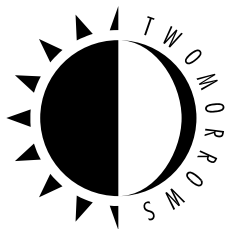


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Issue 12 • October 2010

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Spotlight on **CLASSIC SPACE SETS** and a look at new ones with **LEGO SET DESIGNERS**, **BRANDON GRIFFITH** shows his **STAR TREK MODELS**, plus take a tour of the **DUTCH MOONBASE** with **MIKE VAN LEEUWEN** and **MARCO BAAS**. There's also coverage of **BRICKFEST 2009** and **FIRST LEGO LEAGUE'S WORLD FESTIVAL** and photos from **TOY FAIR NEW YORK!**

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BRICKJOURNAL #7

Focuses on **LEGO ARCHITECTURE**, with a look at the new sets designed by **ADAM REED TUCKER**! There's also interviews with other architectural builders, including **SPENCER REZHALLA**. Plus a look at a **LEGO BATTLESHIP** that's over 20 feet long, reports from LEGO events worldwide! **PLUS:** Our usual indispensable building tips and instructions, and more!

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BRICKJOURNAL #8

We go to the Middle Ages, with a look at the LEGO Group's **CASTLE LINE**, featuring an interview with the designer behind the first LEGO castle set, the **YELLOW CASTLE**. Also: we spotlight builders that have created their own large-scale version of the castle, and interview other castle builders, plus a report on **BRICKWORLD** in Chicago, and still more instructions and building tips!

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BRICKJOURNAL #9

BrickJournal looks at **LEGO® DISNEY SETS**, with features on the Disney LEGO sets of the past (**MICKEY** and **MINNIE**) and present (**TOY STORY** and **PRINCE OF PERSIA**)! We also present models built by LEGO fans, and a look at the newest Master Build model at **WALT DISNEY WORLD**, plus articles and instructions on building and customization, and more!

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BRICKJOURNAL #10

BrickJournal goes undersea with looks at the creation of LEGO's new 2010 **ATLANTIS SETS**, plus a spotlight on a fan-created underwater theme, **THE SEA MONKEYS**, with builder **FELIX GRECO**! Also, a report on the **LEGO WORLD** convention in the Netherlands, **BUILDER SPOTLIGHTS**, **INSTRUCTIONS** and ways to **CUSTOMIZE MINIFIGURES**, **LEGO HISTORY**, and more!

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Brick Journal

Issue 12 • October 2010

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Right: Marco Bessa's Villa Maison.



October 2010

Issue 12

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www.peeron.com, www.brickmodder.net

www.rustyclank.com

About the Cover:

Nathan Sawaya's sculptures! Read about them on the next two pages!



From the Editor:

Back to school.

There's not much at all about schools *per se* in this issue, except for the school bus and maybe the Family Fun Day (but that is a bit of a stretch, admittedly). This issue changed direction midway through gathering articles.

What originally started as a back to school issue became a back to building school for anyone interested in being part of a group layout. Many of the

builders of displays at conventions and events build layouts that have to be moved and have to fit together. This issue has many of the standards and guidelines that are used by builders in many different themes. These standards are in different places online, so Geoff Gray (the writer of the standards article) placed the source links to all the guidelines he found. There's a lot that had to be sorted out, and he did an outstanding job researching.

However, there are still more standards out there. One standard for microbuilding (the TWINLUG Micropolis Standard) was not used because both I and Geoff use different scales in micro. As a result, the Micro page became a guideline page.

What this really means is that standards are not necessarily fixed. And if we didn't include the standard your club uses, I apologize. We'll no doubt be revisiting and updating standards in future issues.

I do know that I learned a lot with that article. But there's a LOT more in this issue!

Joe Meno
Editor

P.S. Have ideas or comments? Drop me a line at admin@brickjournal.com. I'm open to suggestions and comments and will do my best to reply.

P.P.S..... Yes, *BrickJournal* has a website—www.brickjournal.com!

Twitter? Yep, there too—<http://twitter.com/brickjournal>.

Facebook? Yup—<http://www.facebook.com/group.php?gid=58728699914&ref=mf>

Glossary

AFOL (Adult Fan of LEGO)

NLSO (Non-LEGO Significant Other)

MOC (My Own Creation)

TLG (The LEGO Group)

BURP (Big Ugly Rock Piece)

LURP (Little Ugly Rock Piece)

POOP (Pieces—that can be or should be made—Of Other Pieces)

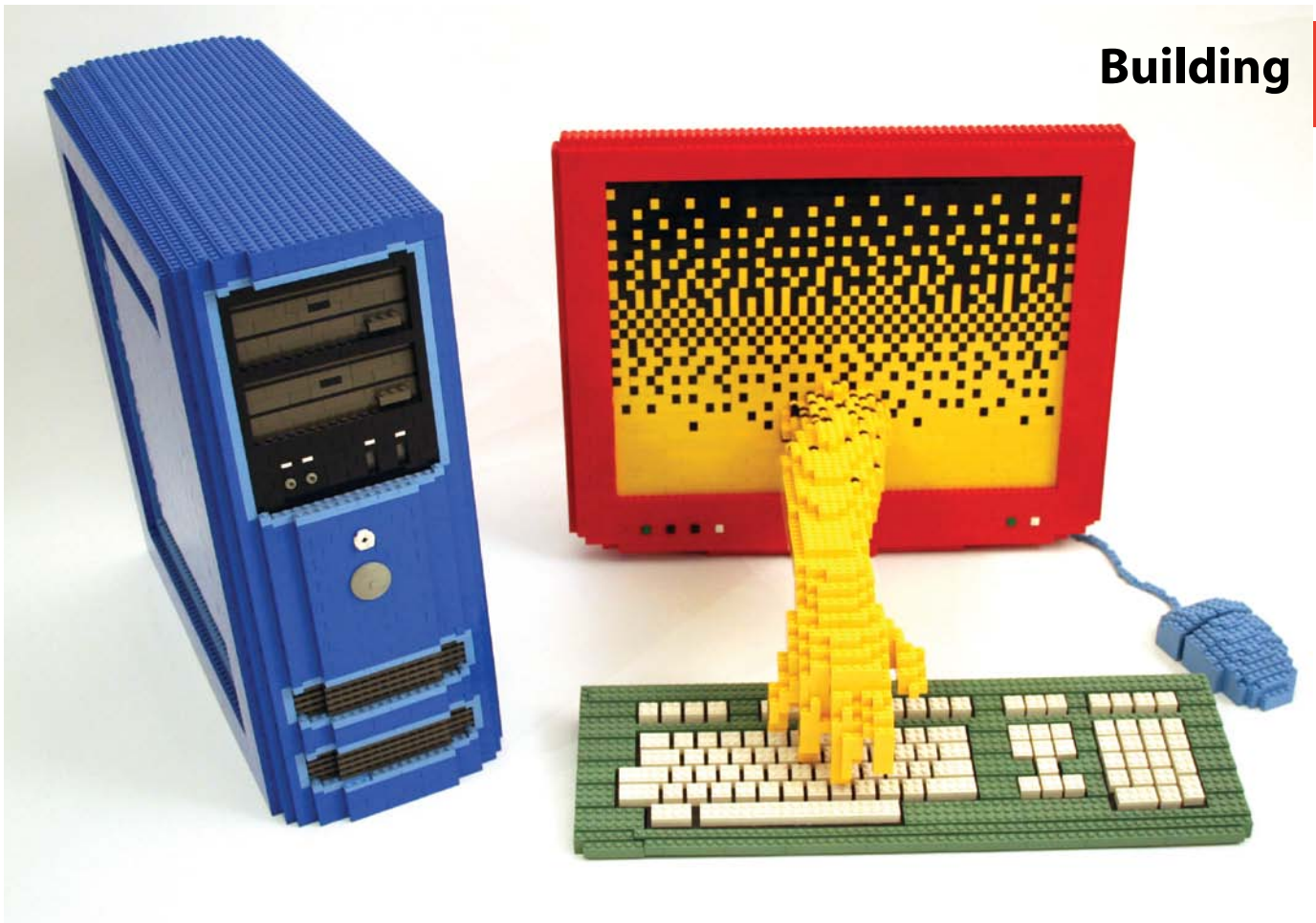
SNOT (Studs Not on Top)

LUG (LEGO Users Group)

LTC (LEGO Train Club)

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BrickJournal and its staff would like to thank the LDraw community for the software it makes available to the community, which we use for making all of the instructions and renderings in this magazine. We would especially like to thank Kevin Clague for his continued upgrades of the LPub tool that is a part of the LDraw suite. For more information, please visit <http://www.ldraw.org>.



