

Maker



Space

LEGO Kit #12

LEGO Kit #9 - 12

| | | |
|------------------|--|--|
| Books | <i>The Unofficial LEGO Builder's Guide</i> | |
| | <i>The Lego Build-It Book: Amazing Vehicles</i> | <i>The Lego Neighborhood Book: Build Your Own Town!</i> |
| | <i>The Lego Adventure Book: Cars, Castles, Dinosaurs, & More (1)</i> | <i>The Lego Adventure Book: Spaceships, Pirates, Dragons & More! (2)</i> |
| Supplies | (2) 10" Square Green Plates | (1) 10" Square Blue Plate |
| | (1) 11" x 15" Gray Plate | (1) 3" x 15" Gray Plate |
| | 1 Lay-n-Go Bag/Play Mat | Approximately 5,000 LEGO Pieces |
| Documents | Check-out & Return Procedures | Inventory List |
| | Program Activities & Ideas | 40 Developmental Assets for Teens |

Maker

Space
LEGO Kit #12

Maker Kit

Check-Out & Return Procedures

- An Inventory List is included. Check before and after use.
- If kit is incomplete, please e-mail or call Melendra Sanders at msanders@nckls.org or 1-800-432-2796 ext. 143.
- Loan period: **2 months**
- Kits will be sent, and can be returned, via courier.
- For those libraries not on courier, transportation can be arranged through the rotating book van. However, since the check-out period is for 1 month, either pick-up or return will be the responsibility of the library.
- Partial kits will not be checked out. Even if you are only utilizing a portion of the kit, the kit will remain as a unit.
- If you have created an activity that goes with the theme, please include a description (and photograph if possible) when sending back the kit. In this way, ideas are shared and everyone benefits. Ideas and activities can be added directly to the folder.
- All copying of activity sheets is the responsibility of the library.
- Copies can be made of all program materials to fill patron requests.
- If you have suggestions on how to improve this service, please share your thoughts with NCKLS.
- Excessive damage to the kit will be the responsibility of the library.
- **Please fill out the evaluation form before sending back.**
- Return all items to the original boxes before packing materials.
- Secure lid to bin using the plastic ties included in folder.
- Do not add packing material to the bins.
- If you have suggestions on how to improve this service, please share your thoughts with NCKLS.
- If you have any questions or concerns, e-mail or call Melendra at msanders@nckls.org or 1-800-432-2796 ext. 143.

Program Activities & Ideas

Maker

Space
LEGO Kit #12

Using a LEGO kit can be a very simple program where you open the Lay-n-Go play mat and give patrons free reign to build anything they want to with the LEGOs. The two books included in each of the LEGO Kits offer ideas and inspiration for builders, but please be aware that the LEGOs in the kit are not from a set and do not match the ideas in the books included.

Or, for a more structured LEGO event, there are many LEGO Challenges included below, as well as some ideas for adding STEM programming to a LEGO event.

If patrons begin to fight over mini-figures, consider adopting this advice from Kelly at the **Youth Services Shout-Out-YSS! blog**, "I pass out two mini-figures to each child when they arrive. They can switch with me or each other."

51 LEGO Quest Challenges

Quest #1 - Create a LEGO Car: This can be simple or extremely complex, it's up to you. The only real rule is that it has to be custom built: your own creation, not a pre-designed one.

(See what others have made: <http://legoquestkids.blogspot.ca/2010/01/1-car-creations.html>)

Quest #2 - Monochromatic: Pick a color, any color, and use only that color of LEGO. Build anything. The sky is the limit. A structure, a sculpture, functional, non-functional, anything at all, but you can only use one color!

(See what others have made: <http://legoquestkids.blogspot.ca/2010/02/2-monochromatic-creations.html>)

Quest #3 - Design a vessel: Here is the definition of the word vessel.

