

STEM activities with Children's Books

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Theme/Hook	Activity	Question(s)	Resources	Book
Shake it Up	ziploc ice cream	How long will it take the ingredients to form ice cream? How many shakes until ice cream forms?	https://www.sciencebuddies.org/stem-activities/ice-cream-bag	From Cow to Ice Cream
Don't Crack Up	Egg protectors	The school cook keeps dropping eggs when he brings them from the refrigerator to the stove. How can we make a protection device to save the eggs?	http://www.sciencekids.co.nz/projects/eggdrop.html	Who Pushed Humpty Dumpty
Burn it Up	Solar Ovens	The power is out and we need to cook hotdogs for the class. How can you cook them using the sun?	http://www.education.com/science-fair/article/design-solar-cooker/	We Need the Sun
Heat	Melted crayon Art	Which heat source would get hot enough to melt crayons and form crayon art? Materials: flashlight, hotplate, hair dryer, halogen lamp	http://www.instructables.com/id/Melted-Crayon-Art/	My crayons talk
Make It	Maker	What is something you need to live a better life? How can you transform materials into new devices?	http://www.makershed.com/collections/beginner	You wouldn't want to live without fire
What do Cheeseballs and Your	blowing cheeseballs	How can you move the cheeseball to the target using wind power?	http://www.sciencebuddies.org/science-fair-projects/project_ideas/Aero_p039.shtml	Woosh Said The Wind

Breath have to do with Science				
Bloxels	Make a video game	How can you design a video game to teach others about a major event in history?	https://edu.bloxelsbuilder.com/	Who Invented Home Video Games
Towering Over You	Marshmallow Towers	Your challenge is to build the tallest marshmallow FREE standing tower. What is your plan? How successful were you?	http://knowitall.scetv.org/careerisle/resources/related/ccjan10/Marshmallow%20Tower%20Activity.pdf Timelapse Video building a skyscraper	Skyscraper
OOOO yuck	oobleck	What happens when you combine the ingredients? Why? Can you make a similar non Newtonian liquid with other household items?	http://www.livescience.com/21536-oobleck-recipe.html	Bartholomew and the Oobleck
Blast off	Alka Seltzer rockets	What happens when you combine alka seltzer and water? How can you make the rocket go farther?	https://www.alkaseltzer.com/science-experiments/rockets/	Zoom Rocket Zoom
Can you hear me now	Making a record player	How would you make sound come from the record, without a record player?	http://turntable-dj.wonderhowto.com/how-to/make-your-own-homemade-record-player-175535/	Ah, Music
It's In The Stars	marshmallow constellations	Why do the stars form patterns?	http://www.kcedventures.com/blog/astronomy-activities-for-kids-books-about-the-stars	Our Stars
Will it melt?	gummy bear science and math	Will different liquids affect the size, shape, and feel of gummy bears?	http://tinkerlab.com/incredible-growing-gummy-bears/	Gummy bear counting book
Don't sink the	making boats	How can you make a floating	https://docs.google.com/docume	Monster Ships

boat!	-test with pennies, marbles, paper clips	vessel? How many items will the vessel hold until it sinks?	nt/d/1bmllcuJR9_z9m3g3DNcGsyL29ADcmESaVMB-Gm9rKTY/edit?usp=sharing	Floating and Sinking by Amy S Hansen (Eng/Span)
Will it fly?	straw airplanes	How can you create a flying object using a straw, tape, and paper?	http://sciencebob.com/the-incredible-hoop-glider/	Tell me why planes have wings
Crystals	borax crystals	What reactions in the ingredients cause crystals to grow?	http://chemistry.about.com/od/growingcrystals/	Growing Crystals
Don't Let it Fall	Math Jenga	What blocks will be removed that will make the tower still stand?	http://www.minds-in-bloom.com/2011/09/free-jenga-multiplication-and-addition.html	The Man Who Walked Between Towers
Roar!	Coding	What commands will make the dinosaur move and complete the tasks?	Daisy the Dinosaur APP https://itunes.apple.com/us/app/daisy-the-dinosaur/id490514278?mt=8	Dinosaurumpus
Roll it	Picasso painting with math	What number is most likely and least likely to be rolled?	https://www.nsa.gov/academia/files/collected_learning/elementary/arithmetic/place_value_and_picasso.pdf	Picasso Loves Shapes by Judiee Lee
Mola!	Mola Art with shapes	How can you use color and depth to create art?	http://kidworldcitizen.org/2012/01/01/create-a-mola-folk-art-from-panama/	Biblioburro
Seuss-tacular	Math with Dr Seuss	What math skills are you the best at?	https://www.teachjunkie.com/holidays/6-dr-seuss-inspired-math-activities-free-download/ online games: http://pbskids.org/catinthehat/games/math-safari.html	One Fish, Two Fish
an inch or	measuring with	How does measuring with non	http://www.pbs.org/parents/adve	How Big Is A