It is an honor to have my art featured on the cover of the premier AFOL magazine. These three particular sculptures are fun pieces that I created for a variety of reasons over the past few years.

It just so happens this is not the first time the sculpture, *Computer*, has graced the cover of a magazine. The piece was originally commissioned by the editors of PC Magazine for the cover of their issue on building your own computer. I built it largely based on my own desktop computer at the time and modified the colors to make it more fun. By far, the toughest part was making the keyboard accurate. I needed to figure out the size of the keys, which I eventually settled on 2 x 2 plates. Once that was determined, it set the scale for the rest of the sculpture. The static computer was not enough though, so I added the arm reaching out of the screen to pose a question about technology controlling our lives. Or something like that.


Nathan Sawaya's Sculptures: The Brick as Art

Nathan Sawaya's works have been seen worldwide on displays and media. This issue's cover has three of his works, so BrickJournal asked him about the models. Here's a better look at them, along with his thoughts.

*Article and Photography
by Nathan Sawaya*



The Crayons were built last year for my own amusement, originally to decorate my studio. They have proven to be quite popular and now tour as part of my traveling exhibition: *The Art of the Brick®*. Each individual crayon sculpture measures just over three feet high. Once I had figured out the design of the first one, I was able to replicate it for the different colors. I have kept adding different colors to the set as time goes by.

The Writer was created this past year at the Strong National Museum of Play in Rochester, New York. I was there to give my presentation, "Making Play an Art Form." As part of the event, I created the sculpture to hopefully encourage people to explore their own creativity. Be it writing, drawing, or of course bricking. 

You can see more of Nathan's art at his website:
www.brickartist.com

His touring exhibit can be seen here:
<http://www.brickartist.com/museum.html>

If you have a QR code reader on your phone, you can scan the code to the right to go directly to Nathan's website.



Marcos Bessa Builder of Large and Small

Marcos Bessa is a Portuguese LEGO fan that has been busy — with his club Comunicade 0937, he has built, displayed and even made playing cards with models from his club members! BrickJournal got a chance to talk with him right before he interviewed at the LEGO Group for a position as a Product Designer.

*Interview by Joe Meno
Photography by Marcos Bessa*





Top: Marco's mini Cafe Corner - this is his second version.
Above: Alice in Wonderland.

When did you start building?

When I was about 3 or 4 I received my first set (6552) and since then LEGO was always my number one toy. I loved to build... simply to build! I was never one of those kids that prefer a good playset or that build something to actually play with it after. To me building was playing! After finishing something, I would show it to my parents and then I would put it apart to start all over again... But as an AFOL I started when I was 19.

Did you have a Dark Age, where you stooped LEGO building? If so, why?

Yes, I did! A long and painful one... It started when I was 12 - my last LEGO sets back then were the first six Toa Mata (Bionicle) -, and lasted till I was 19, when I found out that there was a completely unknown world of AFOLs, MOCs, SNOT, and so on... and I couldn't stop myself from starting to build again! The main reason behind my dark age is the usual one: everybody around me was always trying to make me believe that I was too old to still play with LEGO. And one sad day I believed so! Fortunately, now I know how wrong they all were!

What inspired you to start building again?

Asking that it's almost like asking what brought me again to LEGO... Well, it was the 2008 Portuguese LEGO catalogue. My younger brother - who never liked much to play with LEGO - curiously, had a catalog on his desk. I started to look at it and I missed the great times I had when I was a kid building my dreams from colored bricks! After that, I went to the loft to get back my old tiny collection, and I quickly realized I needed to spend some money on new parts... (I never got to buy my "so-wanted" iPhone because I decided to spend the money I saved for it in LEGO).

What was your first MOC?

Well, the first one? Really? I think I wouldn't call it that... It's more like a MOFFE: My Own First Failed Experience! It was kind of a tower of magi, in which I used pretty much every "great technique" I thought I knew back then.

What do you like to build?

Buildings! Buildings... Buildings! I love to reproduce those rich ornaments and styles of buildings from XVIII, XIX and mid-XX centuries. Despite my preferences go to buildings, I'm quite eclectic in matters of what I like to build. I like to always challenge myself to try varied themes, different styles, new techniques...

Why do you like to build?

I think somehow it's a way of expressing myself. When I build I let my imagination go wild and free, and I love that feeling... It's pretty like when I'm writing: playing of god, with no rules and limits (well, there are limits with LEGO though... mostly with the parts that unfortunately aren't infinite!)

Favorite set?

Obviously all the modular buildings! My favorite is Green Grocer, but I love all of them. Each has its own style, colors, details... It has been a wonderful work what Jamie has been doing with that line. I would love to work in that theme someday...

Other hobbies and interests?

I'm a man with many different interests, but almost all of them are somehow related to art. I love music, to listen and to sing, and I make part of a couple of music groups, mostly singing in choir. I love cinema and theatre and I get thrilled like I don't get in any other place when I'm on stage living someone else's life. Acting is part of me and I know I'll always be doing something



re-
lated
to it
somehow.
Writing, as I
mentioned before:
"playing of god", is
one of my number one
hobbies. I've published
a novel in Portugal, when I
was 17, called "O Outro Lado da
Verdade" (i.e. "The Other Side Of
The Truth"), and since then I've already finished
another book and started the third.

You made playing cards with models built by your club members (Communicade 0937)- what inspired you to create those?
When I first met the MOO site (where I printed the cards), I immediately thought about doing some kind of playing cards with their business cards - it looked a cool idea to me. Then one day I started thinking about doing it related with LEGO. At the same time, at my LUG's forum someone said that it would be cool to have our own playing cards, so I started working on that.

Are you active in your club?

Yes, I visit my LUG's forum daily and I do participate in all the discussion topics. I'm one of the most active members and I help with everything I can when there are new events to prepare or activities to promote.



Top: Marco's micro creation, "Running up That Hill."

Middle: A sculpture of Milou, from the Tintin comic. This was built for a competition done with Communicade 0937 and LUGBrasil, a club based in Brazil.

Left: Marco's deck of MOC cards.





The Ancient Lady's Museum's facade.



The Ancient Lady's Museum' fully detailed interior.

What inspired your museum?

It's difficult to answer that, because I didn't have any particular inspiration, not a real building or anything like that. It grew slowly and I thought about all the details as I was building it. Actually, I planned what I would like to build before starting to, I mean, I knew from the beginning that I wanted to do those circular stairs, but I didn't plan from the beginning how they would look like or be done.

What would you want to highlight in your museum in terms of building technique - the neat parts of your model?


Well, besides the stairs in the interior - that are probably already the icon of this MOC - I personally love the interior floor and the color scheme. There are a couple of uncommon colors used a lot: dark red, dark tan, dark blue,..., but in terms of building techniques, I have to highlight the columns and the both tops of the windows (triangular on the first floor and semicircular on the ground floor). Another little thing that I really like, yet not that complex in technique terms, are the couches, which I had done a while ago, though I don't remember of using them before.