1. a craft for traveling on water, now usually one larger than an ordinary rowboat; a ship or boat.
2. an airship.
3. a hollow or concave utensil, as a cup, bowl, pitcher, or vase, used for holding liquids or other contents.
4. Anatomy, Zoology. a tube or duct, as an artery or vein, containing or conveying blood or some other body fluid.
5. Botany. a duct formed in the xylem, composed of connected cells that have lost their intervening partitions, that conducts water and mineral nutrients. Compare tracheid.
6. a person regarded as a holder or receiver of something, esp. something nonmaterial: a vessel of grace; a vessel of wrath.

Maker

Space
LEGO Kit #12

(See what others have made: <http://legoquestkids.blogspot.ca/2010/02/3-vessel-creations.html>)

Quest #4 - Two dimensional design: Two dimensional is having only the dimensions of height and width, like a square. Three dimensional is having height, width and depth, like a cube. This can be almost anything. It can be a representation of an object, a piece of artwork (realistic or abstract), a mosaic, a color study, a picture from your favorite book?

The idea is to keep it flat. Pretend like you are drawing or painting or taking a photograph, but try to create it out of LEGO.

(See what others have made: <http://legoquestkids.blogspot.ca/2010/02/quest-4-two-dimensional-photos.html>)

Quest #5 - Design a tool: This can be something that already exists in the tool world, or it can be an invented tool for a particular job that you have in mind. This can be very simple or extremely complex, it's up to you. Maybe even think about some of the first tools ever invented by man or animal to serve them.

Here is the definition of the word tool:

1. an implement, esp. one held in a hand, as a hammer, saw, or file, for performing or facilitating mechanical operations.
2. any instrument of manual operation.
3. the cutting or machining part of a lathe, planer, drill, or similar machine.
4. the machine itself, a machine tool.
5. anything used as a means of accomplishing a task or purpose: Education is a tool for success.
6. a person manipulated by another for the latter's own end; cat's-paw.
7. a means to an end, (a book cover can be a marketing tool). **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2010/02/quest-5-tool-photos.html>)

Quest #6 - Design a creature: A creature is a living organism, generally the non-human kind. Insects, bugs, birds, animals, sea creatures, plants, fungus, micro-organisms, maybe even other worldly? This creature can be something that already exists, or it can be something that you have just discovered. It can live on Earth, or a different planet. Think about the creature's habitat—the environment in which it lives. Describe the creature; give it a name, think about what it eats, where it sleeps, etc. **(STEM Activity)**

Maker

Space
LEGO Kit #12

(See what others have made: <http://legoquestkids.blogspot.ca/2010/03/quest-6-creature-photos.html>)

Quest #7 – Collaboration: Work together with someone or maybe even your whole family on a joint project. For example, if you are at the library by yourself, you can work together with someone else at the program. Or get your parent involved.

What you decide to build is totally up to you and the person/people you are working with. Anything goes as long as it's built with LEGO and it is an original design.

Sometimes working together can be difficult, because everyone can have different ideas of what the final design is going to look like. Often times, working with other people on a creation can bring your design to new, greater places, places you wouldn't have found if you were doing it alone.

(See what others have made: <http://legoquestkids.blogspot.ca/2010/03/quest-7-collaboration-photos.html>)

Quest #8 - Your Favorite Book: This week's challenge is to create something from your favorite book. You can design anything you like from this book, like a character, an object, a scene, a design, or even a feeling. It can be directly inspired by the colorful pages of a picture book. Or it can come from deep in your imagination influenced by your favorite novel.

What is the name of the book you are getting your inspiration from and the author who wrote it. And of course, what you are calling this creation and perhaps something about it that tells a little of the story in which it came. Your creation might make others want to read the same book!

(See what others have made: <http://legoquestkids.blogspot.ca/2010/03/quest-8-your-favorite-book-photos.html>)

Quest #9 - Maximum Height: What I am looking for is a vertical structure that is standing alone, without anything supporting it. Once you are happy with the height of your creation, we'll measure it to see how high it is. Sometimes structures built for height need to be wider than just one LEGO brick. You might think about how easily it would fall over if it was really thin, and how stable it is when you use a wider base. **(STEM Activity)**

Maker

Space
LEGO Kit #12

(See what others have made: <http://legoquestkids.blogspot.ca/2010/03/quest-9-maximum-height-photos.html>)

Quest #10 – Spring: Spring is the transition period between winter and summer. It is seen as a time of growth, renewal and new life for both plants and animals. The axis of the Earth is increasing its tilt towards the sun, which warms the Earth and causes new plant growth. What does spring mean to you? Create something out of LEGO that reminds you of spring.