more?	nonstandard measurement	standard instruments cause a problem?	ntures-in-learning/2014/07/measuring-kids-steps/ video: http://pbskids.org/video/?guid=46479480-05d4-4374-a39a-9e8c4a522168 https://www.bonbonbreak.com/measuring-and-estimating-with-candy-hearts/	Foot Me and the Measure of Things Inchworm and a half by Elinor Pinczes
Did you hear that?	echolocation	How do your senses affect other senses?	blindfold bean bag toss http://preschoolpowolpackets.blogspot.com/2015/10/bat-science-experiments-echolocation.html	Nightsong
Do you smell that?	smell	What smells are easiest to identify? If you close your eyes, what happens to your sense of smell?	hidden smells http://www.education.com/activity/article/your_nose_knows_kindergarten/	David Smells
Do you see that?	Numbers at our school movie	What numbers do you see most?	http://www.scholastic.com/teachers/lesson-plan/movie-making-classroom APPs: PerfectVideo, PicCollage	Hidden Alphabet City 123
picture this!	Picture books	How can you create a book using technology?	poster making with APPs: phonto, pic collage http://www.scholastic.com/teachers/lesson-plan/100-ways-use-digital-cameras	Click! A Book about Cameras and Taking Pictures
How far is it?	planets	How far away are planets from the sun? What does that mean for the planet?	http://www.kidsastronomy.com/the_planets.htm https://www.jpl.nasa.gov/edu/teach/activity/solar-system-bead-activity/	Every Planet has a place

Are you a lump of clay?	claymation	How can you create a movie using clay?	http://www.tech4learning.com/userfiles/file/pdfs/Frames/Making_Claymation_in_the_Classroom.pdf	Action! Making Movies (Time for Kids)
Can you dig it?	Recycling and planting	How can you recycle an egg carton into a planter?	https://dengarden.com/gardenin/g/Growing-Seeds-in-an-Egg-Carton	Ten Magic Butterflies by Danica McKeller
Animal farm!	Creating animal masks and acting out the story	How can we recreate the story and act it out? How can we add math to our recreation?	https://www.firstpalette.com/craft/printable-animal-masks.html	La gallina grande/Big Fat Hen bilingual board book by Keith Baker
Puppet time!	Make paper bag puppets or finger puppets of all the characters and act out the story	How many animals are on the farm?	https://iheartcraftythings.com/20-paper-bag-animal-crafts-for-kids.html	Vamos de visita/Let's Go Visiting (bilingual board book) by Sue Williams
Skip two!	Make fingerprint animals Make two of each and count by twos	How can we use our fingerprints to make an animal? How do you count by twos?	Finger print animals https://www.pinterest.com/pin/810366526682796298/	Dos en el zoológico/Two at the Zoo bilingual board book by Danna Smith
Somethings fishy!	Create a jello aquarium with gummy fish and sharks	How can we create a fish scene using food?	https://www.myfoodandfamily.com/recipe/051476/aquarium-cups	Fish Eyes by Lois Ehlert
Quack?	Create duck masks, use duck calls/kazoo, act out the book	How can we make the call of a duck?	https://www.todaysparent.com/family/crafts/how-to-make-a-kazoo-out-of-a-toilet-paper-roll/ https://www.youtube.com/watch?v=ISm28HoATPQ duck mask	Quack and Count by Keith Baker

Balance This!	Create a balance and weigh items	How can we find out if things weigh the same if we don't have a scale?	https://www.wikihow.com/Make-a-Balance-Scale-for-Kids https://docs.google.com/document/d/1YeFY1ugNxjdlDfxbUCO0w_I7PunKLSEFRD1lojE-0Fw/edit?usp=sharing	Just a Little Bit by Ann Tompert Me and the Measure of Things
Can you cross it?	Build a bridge with craft sticks and cups that can hold 10 circus animals or other items	How can we create a bridge strong enough to carry elephants?	https://www.instructables.com/id/Popsicle-Stick-Bridge/	21 Elephants by April Jones Pop's Bridge by Eve Bunting
Flip it, Tally it, and Graph it	Keep track of data and create a bar graph using legos	How can we record and display our data?	https://docs.google.com/document/d/1znaPoT7X47_xOwa3Szhn0EGaYm2GQedh-33NQdQZc/edit?usp=sharing https://www.science-sparks.com/lego-bar-charts/	Tally O'Malley by Stuart J Murphy Let's Make a Bar Graph by Robin Nelson Let's Make a Tally CHart by Robin Nelson The Great Graph Contest by Loreen Leedy
How far can you fly?	Create 3 different kinds of plane, Fly, and measure distance	What kind of plane will fly the farthest? Why?	Create three types of airplanes: copy paper, construction paper/cardstock, foam airplane kit -Test each plane -Use a ruler or measuring tape to measure the distance flown https://www.scientificamerican.com/article/bring-science-home-p	Keep Your Distance by Gail Herman Sam's Sneaker Squares by Nat Gabriel (English and Spanish)

			aper-planes-drag/	
Where is it?	Create an animal camouflaged in the wild.	How can animals hide from predators or prey? What techniques do they use?	https://www.incredibleart.org/files/Jan-handcamouflage.htm Camouflage song Chameleon video	Where in the Wild? By David Schwartz
Toss it over here!	Make a catapult	How can you create a catapult that will move an object to the target?	https://littlebinsforlittlehands.com/popsicle-stick-catapult-kids-stem-activity/ History of catapults video	The Art of the Catapult by William Gurstelle
Mix it Up	Create new color combinations	How can you create different and new colors by mixing together existing colors? What names would you give the new colors?	https://busytoddler.com/2019/03/mixing-colors/ Video link for Mix It Up https://www.youtube.com/watch?v=lwfZvRuE7s8	Mix It Up by Herve' Tullet
				Iggy Peck Architect
				STEAM Stories: The Backyard Build
				On the Scale, a Weighty Tale (Math Is CAtegor...(Kindle Edition)

				by Brian P. Cleary, Brian Gable
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