What do you want to build next?

Right now my future is quite uncertain. I don't know what my near future is holding for me professionally speaking, so I don't know what I'll be able to actually do next, but I would love to carry out a project that I have been planning for already a year and a half now with a couple friend of mine: we want to pay tribute to one of our favorite movies ever: Jurassic Park. I also hope to be able to build my own antique and classic town, with multiple buildings, streets full of movement, old cars, women with beautiful customized dresses, alongside true gentlemen...

What are you working on now?

I'm actually on vacations! Yea, I'm not building anything right now.

As a footnote, Marcos was offered a position at the LEGO Group and is now a Product Designer. 

Marcos's work can be found online at:

Flickr: <http://www.flickr.com/photos/marcosbessa/>

'LEGO fan email': marcosbessa.lego@gmail.com

His blog (Portuguese only): marcosbessa.blogspot.com.

If you have a QR code reader on your phone, you can scan the code to the right to go directly to Marco's Flickr gallery.



Furniture behind the staircase.



Entrance behind the staircase.

Window detailing.





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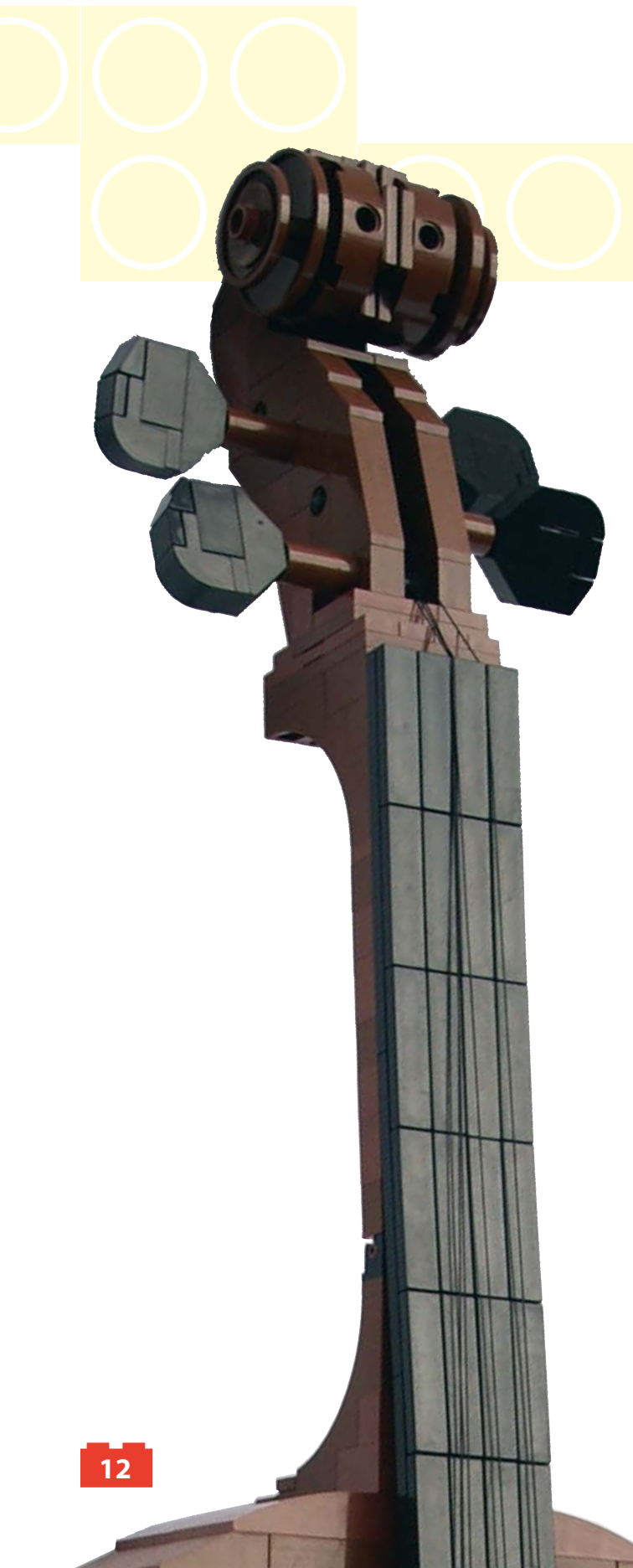
Article by Joe Meno

*Photography by Cindy English
and Joe Meno*

Every once in a while, something different shows up at a LEGO fan convention. At Brickfair 2010 (a fan event in Washington, DC), the event theme was music, and a group of tables were centrally located on the convention floor. As setup began, models of concert stages and singing minifigures were placed at the tables. However, something new appeared in a metal cradle.

A life-size viola took its place at the display. It quickly distinguished itself from almost every other model not only for its scale, but also its craft. The curves of the instrument were replicated with only LEGO elements, and matched a real viola.





The builder of this model is Cindy English, and this was her first effort at building a completely original model. However, she has built train based models and has attended two previous Brickfairs. As with the other events she attended with her son, Aaron Westbrook. Between both of them there is a lot of building talent.

Cindy's building started early. She reflected, "I believe that my first kit was the 1976 kit no. 550-2 Windmill or the 555-1 Hospital." What's astonishing is that both of her sets now are now part of her son's home layout. Both sets have not only been passed down, but also preserved.

She continued, "My brother and I (about 6 yrs old) started LEGO building with as children in the early / mid 1970's. As we continued to grow our collection, we kept all the directions in one of the kit's boxes to keep them all together and in the best shape we could. We had a LEGO "drawer" which was the bottom drawer of a large dresser."

Back then, her models were nowhere as complicated as her viola.



"This is the truck camper that my brother (Ken Warner) and I worked on together as kids," she describes. "The truck is a modified version of the 1973 Kit No. 710 Wrecker with Car. The camper was probably created around 1976/77. Ken was inspired by the fact that we took family educational vacations every summer in our family truck camper. He came up with the exterior and I, being a typical girl of the time, worked on the interior."



In the years between now and then, Cindy went to school, then college, eventually getting a Master's of Fine Arts Degree in Art Direction and Design. After that, she worked as a technical illustrator, designer and currently is in engineering. Through all that though, she still kept her sets.

Her son Aaron got her sets, and began building too. They first went to a LEGO fan convention in 2008. The place was Washington DC, and the event was Brickfair. For both of them, the event was an eye-opener. And it was there that the building bug got Cindy again.

Over the next year she started helping Aaron building, and together, they built a couple of train-themed models, a small trolley and a cattle car.



Aaron also built aircraft and other small models that he displayed at Brickfair that year. But both began working on bigger projects.