(See what others have made: <http://legoquestkids.blogspot.ca/2010/04/quest-10-spring-photos.html>)

Quest #11 – Shadow: Build something, or a number of things, that you think would cast a great shadow. Bring your creation to the spotlight. Observe the shadow it casts. Move it around until it makes the shadow you like best. Notice how the shadow changes when it is cast on a wall, compared to the floor. Take a picture of only the shadow. **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2010/04/quest-11-shadow-photos.html>)

Quest #12 - Mixed Media: Mixed Media means to combine one or more, other objects or art mediums with your LEGO creation. Your creation can be anything you like. Often an unusual, seemingly unrelated combination of materials works best.

Here is a list to get your creative juices flowing;

| | | |
|------------------|-----------|---------|
| Beads | Glue | Plastic |
| Cardboard | Ice | Sand |
| Clay | Jewels | Stone |
| Drawings | Marbles | Wax |
| Edible materials | Metal | Wire |
| Found objects | Paintings | Wood |
| Fabric | Paper | |

(See what others have made: <http://legoquestkids.blogspot.ca/2010/04/quest-12-mixed-media-photos.html>)

Quest #13 - April 22nd is Earth Day: What does Earth Day mean to you? Create something that reflects your ideas about Earth Day. It might be something that is inspired by the list below, or it might be some sort of invention that helps the Earth in a certain way?

Maker

Space
LEGO Kit #12

Here is a list of words that remind me of Earth Day, you may have other words that inspire your creation:

| | | |
|----------------------------|---------------------|------------|
| Recycling | Global Warming | Landfills |
| Wilderness | Clean Energy | Litter |
| Protect Animals & Wildlife | Pollution | Oceans |
| Deteriorating environment | Habitat Destruction | Oxygen |
| Oil Spills | Bees | Preserve |
| Power Plants | Trees | Rainforest |
| Pesticides | Ecosystem | Reuse |

What inspired your creation, or what function does it have that relates to our Earth.

(See what others have made: <http://legoquestkids.blogspot.ca/2010/04/quest-13-earth-day-photos.html>)

Quest #14 - Ancient Monument: An Ancient monument is an early historical structure worthy of preservation. There are Ancient Monuments found all over the world. Be sure to tell us which Ancient Monument you were inspired by and why. Where this monument exists in the world and anything else you'd like to add about your creation.

(See what others have created: <http://legoquestkids.blogspot.ca/2010/05/quest-14-ancient-monument-photos.html>)

Quest #15 – Kinetic: Kinetic means motion. Create something that has one or more moving parts. It can move by a person manipulating it (a hand crank for example), by wind (like a windmill), by water (like a watermill), in a delicate balance like a mobile. These are just a few ideas, there are many other ways an object can be kinetic. How can you create something that can move or has moving parts? **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2010/05/quest-15-kinetic-photos.html>)

Quest #16 - Bird House: Spring is in full force and the birds are hard at work building their nests and making homes for their families. You can create a bird house that you have seen before and are inspired by, or you can invent your own.

Maker

Space
LEGO Kit #12

How about constructing a bird house that you would want to live in if you were a bird! Think about what kind of bird lives in this house and the sounds that it makes, and even where in the world this bird lives.

(See what others have made: <http://legoquestkids.blogspot.ca/2010/05/quest-16-bird-house-photos.html>)

Quest #17 – Metamorphosis: Can you show Metamorphosis in action with LEGOs? Transform your design into another in as many or as few stages as you want. An idea to start your creative process might be to make two objects; the first stage, and the last stage of metamorphosis. Then design an object that has elements of both in it, to show the in-between stage. This can represent an actual living thing, or it can be a totally invented entity. **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2010/05/quest-17-metamorphosis-photos.html>)

Quest #18 – Flags: What is your favorite flag? Is it a flag of a country, a state, a province, a city or a town? Or is it one you've invented? Create this flag design (you could use a 2-dimensional mosaic approach), or use the color or design of the flag to inspire you in any number of ways.

