	Pair students with same letters in name or letters made with straight vs curved lines	Prewrite letters for student or hand-over-hand
Number and Number Sense: Count out vehicles to 20	Use number line 1-20 for 1-1 correspondence	Use adapted sponges instead of manipulatives	Count 1-5	Choose item they are counting	Adapted sponges Communication Board	Divide into teams Have peer roll a die to determine number to count	Hand-over-hand for counting
Computation: Use workbench to compare nails to holes in bench	Workbench with pre-cut holes	Grippers on handle of hammer to make easier to hold	Use fewer nails to start with	Let them choose the color of nail	Visual boundaries	Buddy up	Modeling and visual cues
Measurement: Sort various vehicles by size (big/little)	Various vehicle of differing size and manipulatives	Offer vehicles of significantly differing size	Limit sets...ex big/little only	Choose vehicles to compare	Voice output device, Choice board manipulatives of vehicles for sorting	Allow teamwork	Model which items are big and little... sorting activity to begin with

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Geometry: Find basic shapes around on vehicles (wheels-round, windows - square)	Big book <i>Busy at Work</i>	Give students foam shapes and a model to follow	Give them the a simpler vehicle to make with least number of shapes	Choose vehicle they want to make	Use blocks of different textures (legos, bristle blocks) Software that makes vehicles from shapes	Allow peers to give hints	Modeling and samples of shape vehicles
Data Collection: Chart favorite vehicles (car, train, bus, etc)	Chart board 3-D vehicles	Choice board Using Velcro to attach vehicles to chart	Fewer choices of favorite vehicle		Cheaptalk	Suggestions of types of vehicles Allow peer to graph for motor impaired peers	Models and samples
Patterns and Relationships: Make pattern with vehicles (Which comes next?)	3-D manipulatives	Voice output device with “which comes next”	AB pattern vs ABCD pattern	Choosing the vehicle	Color graphing cards	Verbal prompting	Samples and models
Scientific Investigation, Reasoning and Logic: Sort miniature vehicles	CounTen cartons and miniature vehicles	Use the sorting mat	Reduce the number of vehicles/colors, etc	Allow the child to choose their color preference	Offer color sorting cups	Buddies	Show examples
Force, Motion,	Small magnets,	Use larger cars for	Limit number	Allow	Use magnetic	Allow	Model

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Energy: Find objects that are attracted to magnets	paper clips, metal toy cars, plastic toy cars, wooden cars	children with fine motor delays	of objects to test	children to choose non-magnetic items	mand	children to work with child wearing the same color shirt	“catching” magnetic items
Matter: Shape scavenger hunt in classroom	Foam shapes	Glue pegs onto foam pieces	Only use two shapes	Allow children to direct the hunt	Offer PECS symbol for child to carry during “hunt”	Allow children to hold hands while “hunting”	Give cues (i.e. three sides, three points, four sides, etc.)
Life Processes: Offer large dye-cuts of vehicles and display pictures of the children (one from birth and one current)	Photographs and dye cuts	Use cardstock or posterboard for dye cuts	Revisit the activity throughout the week during circle time, add their name to the picture	Allow child to choose the vehicle they display their photographs on	Talking picture frame	Guess each others baby picture	Provide a model of self photos
Earth/Space Systems: Create shadows and encourage children to label various tools	Opaque projector and toys from kit	Use PECS symbols to represent each tool	Reduce the number of tools presented	Allow child to pick the tool placed on the projector	Use a choice board to allow a child with global delays to participate by selecting the tool and the “buddy”	Allow a buddy to place the object on the projector for the child	Use caution with the projector
Earth Patterns, Cycles, and Change: Build a foundation for a structure using various forms of earth (i.e. clay, dirt,	Forms of earth, hard hats, shovels, play chisels	Use a cake pan so that a child who uses a wheel chair can participate	Allow them to use hands vs. tools	Allow the child to choose the structure we create (i.e. buiding,	Have a choice board programmed for a child who is non-verbal to select the form	Share tools	Provide verbal reminders

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sand, soil, etc.)				house, bridge, etc.)	of earth used		
Resources: Sort paper, metal, and plastic materials into designated buses (bus must be filled before it can leave the garage to head to the recycling center)	Using the story roll ups, label each bus with a picture of paper, metal, and plastic	Back the felt pieces with tag board and Velcro so that they are more firm	Sort only two materials	Allow the child to bring recyclable materials in from home	Use a cheap talk and pre-record “plastic”, “metal”, and “paper”	Allow children to walk around school in teams and find recyclable materials	Supervise “teams”
Similarities and Differences: Retell and act out the story <u>Busy at Work</u>	Dress up materials from kit	Affix a strap to the dress up hats	Use felt pieces to act out the story instead of being physical	Use the talking photo cards (i.e. picture of a child dressed as postman using a related phrase)	Allow children to draw “their part” from a hat	Peer helps dress child	Help with fasteners
Change Over Time: Set up a class museum using a diorama with old tools from long ago and new tools	Old tools, new tools, shoe box (for diorama)	Use a large shoe box that would be easier for manipulation	Use only two tools (one old and one new)	Allow children to bring tools from home	Label tools with PECS symbols	Allow children to buddy up and match old and new tools	Bring tools from your house
Location: Match pictures of community workers and their place of	Pocket chart	Post pictures on tagboard for easier manipulation	Use very common workers (exclude baker,	Engage in dramatic play of roles discussed	Use choice board to match jobs to place of work	Engage in roll play to pretend their given job	Provide job suggestions