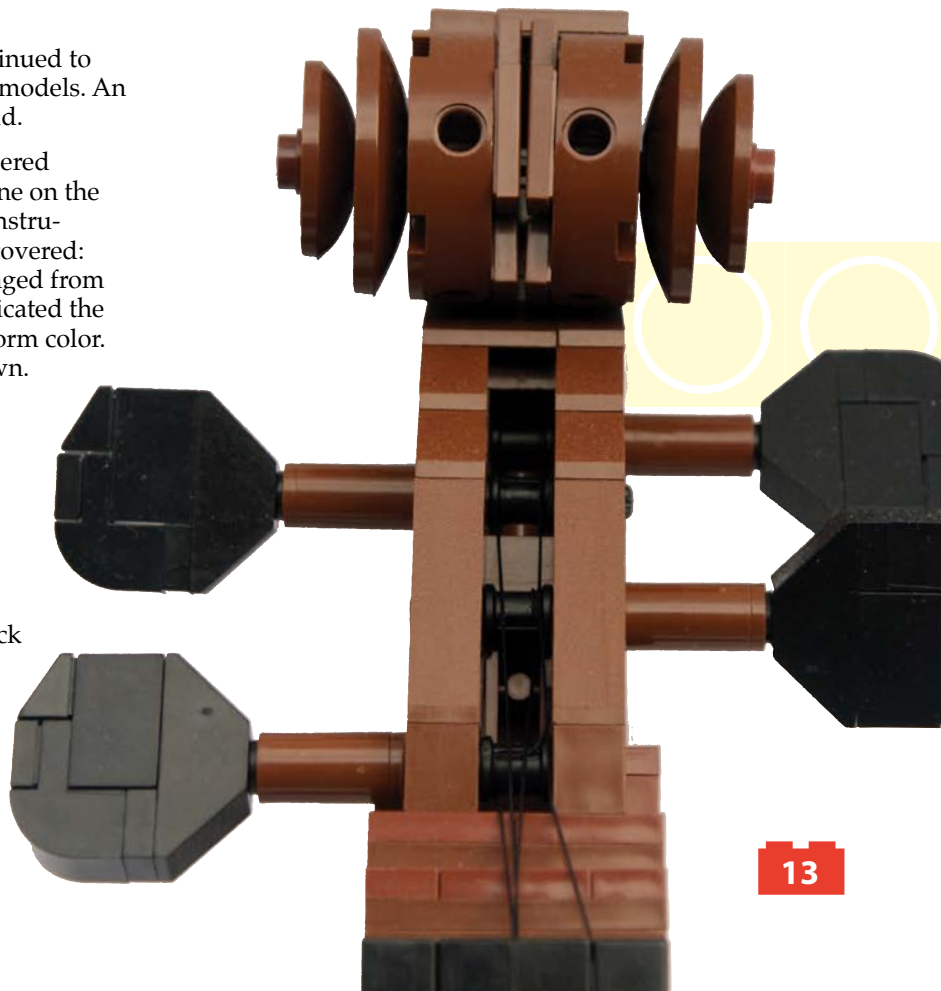
Cindy began researching and building the viola using MLCAD, a digital building program. Her reasons for building the instrument was simple: "I never learned to play any string instruments however always had a love for them."

While she was building her model, Aaron continued to build, although he began building mechanical models. An idea to build a working clock began to take hold.

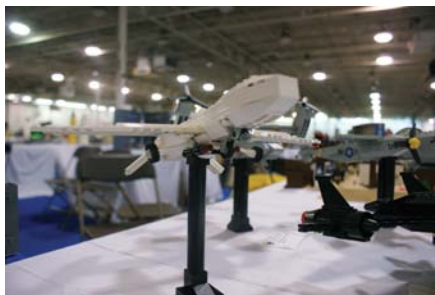
Cindy continued building the viola, but discovered that some of the building couldn't be easily done on the computer, so she physically built some of the instrument. Along the way other problems were discovered: The brown color used for LEGO elements changed from a wood brown to a reddish brown. This complicated the building process, as she wanted to have a uniform color. The newer pieces would have the reddish brown.

Another problem found was that there was no LEGO string long enough to use for viola strings. This really had only one solution - she used non-LEGO upholstery thread.

As the time before Brickfair got shorter and shorter, both steadily worked on their models. Aaron's clock wasn't working consistently, but after some frustration and work, he got the clock running smoothly and keeping accurate time. Cindy's viola? It was getting closing in on completion.




Brickfair 2010 took place in a new venue in the Washington DC area, and both Cindy and Aaron had some great models to show. Aaron displayed several planes, including a V-22 Osprey, a Predator robot drone, and a P-38 Lightning fighter.



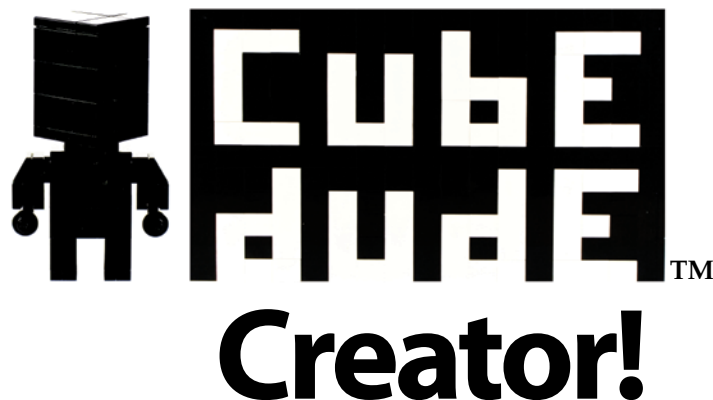
Cindy's viola won two awards: Best Music Model and Most Inspirational Model. For her, it still hasn't sunk in that her and her son's creations were honored by the attendees of Brickfair.

So what's next? Cindy and Aaron have another person to get back into the hobby...Cindy's brother. He's already amazed by the larger variety of parts and colors since he last built. It's just a matter of getting him to an event, and with BrickMagic, the LEGO fan event in North Carolina, being halfway between us and him, it's not much of a stretch to expand their expo horizons.

And it'll still be a family thing. 

Aaron's best work was his clock. It ran during the convention and impressed the Brickfair attendees enough, it won the Best Technic Model award.

Angus MacLane:



Angus MacLane has been previously interviewed in BrickJournal for his building (Volume 2, Issue 5). While he is known by many as one of the gifted storytellers at Pixar Animation Studios, he is known by the LEGO community for his models and for creating a building standard called the CubeDude™. This year, he created CubeDudes as exclusive models sold at San Diego Comic-Con and Celebration V. He was happy to talk to us again about the CubeDudes and working with the LEGO Group.

Let's talk about the CubeDude concept. You have built so many already, what's the motivation? And what are your thoughts on other fan's CubeDudes?

One of the main things keeping me going is the desire to make CubeDudes of all of the characters that have had some sort of inspirational impact at some point in my life. There's something that means something to me about each and every one of them. Some are based on stuff that's of low quality or dubious artistic merit, but sometimes that makes it more hilarious. You know, most pop culture can be considered disposable, so I take that stuff and kind of, not reinvent it necessarily, but reintroduce it into the lexicon, like "Oh yeah, remember this TV show?"

It doesn't mean anything to some people – but there's people of a certain age that will look at these designs and they'll be like, "Oh yeah, I remember that! That's x or that's y or is that the robot from...it kinda tickles this distant memory..."

Angus' Buzz Lightyear CubeDude.



The CubeDude lineup for San Diego Comic-Con set. From left to right: Captain Rex, Yoda, C-3PO, Obi-Wan Kenobi, and R2-D2.

I think that the CubeDude to me represents what I would like to see more of in building. Specifically that would be working with the limitations of the bricks and using the “blocky-ness” to your advantage.

Cube Dudes Built by Fans:

Samurai Jack: <http://www.flickr.com/photos/31001288@N07/3953134208/>

Slave Leia: <http://www.flickr.com/photos/28192677@N06/3979375577/>

Boushh: <http://www.flickr.com/photos/28192677@N06/4008509339/>

Pop culture just inundates you with these images that are here today, gone tomorrow and the CubeDude, not to sound too pretentious, the CubeDude format and the work that I do, it kind of tries to remind you of the effluvia of past years’ pop culture noise. Many of the properties and characters that I base my designs on have been forgotten, but hopefully they are still very recognizable to the former target audience. I should add that I have a newfound respect for many of the designs of shows like *Masters Of The Universe* since they still read very clearly when they are reduced down to their simple graphic elements. You’re never going to confuse “Trap-Jaw” with “Beast-Man”.