Check out this site: <http://www.worldatlas.com/webimage/flags/flagcnty.htm>. They have images of all the country flags of the world.

(See what others have made: <http://legoquestkids.blogspot.ca/2010/06/quest-18-flags-photos.html>)

Quest #19 - Wrapped Object: Create anything you like out of LEGO and wrap it with some other material so no portion of the LEGO is showing.

Is there a sense of mystery about what the wrapping conceals, or is the object easily recognizable? Some ideas of materials that you could use to wrap with, but looking forward to see what you use that may not be on this list;

| | | |
|--------|--------------|---------------|
| string | tape | aluminum foil |
| lace | cloth | play-doh |
| yarn | plastic wrap | band aids |

(See what others have made: <http://legoquestkids.blogspot.ca/2010/06/quest-19-wrapped-object-photos.html>)

Maker

Space
LEGO Kit #12

Quest #20 - Repair or Replace: What can you repair or replace with LEGO? Look around your environment for things that are broken, or missing a part and see if you can 'fix' or 'substitute' with LEGO. Can you improve or modify something to personalize it, or make it look or work more the way you want it to. It might be a handle, tool, fence, bike part, toy, kitchen gadget, baseboard, chair leg, you name it. **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2010/06/quest-20-repair-or-replace-photo.html>)

Quest #21 – Buoyancy: Can you create a marine vessel out of LEGO that floats? You may need to experiment with several designs until you create one that works the way you want it to.

Bring your vessel to the water table and test it out! If you would like to take this a step further, you can place heavier objects like marbles or coins in your boat to see how many it can hold before it sinks. **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2010/06/buoyancy-photos.html>)

Quest #22 - Display Your Art: Can you design something out of LEGO that will display your own art? You may want to look around the house and see if you have some of your artwork already done and ready to be displayed, or you might want to make something new: a drawing, a painting, even a sculpture. Your LEGO creation may be a traditional picture frame, or it might be something quite elaborate and unexpected. Your frame may have hinges on it, to open it up like in a diptych or triptych. You might want to make a plinth to showcase a sculpture you've made.

(See what others have made: <http://legoquestkids.blogspot.ca/2010/07/display-your-art-photos.html>)

Quest #23 – Cityscape: A cityscape is the urban equivalent of a landscape. Design a cityscape out of LEGO. It can be a city or town that you know, or a mysterious, made up place. **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2010/07/cityscape-photos.html>)

Maker

Space
LEGO Kit #12

Quest #24 – Illumination: What effect does light have on your LEGO creation? Create anything you like, but think about how you will illuminate this design. Does it glow in the dark? Is there a light source inside the structure, so it has internal warmth, like a house? Are you lighting your creation like it's a fine piece of artwork? Are you decorating your creation with lights? What did you do to illuminate your creation and why?

(See what others have made: <http://legoquestkids.blogspot.ca/2010/08/illumination-photos.html>)

Quest #25 – Bridge: Can you construct a bridge out of LEGO? Your bridge may connect two structures; it might provide passage over a river or roadway. It might be scaffolding, a catwalk, a gangplank an arch, even a branch. The idea is, it reaches/spans/extends a distance.

Experiment with how long you can make this extension, while still keeping it stable. Also, try to see if your bridge can hold any weight. You can use coins, cars, LEGO men, whatever you like to place on your bridge to see if they can be held up. **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2010/09/bridge-photos.html>)

Quest #26 – Playground: What would a playground look like if you build it? Would it be simple and full of trees and rocks to climb, connecting you with nature? Or would it be an ultra-modern urban design and feel more like you're going to the fair? Create your own recreation area out of LEGO. Feel free to add other materials to make your creation more interesting.