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work (i.e. postman/postal truck, banker/bank, etc.)			etc.)				
Descriptive Words: Develop control in using direction words- on, under, over, behind, near, far, above, below, toward and away-one direction at a time.	Story Roll Up and vehicle manipulatives	Use larger cars for children with fine motor delays	Limit number of direction words	Assume role of the teacher and give the directions	Place Velcro tabs in direction word positions as a clue	Create miniature roll ups independently in groups	Give gestural hints
World of Work: Match tools to jobs	Tools and pictures to represent specific jobs	Use real life tools instead of pictures	Use real life tools instead of pictures	They can choose the job they aspire to become	Use a cheap talk that has been pre-programmed to state the job title	One child could dress up as the tool and one could be dressed as the job; find your “match”	Invite workers to the class to talk about their jobs
Making Choices: Choose daily classroom tasks on a transportation bulletin board	Job chart (including names and jobs)	Use large icons	Read the choices aloud	Allow them to choose job	Program a cheap talk to allow a child with motor and speech delays to choose their job	Allow all children to choose their job interacting with the cheap talk	Indicate which job has already been chosen and encouraging them to make their second choice
Citizenship: Cooperate with others in a joint activity by having a	Letters, envelopes, stamps, \$, dress up clothes,	Be sure that the counter top was wheel chair accessible	Create miniature materials to allow this to be	Use the created mini materials throughout	Record a welcome message on a Big Mac for all	Take turns holding different positions in	Supervise transitions and allow all children to

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classroom post office	mailbox, countertop, sorting bins, packages, etc.		more contained	the rest of the year as center choice	to access	the PO setting (i.e. customer, worker, etc.)	hold "jobs"
Skilled Movement: Locomotor and non-locomotor activities: Create a train track on the floor using tape and (a)allow the child to walk along it and (b)allow the child to walk heel-to-toe along it	Tape	Use wide tape	Allow the child to use a hand-held support	Let the children choose a song to be played during this activity	Use colored tape to allow a child with visual impairments to better see the contrast	Allow the children to offer and hand held support	Offer hand support and a model
Movement Concepts: Allow the children to explore the Gears! manipulatives and discuss various directions (to the right, to the left, clock-wise, counter clock-wise)	Gears! toys and switches	Provide an elevated workspace for a child who uses a wheelchair	Offer less pieces than the kit contains	Allow the child to choose the color gears they want to work with	Use the Gears! power motor accessory kit	Allow children to select this activity as a center choice	Offer a model
Personal Fitness: Allow children to move as vehicles (i.e. car speed, motorcycle speed, etc.) and monitor	Pictures representing the vehicles	Scooter board	Verbally present vehicle children are supposed to imitate	Let the child pick a card that will indicate what vehicle everyone	Record vehicle sounds and let children move to the recorded sounds	Help push children in wheelchair to move with the rest of the class	Give examples

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their breathing rate after				will imitate			
Responsible Behaviors: Share equipment and space, and take turns with help from the teacher	Gears! and Gears! motor kit	Use picture cues when giving color directions	Use only 2 colors	Have pictures of previously made machines and let them vote on the machine the class makes in a group	Use the Gears! power motor accessory kit	Allow children to appoint who gets to choose next piece	Choose names from a hat to appoint who gets to choose next piece
Physically Active Lifestyle: (Follow up from “Personal Fitness” activity) Listen to heart rates using a stethoscope and discuss healthy heart rates	Stethoscopes	Use your hand to represent heart rate on the hand of a child with hearing impairments	Use your hand to represent it for all children	Let them choose the activity they will use to use their heart rate	Have cheap talk programmed with pictures and the word of the vehicles that they will use to raise their heart rate	Let them listen to their partners heart rate	Offer the opportunity for the children to hear what they will be listening in the stethoscope for from a sound machine
Self-Concept: Demonstrate the knowledge of their bus number and knowledge of bus position in the line up	Pre cut buses with their numbers on it	Outline their bus number in puffy paint for a tactile experience	Provide answer within question. “You ride bus 50. What bus do you ride?”	Allow child to pick the color of the puffy paint they use	Use the talking proto frame and pre-program it to state the child’s bus #	Allow the children to walk together if they ride the same bus	Provide a list with graphics detailing what the child rides to and from

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Social Problem-Solving: Create a poster including the rules for appropriate bus behavior	Posterboard, markers, pictures/stickers to represent rules	Use foam stickers making it a tactile experience	Limit number of rules	Allow each child to state a rule	Give beginning sound cues to probe new rules (/q/ to encourage children to say “quiet voices”)	Give verbal support to peers as they come up with a new rule	Prompt the children to encourage their peers in appropriate ways