It’s interesting to see other people’s CubeDudes of properties that I don’t have a personal connection to. It’s great that they feel inspired to create a CubeDude of something that means something to them. Sometimes though someone makes a great CubeDude of some character that I like a lot and haven’t made. For example, the builder known as Marcin ImpreSariO made a Samurai Jack and Aku CubeDudes that still rank as some of my favorite CubeDudes that I’ve seen. Samurai Jack looks really great in the CubeDude format. The builder Larry Lars came up with some Star Wars ones, like his Slave Leia and his Boushh, those are really dynamite. He’s done six or seven that are really wonderful. (**Editor’s Note:** All of the models above have links at the bottom of this page.) When I see CubeDudes like these I do get a little jealous that I didn’t think of them first (laughs).

How many CubeDudes have you created?

About 330-340. There’s only a little over 300 online. I haven’t had a chance to photograph and post all of them. Been busy with family, work, and other stuff. My promotional tour to Comic-Con and Celebration V took a bite out my time too.

How was the tour?

It was great. It was a lot of fun. I got meet some CubeDude fans, of which there were three, and that was nice – Okay, there were more than that. The AFOLs that showed up were

pretty stoked about the sets and very generous and friendly. Ryan Wood (a model builder at LEGOLAND) waited in line and gave me a fan CubeDude. He made a “Leeloo” from *The Fifth Element* and presented it to me at Comic-Con. I was very touched.

That’s really nice! Back to the CubeDudes - when did you trademark the CubeDude name?

That’s one of the first things I did when I came up with the CubeDudes - trademark the phrase as a building toy thing.

I’m happy to see other people make them, but the concept and the logo and the identity of them - it’s like a universal product, like Kubricks and the Mighty Muggs and I really wanted to put my stamp on it.

What’s your advice to builders about CubeDudes?

I would encourage readers to build a CubeDude of something you care about personally. The core idea is a building format that then can be built upon. There’s some builders out there on Flickr that have come up with some great innovations. I should point out that nolnet did the Pulp Fiction guys that established the CubeDude suit-and-tie format. What he did was use the headlight brick for the knot of the tie and building the suit sideways. That is the most revolutionary advance in the CubeDude format. I give nolnet credit each time I do it.

Since the faces of the CubeDudes are basically the same (there’s a set format for the faces) it’s up to the things surrounding the face and outfits to really define who the character is. I’ve seen a lot of creative designs for hair that are pretty hilarious. Since there isn’t much facial difference between the ‘Dudes, the hair becomes very important. In most cases that is what helps define the character most.

I think that the CubeDude to me represents what I would like to see more of in building. Specifically that would be working with the limitations of the bricks and using the “blocky-ness” to your advantage. A lot of building I see is fighting that and trying to get the viewer to go, “Oh wow, I didn’t know that was LEGO!” I don’t think that there is anything wrong with that, but I’d like to see more people embracing the medium and highlighting the core form and limitations.

One thing that I’ve learned from building in such a small scale was: When you force yourself to build tiny, you can’t cheat as much. Every brick has to count, every stud takes on a special importance to the overall piece. Also when you build with the fewest number of bricks possible, you end up making yourself a better builder because you end up discovering new ways of looking at pieces. You can’t get away with the same things you get away with on larger builds. I do get impressed when I see some specialized piece used really interestingly and in some new way in any scale. It would be great to see more people coming up with more new sub-genres or new ideas. Instead, I feel like I see so much of the same stuff. I guess I wish I saw more variety for a medium that has such infinite possibilities.

I should point out that I only post what I think is my best stuff. There are probably about 20 CubeDude designs that I have in various states on my desk that I haven’t been happy with and are not probably going to see the light of day. There are some horrid CubeDudes. You’re seeing the best and brightest, as



Captain Rex.

Cube Dudes Built by Fans:

Pulp Fiction Characters: <http://www.flickr.com/photos/nolnet/3954692635/in/pool-1187071@N22/>



Top: Angus MacLane signing his sets at Comic-Con.
Center and above: Promotional art for his CubeDude sets. Art courtesy of the LEGO Group.

it were. Similar to an art portfolio, I try to only show the best work. Just because it got made doesn't mean I should put it out there. I try to show only the stuff that I think is successful.

For any LEGO creation, the idea must be strong. It's almost like I don't want to start building until I have an idea that's 'gettable'. Ideally it should communicate something. You can work on detail and surface stuff, but the idea, like in other forms of art and communication, is paramount. What takes a good creation and makes it a great creation is not execution, but its core idea. I wish that more people focused on that. The idea doesn't have to be "important", it just needs to be clear.

How did the LEGO Group discover the CubeDudes and have you create the convention exclusives?

They had seen the stuff online. When I went to BrickCon last year, I met some people from the LEGOLAND Model Shop and they said that they'd seen CubeDudes and were very complimentary about them. After that I was contacted via e-mail by LEGO and asked if I would be interested in maybe doing some promotional sets.

The first set was a promotional CubeDude of Buzz Lightyear for the International Toy Fair in New York. They ended up using this design of my Buzz Lightyear CubeDude and then they reproduced 150 Buzz Lightyears on these little bases in little clear cubes. They gave those away at Toy Fair. So there's 150 of those around. They're pretty rare. I only have one of them, but it's #1!

After that, they wanted to see if I would be interested in doing some Star Wars ones, and of course, I was stoked about that. They asked me what I wanted to do. They wanted to do a Clone Wars set and wanted to do something for *The Empire Strikes Back* (to celebrate that movie's 30th anniversary). For me, with *The Empire Strikes Back*, my first choice was the bounty hunters and they agreed to it. So that was great.

What made you choose the bounty hunters?

Well they are a diverse bunch., but mostly what I think is so great about the bounty hunters is, you don't know a thing about them, so they are very exciting. The potential of their stories are exciting and oftentimes that potential is better than finding out the real deal behind characters like Boba, IG-88 and Dengar. Once you find out what Boba Fett looks like underneath his helmet, the magic goes down a few notches.

So I was excited about the CubeDudes. I already had most of the designs. The only ones I hadn't made were for the Clone Wars set. I hadn't done a Captain Rex and a Clone Wars era Obi-Wan Kenobi, so I had to design those. I made those specifically for the assignment. And it was a good challenge to come up with successful designs for them. Rex's helmet was a challenge, but I think it turned out okay. I can't believe TLG okayed the SNOT cheese. Okay, that sounded wrong.

What about Yoda?

I hadn't posted Yoda, but I had recently finished him and thought, "Oh, this is great, I already have him." I didn't want to release it on the website until after it was done because I wanted some sort of reveal, even though there was a lot of comments on Flickr requesting the little Jedi.

Yoda was in sand green, and LEGO wasn't able to do sand green for piece availability reasons. Also, there was something

nice about the lime green reflects the cartoonish nature of the show. I think sand green is more like the *Empire Strikes Back* era, so I think it (the color substitution) works out quite well. I wish that TLG made the snake element in orange because it would have been nice to include an orange snake as an homage to the original Kenner figure.

Did you like how the sets came out?


Absolutely. It was a dream come true and a real treat to see the final product. I heard the box art was exciting, and when I finally saw it I was really - it was huge - I love the design of it, it looks great! I feel humbled and honored to have been able to participate in the design process.

How was working with the LEGO Group on the CubeDudes?

They did a really good job on it. It looks like a real set. They were very supportive of the project and I really couldn't be happier with how it turned out.

Going forward, What other CubeDudes do you want to do?

I would love to do more Star Wars ones with TLG. I can see definitely the 30th anniversary of *Return of the Jedi*. There's a ton more ideas - I'd like to do a Hoth set if possible. *The Empire Strikes Back* is my favorite movie, so I have a Hoth Han and a Wampa and a Hoth Luke with a busted-up face and maybe a probe droid. As far as my personal CubeDude collection, I have an ongoing list that literally numbers in the hundreds of 'Dudes that I am planning to make. As long as popular culture keeps producing more interesting characters that don't have a lot of purple in their designs, I will keep making CubeDudes.