(See what others have made: <http://legoquestkids.blogspot.ca/2010/09/playground-photos.html>)

Quest #27 – Archeology: We learn a lot about past societies and the development of the human race from unearthing the stuff they have left behind. Create an archaeological object, scene or both out of LEGO. It might be an artifact, a biofact, or a complete excavation scene. Your archeology creation can be based on fact or fiction. Think about your dig site, or your object. Where was it found, and what does it tell you about the ancient people that left it behind?

(See what others have made: <http://legoquestkids.blogspot.ca/2010/10/archeology-photos.html>)

Quest #28 – Halloween: When you think about Halloween, what comes to mind? Make something out of LEGO that reminds you of Halloween.

Maker

Space
LEGO Kit #12

(See what others have made: <http://legoquestkids.blogspot.ca/2010/10/halloween-photos.html>)

Quest #29 - 2 Cups of Random Bricks: Take a measuring cup and fill it with 2 cups of random LEGO bricks. Please, no choosing pieces, just scoop them out. What you get, is what you get.

Create anything you like out of this amount of bricks. The idea is that everyone will have the same volume of pieces to work with. Can you create a design that is representational? Can you make it look like something? With this random selection of bricks, try to create something. Do it a few times. Choose your favorite construction. Did the design come to you before you started building, or did the object appear before your eyes as you were working?

(See what others have made: <http://legoquestkids.blogspot.ca/2010/11/2-cups-of-random-bricks-photos.html>)

Quest #30 – Map: Can you create a map out of LEGO? A map is a drawing, outline, picture, plan, design, or composition, which is used to visually represent an area of the earth. Maps of the world show us territorial borders (countries, cities, towns) or geological features such as mountains, forests, deserts, soil types, fault lines, oceans, and rivers. This map can be representative of a real place, or it can be something from your imagination. What is the place you created and what are some of the features on your maps. **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2010/11/map-photos.html>)

Quest #31 – Holiday Scene: Create a scene or object out of LEGO that reminds you of how your family celebrates the holidays. Is there something special that your family does, or any traditions that are repeated year after year that make the holidays festive?

(See what others have made: <http://legoquestkids.blogspot.ca/2010/12/holiday-scene-photos.html>)

Quest #32 – Coral Reef: A Coral reef is an underwater structure that is made up of colonies of tiny living animals. They are often referred to as the rainforests of the ocean. Can you create this diverse ecosystem out of LEGO? **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2011/01/coral-reef-photos.html>)

Maker

Space
LEGO Kit #12

Quest #33 – Favorite Song: What is your favorite song or piece of music? Can you create something out of LEGO that reminds you of this song?

(See what others have made: <http://legoquestkids.blogspot.ca/2011/01/favorite-song-photos.html>)

Quest #34 – 30 Pieces: For this challenge, everyone will be using the exact same LEGO pieces. 30 of them to be exact, (color does not matter). Build whatever you like out of these bricks.

Here is what you will need: (refer to photo from left to right)

| | |
|---------------------|---------------|
| 5 - round plate 1x1 | 5 - brick 2x2 |
| 5 - brick 1x1 | 5 - brick 2x3 |
| 5 - brick 1x2 | 5 - brick 2x4 |

(See what others have made: <http://legoquestkids.blogspot.ca/2011/02/30-pieces-photos.html>)

Quest #35 – Maze or Labyrinth: Design a complex, confusing series of pathways out of LEGO, otherwise known as a maze or labyrinth.

(See what others have made: <http://legoquestkids.blogspot.ca/2011/03/maze-or-labyrinth-photos.html>)

Quest #36 – Food: Make your favorite food out of LEGO. It can be a single food item or a whole meal. I use the word food loosely, basically anything you eat.

(See what others have made: <http://legoquestkids.blogspot.ca/2011/03/food-photos.html>)

Quest #37 - Natural Disasters: Can you create a natural disaster scene out of LEGO? A natural disaster is any event or force of nature that has catastrophic consequences.