Also I should mention that if TLG made a corner cheese element (1 x 1 slope in two directions), that would help me out a lot! 

You can see more of Angus' CubeDudes and his other creations at his Flickr page:

<http://www.flickr.com/photos/27826007@N05/>

If you have a QR code reader on your phone, you can scan the code to the right to go directly to Angus' Flickr gallery.



You can work on detail and surface stuff, but the idea, like in other forms of art and communication, is paramount. What takes a good creation and makes it a great creation is not execution, but its core idea.

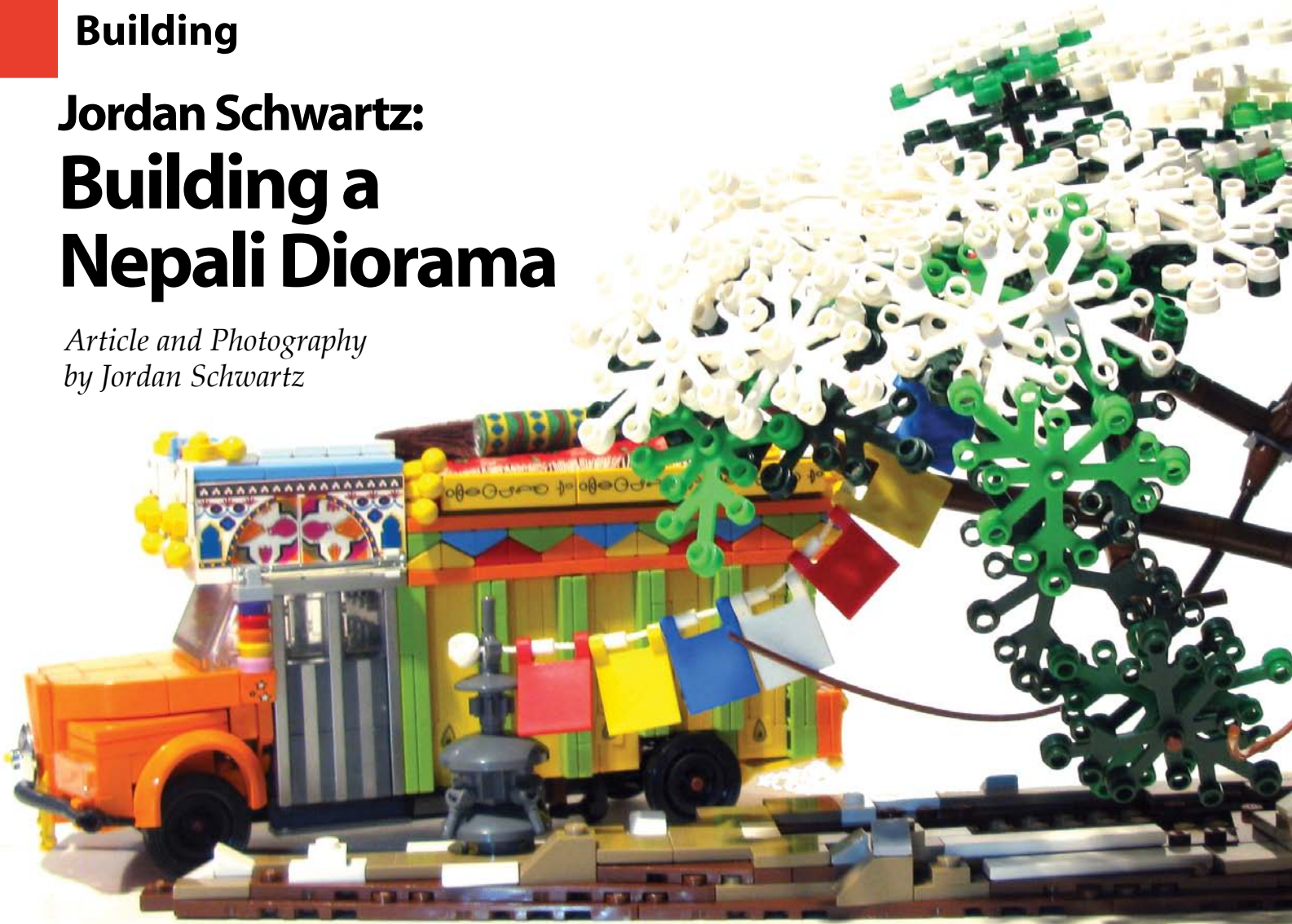


CubeDude Yoda.

Building

Jordan Schwartz: Building a Nepali Diorama

Article and Photography
by Jordan Schwartz



On the outskirts of Kathmandu, Nepal, a lone Tata truck rattles along. Its vibrant, neon colors and whimsical ornaments are only akin in intensity to the rich greens and other bucolic hues of the surrounding landscape. Snow melts about. As the muddied wheels rock over bumps in the road, the truck's contents inside and atop waver, ready to tip out. The vehicle can be seen from far off as it makes its humble way.

Certainly many cultures interest me, but none interest me more than that of Nepal. This ancient civilization claims ownership to a myriad of fascinating customs, styles and beliefs which have inspired me. In fact, this is the second Nepali MOC I have built – the first was simply titled “Nepal” and featured a large stone building, ravine and Yeti cave. I have a growing wait-list of subjects to build, so if I ever revisit the same theme, that means I really do love it.

I accredit a lot of my drive to create this Tata truck to Adam Grabowski and Tim Gould, both of whom built Pakistani Trucks – the middle-eastern equivalent. Their intricate brick-work and clever techniques blew my mind and some of their methods even leant well to my endeavor, like the levers as trim around the fender.

From my research, I would not hesitate to say that no Nepali Tata truck is the same – their vivid paint jobs and ornaments all vary either subtly or drastically (and trust me, there are some drastic variations.) So I attempted to pick and choose the best and most interesting stereotypical features of them to put into one – one to be the quintessence of this unique mode of transportation.



Unlike some of my creations, I appropriately started with the front of the vehicle and worked down to the back. The hood area proved surprisingly tricky to match; in fact, I went through at least four or five different versions before deciding on this final one. It is done in orange – personally, not the most tasteful color out there (but accurate none-the-less.) The bumper is a TECHNIC hose with minifigure hands capping off the ends. Again, yellow levers dangle from the grill, and a chrome silver 2 x 2 inverted dish attached by a minifigure hand creates the signature grill ornament shared by most, if not all, of these trippy trucks. Atop the cabin sits a large, blocky and detailed module. Arches from the Orient Expedition line coupled with tiles from the (Arabian) Belville theme were icing on the cake.

The back section was tricky. The alternating yellow and lime green pattern was achieved with jumper plates to create the ½ stud offset. All of the studs face towards the

cabin, and this method continues into the metallic silver door near the front. However, the last yellow sliver at the back switches the stud direction by use of two old finger hinges, both halves facing opposite directions. This allowed for tiles to be placed facing the back.

On the top of this section are alternating patterns of 1 x 1 x




2/3 cheese slopes (the top half facing studs-down), yellow 1 x 4 tiles with symbols on them (from the first Naboo N-1 Starfighter) attached with 1 x 2 - 1 x 4 brackets. On the corners sit Homemaker hands, and at the very top lay various cloth elements for realism.

Wheel size has always been my "Achilles' Heel" in almost any vehicle I build (and it is usually the last feature I add, too, so I do not have a choice at the end of building some complicated body but to try and get it right. The wrong wheels can mess the whole thing up!) I ended up going with old style black tires *over* the typical "Tiny Turbos" wheels. The old tires fit snugly over the new ones.



Paired with the truck is a landscape, comprised of many browns, dark tan and white for snow. The tree is possibly as intricate as the vehicle itself, with the base being a pre-fabricated stump, three reddish-brown dinosaur tails (from set #4767 Harry and the Hungarian Horntail) blended into the stump with minifigure capes and a bombardment of hoses, minifigure hands and a couple TECHNIC flex cables riddled in there somewhere for branches. A combination of dark green, green, medium green and white leaves rest at the ends of the branches. Finally, colorful Buddhist prayer flags from the tree to a small shrine epitomize a core custom of the culture.

In closing, when I build, I want to do my subject justice. Whatever my goals are in a creation – whimsy, realism, accuracy, etcetera - I always try to hit the nail on the head. So with this rather bizarre truck, I think justice was done; from the colors to the shapes, this little Tata truck is the embodiment of this unique mode of Nepali hauling. 

You can see more of Jordan's models at his website: <http://www.brickstud.com/> and at his Flickr gallery: <http://www.flickr.com/photos/sirnadroj/>



If you have a QR code reader on your phone, you can scan the code to the right to go directly to Jordan's website.



Building

Your Universe Awaits!

LEGO Universe launches this month, so here's a glance at the long-awaited game!

Article by Kate Hancock
Art Courtesy
of the LEGO Group



Top: Sentinel faction characters.
Above: Building behaviors.



Available for PC and Mac, *LEGO Universe* is the first massively-multiplayer online game (MMOG) based on the LEGO play experience. Players create a Minifigure avatar and delve into a vibrant world filled with quests, building challenges, collection and customization, and an original storyline. You can build anything you can dream up, bring it to life and share your creations with friends.

In efforts to defeat the chaotic Maelstrom and restore creativity, players will join one of the four Nexus Force Factions. The Nexus Force is an alliance of four groups (Factions) - the bravest Minifigures in the Universe, dedicated to protecting Imagination and eliminating the Maelstrom. The four Factions include: Assembly, Sentinels, Venture League and Paradox. Whether courageous, chivalrous, cunning or creative, players will find fun company in whichever Faction they join. Each Faction has its own specialties, skills, weaknesses and priorities.

Creativity is central to *LEGO Universe*. You can build and customize your own Minifigure and personal property areas, using bricks you've collected in the game to create and customize your wildest imaginations.

In *LEGO Universe* there are several different ways to build with LEGO bricks, from simple building challenges within the storyline; to building more complex modular rockets, race cars, castles or forts; all the way to building elaborate LEGO creations brick by brick. Then you can bring your creations to life with "Behaviors."

The Behaviors system is an easy-to-use, graphics-based programming language. Behaviors enable players of any skill level to make their LEGO models move, react to other players and literally come to life in countless ways in *LEGO Universe*. It's a powerful tool that's accessible and fun to use.

Beyond building, you can explore the Universe, collaborate with other players in quests, embark on adventurous missions and, quite literally, fight to save Imagination in *LEGO Universe*. While there is an overarching theme of creativity versus chaos, we took great care to craft the fiction and game design mechanics to allow a broad range of genres to co-exist. We wanted to ensure that LEGO fans of any age could choose what genre they wanted to explore, whether that be building a spaceship or battling ninjas and pirates.

LEGO Universe is developed by NetDevil, published by the LEGO Group and distributed in mass retail by Warner Bros. Interactive Entertainment. The LEGO Group has been closely involved throughout the game's development process, to ensure the iconic brick is as authentic in-game as in real life. Some of the most creative LEGO fans were also chosen to help create the game world alongside professional developers at NetDevil - the World Builders (or LEGO Universe Partners program) has been an exciting collaboration with amazing results in game.

LEGO Universe has an ESRB rating of E10+, so children and families can enjoy exploring the Universe together. Starting October 12th, the LEGO Universe Founders' Release will offer early access to fans who have pre-ordered the game through LEGO sales channels. Official launch will take place on October 26th in the U.S., when LEGO Universe will be available through mass retail channels. We can't wait to see you all in the game soon - check out LEGOUniverse.com now for more!



Chris

Building Group Displays

Article and Photography
by Geoff Gray

Whenever the public comes to different AFOL events around the world, they are often amazed at the ability to have such large layouts being shown. They always ask how these displays get built. While some are built by a single person or group, many displays are built by several independent people or groups, usually using some standard they helps them to build in a way that the different pieces can be placed together to make a single large layout.

These standards have been defined, and revised, and changed over the years among several different AFOL factions, such as Space, Castle, Train, etc. There are too many standards to list in any

one article, and there is no fast rule about the standards. For instance, the LEGO Train community has standards for 6-wide train cars, 8-wide train cars, extra long train cars, etc.

Layouts are often designed based on planned participation where some groups may request a variation for their layout section. However, by having standards, many of the layout modules can be pre-built without any knowledge of where they will be in a show. I have a town/train module that I first built in 2004 and have modified and expanded many times. My module has been in 7 different shows all over the country and I have never had to change the track

portion of my module to be compatible with the overall layouts.

These AFOL standards can be made by anyone, for any purpose, and do not even need to be done for a group. There are people who come up with their own standard for building in a city block, just so they can re-arrange them each time they show their layout. So get out there, get a standard and start building modular layouts with your friends, your club, or other people in the AFOL community. It is a great way to share your work with others.

I created the below poster to help celebrate the AFOL train layout that was shown at the NMRA 2005 show. This layout was staggering to see and was an amazing feat for a community at large to pull off. We were able to do this show because the community had adopted layout standards.



The World's Largest LEGO Train layout

Presented by member clubs of ILTCO at the
National Model Railroader's Association National Train Show
Cincinnati, Ohio July 8-10, 2005



COLTC
John Bucy
Ken Cefaratti
Troy Cefaratti
Carolyn Cheney
Geoff Cheney
Benn Collman
Mike Gallagher
Mike Hutmam
Paul Janssen
Karen Lepper
Billy Lynch
Kristen Lynch
Crystal Woolley
Kara Woolley
Joe Woolley

Michiana-LTC
Stefan Garcia
Victoria Garcia
Grace Hedgen
Tony Hedgen
Amy Hughes
Scott Sanburn
Chad Smith

GLTC
Stefan Garcia
Victoria Garcia
Grace Hedgen
Tony Hedgen
Amy Hughes
Scott Sanburn
Chad Smith

IndyLUG
Brian Darrow
David Kohlman
Mark Peterson
Jeramy Spurgeon

NCLTC
Cary Clark
Geoff Gray

OWLUG
Don Cox
Jack Hawk
L. Andrew Reynolds
Zachariah Reynolds

TLCT
John Neal
Ross Neal

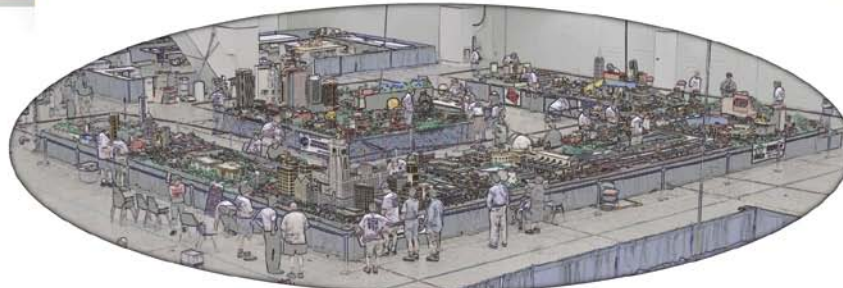
AFOL Guests/Assistance
Steve Barile
Abner Finley
John Gerlach
Jake McKee
The Millere family
Kevin Salm

WamaLUG
WamaLUG
New Jacobs
Tony Pense
Todd Thuma

NILTC
Jeanne Nagel
Ken Nagel

rtToronto
Derek Raycraft
Jeremy Taylor
Calum Tsang
Jeff Van Winden

MSLTC
Matthew Greene
Todd Rames



The layout area measured 50' x 70'
14 clubs and groups got together from as far away as Florida and Canada
We estimate that there were around 2.7 million LEGO pieces in the display

Facts:

Up to 30 trains and monorails running at any one time
17,000 people attended the show during the 3 days it was open
Setup took over 16 hours



Train & Town

<http://www.railbricks.com> -- <http://news.lugnet.com/trains/>

Basic Grid Layout:

- 48 x 48 baseplate (gray)

Connectors:

- The outer rail tracks are placed 4 studs in from the edge of the baseplate and the inner tracks are placed 8 studs in from the outer tracks.