Here is a list of natural disasters to give you a few ideas, but you need not stick to this list.

| | | |
|-------------|-------------|------------------|
| Avalanche | Forest Fire | Landslide |
| Blizzard | Floods | Limnic Eruptions |
| Cyclone | Hurricane | Lightning |
| Drought | Hail Storm | Meteoroid Impact |
| Earth Quake | Ice Storm | Mudslide |

Maker

Space
LEGO Kit #12

Solar Flare
 Tsunami
 Tornado

Typhoon
 Tropical Storm
 Thunderstorms

Volcanic Eruptions
 Winter Storms
 Wild Fires

(See what others have made: <http://legoquestkids.blogspot.ca/2011/03/natural-disasters-photos.html>)

Quest #38 – Wearable LEGO: Create something out of LEGO that you can wear.

(See what others have made: <http://legoquestkids.blogspot.ca/2011/04/wearable-lego-photos.html>)

Quest #39 – Occupation: What would you like to do when you're older? How do you imagine yourself spending your days? Create the job of your dreams out of LEGO.

(See what others have made: <http://legoquestkids.blogspot.ca/2011/04/occupation-photos.html>)

Quest #40 – Country: What is your favorite country? Create something out of LEGO that reminds you of a particular country. It can be anything at all. Here are some ideas to get you started: the flag of a country, a food from a country, an animal from a country, the shape of a country from a map, an event that happened in a particular country.

(See what others have made: <http://legoquestkids.blogspot.ca/2011/05/country-photos.html>)

Quest #41 - Create a garden out of LEGO. A garden is a planned space, usually outdoors, set aside for the display, cultivation, and enjoyment of plants and other forms of nature.

A garden can be the typical plot used for growing vegetables, or it can be something a little less traditional, like:

| | | |
|-------------------|--------------------|--------------------|
| botanical garden | green wall | roof garden |
| butterfly garden | farm | sensory garden |
| cold frame garden | forest garden | square foot garden |
| community garden | hydroponic garden | window box garden |
| container garden | rain garden | xerogarden |
| cottage garden | raised bed garden | Zen garden |
| greenhouse | Renaissance garden | zoological garden |

Maker

Space
LEGO Kit #12

(See what others have made: <http://legoquestkids.blogspot.ca/2011/05/garden-photos.html>)

Quest #42 – Aircraft: Design a custom made aircraft. This can be simple or extremely complex, it's up to you.

(See what others have made: <http://legoquestkids.blogspot.ca/2011/09/aircraft-photos.html>)

Quest #43 - 2x2 Bricks Only: Grab as many or as few 2x2 bricks and create anything you like. The only rule of this challenge is to use only 2x2 bricks.

(See what others have made: <http://legoquestkids.blogspot.ca/2011/10/2x2-bricks-only-photos.html>)

Quest #44 – Surrealism: Create anything out of LEGO (an object or a scene) that has elements of surrealism to it. Surrealist creations could have: elements of surprise, unexpected juxtaposition, dream-like or nightmare-ish, something that couldn't happen or exist in real life, imaginary creatures or real life creature shown in unnatural ways.

(See what others have made: <http://legoquestkids.blogspot.ca/2011/11/surrealism-photos.html>)

Quest #45 - Self Portrait: Create a self-portrait out of LEGO. It can be a group of objects that tell a story of who you are. It can be a 2 dimensional picture of you. It can be a miniature 3 dimensional model of you. Or anything else you think would represent your self-portrait.

(See what others have made: <http://legoquestkids.blogspot.ca/2011/12/self-portrait-photos.html>)

Quest #46 - Modern Marvels of Engineering: Create a modern man made engineering marvel out of LEGO!

Here are some ideas to get you started;

| | | |
|-------------|---------------|------------------|
| Bridges | Satellites | Pumping Stations |
| Dams | Cranes | Pipelines |
| Buildings | Motorways | Stadiums |
| Boats | Tunnels | |
| Space Ships | Tide Barriers | |

Maker

Space
LEGO Kit #12

Please take some time to research Modern Marvels of Engineering, so you can create something you've discovered. **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2012/01/modern-marvels-of-engineering-photos.html>)

Quest #47 - Micro-Scale: Almost all LEGO creations are miniature or Micro-Scale. But in general, models that are smaller than minifig-scale are Micro-Scale. The cool thing about building in Micro-Scale is that you don't need a huge amount of LEGO to build something really interesting. Remember, this design needs to be smaller than normal LEGO arrangements. Just think as small as you can!

(See what others have made: <http://legoquestkids.blogspot.ca/2012/02/mirco-scale-photos.html>)

Quest #48 – Functional: Build an object out of LEGO that is a useful household object.

(See what others have made: <http://legoquestkids.blogspot.ca/2012/03/functional-photos.html>)

Quest #49 – Growing: Can you design something out of LEGO and make it look as if it were growing from a real tree, or sprouting up out of the ground? Create an object, and then install this design in nature. Go out and tie it to a tree branch, or have it growing from the ground. Now's your chance to have anything you want growing on trees! What do you wish grew on trees or out of the ground?

(See what others have made: <http://legoquestkids.blogspot.ca/2012/04/growing-photos.html>)

Quest #50 - Macro Scale: Look through all your LEGO pieces, and choose just one. Take that single piece and make a replica of it using as many LEGO pieces as you want. The goal in the end is to have a larger scale version of the original piece. Important note, please place the original small LEGO piece next to your new Macro Scale creation, so everyone can see the two together, the size difference and how closely they resemble each other. **(STEM Activity)**

(See what others have made: <http://legoquestkids.blogspot.ca/2012/05/macro-scale-photos.html>)

Maker

Space
LEGO Kit #12

Quest #51 - Olympic Event: What is your favorite Olympic event to watch? Create your favorite Olympic moment or sport out of LEGO.

Here is a list of ideas, but you don't have to stick to it:

| | | |
|--------------------|--------------------|---------------|
| Aquatics | Equestrian | Rowing |
| Archery | Fencing | Sailing |
| Athletics | Field Hockey | Shooting |
| Badminton | Football | Table tennis |
| Basketball | Gymnastics | Taekwondo |
| Boxing | Handball | Triathlon |
| Canoeing | Judo | Volleyball |
| Closing ceremonies | Modern pentathlon | Weightlifting |
| Cycling | Opening ceremonies | Wrestling |

(See what others have made: <http://legoquestkids.blogspot.ca/2012/09/olympic-event-photos.html>)

Creative Kids LEGO Challenge from A Mom with a Lesson Plan:

<http://amomwithalessonplan.com/lesson-plans/creative-kids-lego-challenge>

- 1) Build a LEGO car
- 2) Build a LEGO home
- 3) Blue bricks only
- 4) LEGO birthday cake
- 5) Things in the sky
- 6) Build a LEGO pet
- 7) Build a LEGO flag
- 8) Build a LEGO ornament
- 9) Build a LEGO hat

LEGO Art Project Round-Up from Art Is Basic: <http://www.artisbasic.com/2013/06/lego-art-project-round-up.html>

- 1) LEGO drawings
- 2) LEGO stamping
- 3) Design your own mini-figure
- 4) Build a bridge
- 5) Paint with LEGOs
- 6) DIY LEGO head jar
- 7) LEGOs and clay
- 8) LEGO frames

LEGO Fun Friday from Frugal Fun for Boys: <http://frugalfun4boys.com/2013/10/27/the-return-of-lego-fun-friday/>

- 1) Build a LEGO game board

Maker



Space

LEGO Kit #12

- 2) Build a LEGO balloon powered car
- 3) Build a local landmark
- 4) Build a sea animal
- 5) How many things can you build out of the same 25 bricks?
- 6) LEGO photography with funny minifigure scenes
- 7) LEGO bridge building challenge
- 8) Build a car and find a way to test the durability
- 9) Build a LEGO catapult
- 10) Build a LEGO pinball game

LEGO Challenge Cards from Teacher's Pet Activities:

<http://activities.tpet.co.uk/?resource=368#/ViewResource/id368>

- 1) The farmer's horse keeps escaping. Can you build a paddock for him? How will you keep him warm in winter?
- 2) A cat is stuck up a tree. Can you help the fireman rescue it? Can you build a carry box to keep the cat safe?
- 3) Someone has robbed the bank! Can you build a jail to put the bank robbers in?
- 4) A little girl may have broken her leg. Can you build an X-Ray machine for her? Can you build a wheelchair for her?
- 5) The cattle have escaped! Can you build a horse to help the cowboy round them up?
- 6) The digger has broken down. Can you help him dig a hole? What could you build to help him?
- 7) The postman has a lot of letters to deliver. Can you build something to help him carry the letters? Can you make a mailbox?
- 8) The chef has important visitors coming to the restaurant. Can you create a special 3 course meal? Can you build them somewhere to sit and eat?
- 9) The waiter is busy and has too many plates to carry. Can you build him something to carry the plates with?
- 10) The woman is late for an important meeting. Can you build something to transport her quickly?

Building Challenge Calendars from Plants and Pillars:

<http://www.wellnurturedplantsandpillars.com/category/lego-challenge/>

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LEGO Math Worksheets

Two 2x2 orange bricks + one 2x2 blue brick = _____

Two 1x4 blue bricks + one 2x2 green brick = _____

Two 2x2 red bricks + two 2x2 yellow bricks = _____

Two 2x2 green bricks + two 2x2 orange bricks = _____

Two 1x4 blue bricks + one 2x2 yellow brick = _____

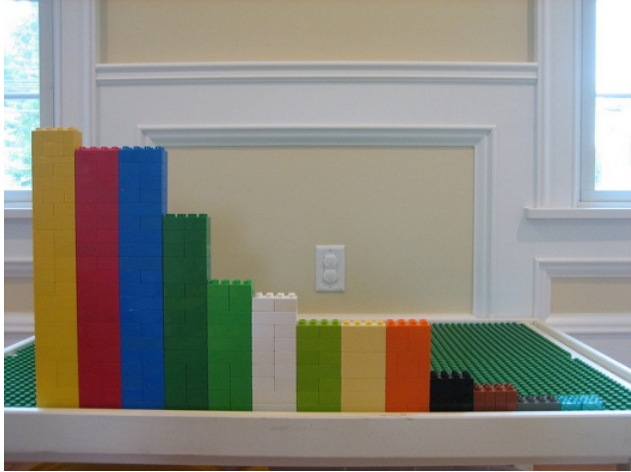
Two 2x2 green bricks + one 2x2 green brick + one 2x2 red brick = _____

One 2x2 red brick + one 2x2 green brick + one 2x2 orange brick = _____

Maker

Space
LEGO Kit #12

LEGO bar charts



Make art





LEGO Kit #12

Maker Kit Evaluation
LEGO #9 - 12

1. Please place an X in the column next to any piece of the kit that you used:

| | | |
|----------------------|--|---|
| | | X |
| Books | <i>The Unofficial LEGO Builder's Guide</i> | |
| | <i>The Lego Build-It Book: Amazing Vehicles</i> | |
| | <i>The Lego Adventure Book: Cars, Castles, Dinosaurs, & More (1)</i> | |
| | <i>The Lego Neighborhood Book: Build Your Own Town!</i> | |
| | <i>The Lego Adventure Book: Spaceships, Pirates, Dragons & More! (2)</i> | |
| LEGO Projects | LEGO Club | |
| | LEGO Challenge | |
| | Stop Action Animation | |
| | STEM or Maker Program | |
| Documentation | Check-out & Return Procedures | |
| | Program Activities & Ideas | |
| | Inventory List | |
| | 40 Developmental Assets for Teens | |

2. How many programs did you conduct with the kit and how many total people attended?

of programs: _____ # of attendees: _____

3. Please rate the kit on a scale of 1-5 (1=poor, 5 =excellent):

1 2 3 4 5

4. Any comments about the kit or suggestions for improvement?