Layout Sizes:

- The most common layout is 5 feet wide by some multiple of 5 feet long. This is made by either 4 large gray baseplates or 6 smaller (32 x 32) baseplates

Track Clearances:

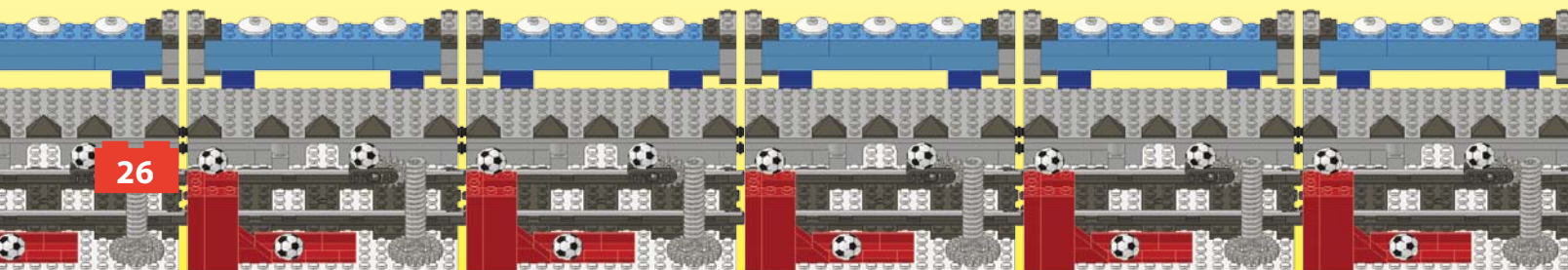
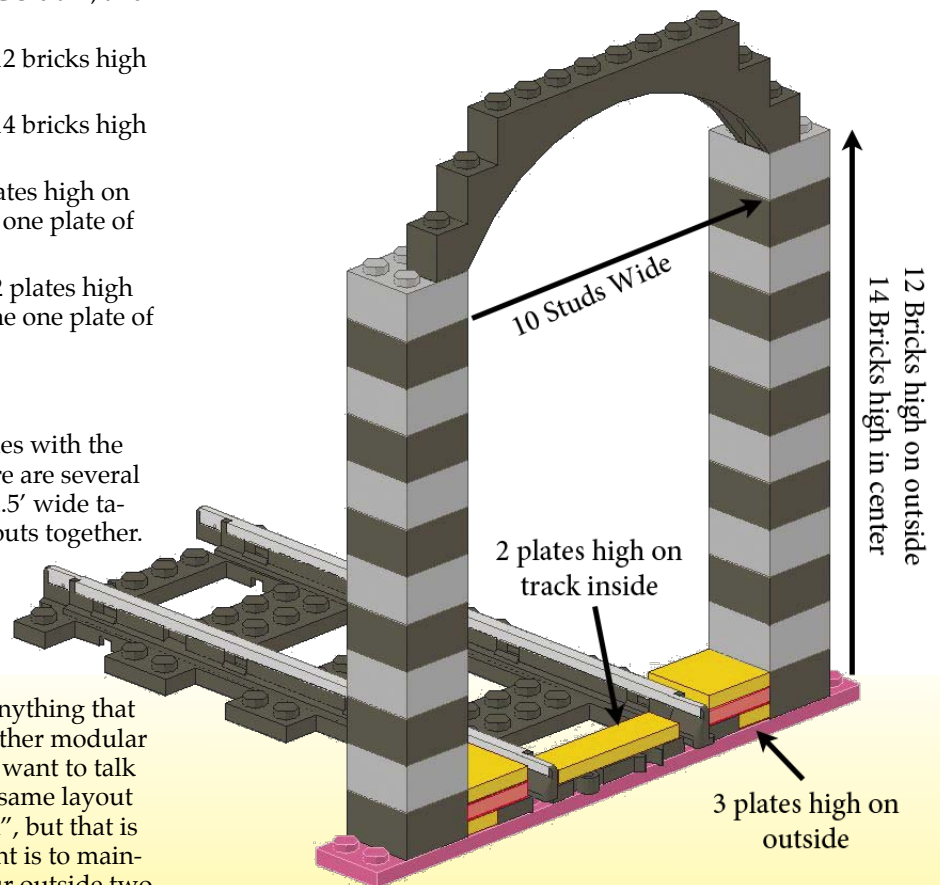
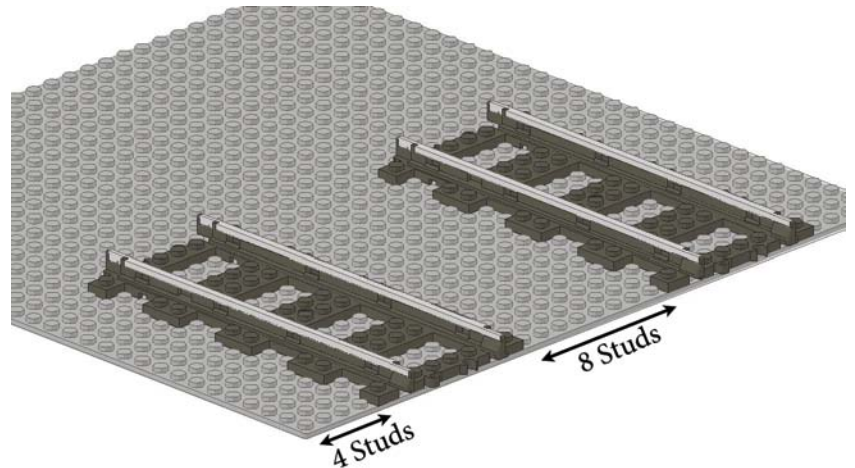
- The clearance for tracks is designed to let most typical rolling stock run around the layout unimpeded. The diagram to the right shows an opening that is sufficiently large to let any official LEGO train, and most fan based trains through.
- clearance above the tracks should be 12 bricks high on the outside of the track.
- clearance above the tracks should be 14 bricks high on the inside of the track.
- clearance on the tracks should be 3 plates high on the outside of the track (including the one plate of the track itself).
- clearance above the tracks should be 2 plates high on the inside of the track (including the one plate of the track itself)

Setup:

- Most layouts are setup on folding tables with the surface 30 inches above the floor. There are several places where you can buy 5' long by 2.5' wide tables. These are perfect for putting layouts together.

Inside the layout:

- Using the inside area, you can build anything that comes to mind, including any of the other modular standards listed here. Often, you may want to talk with other people who will by on the same layout to coordinate the edges of your "town", but that is totally up to you. The only requirement is to maintain the proper track clearance for your outside two tracks throughout the layout.



6 x 32-by-32

4 x 48-by-48

5 feet wide



To the left is a close-up of a module that was part of the 2005 NMRA LEGO Train layout. You can see the track positions and clearances, as well as the use of lots of town elements behind the tracks.

Below is an overview of the full layout. The circle denotes the placement of this module in the layout.

The layout was part of the 2005 NMRA Model Train Show in Cincinnati Ohio. It was created by 14 different LEGO clubs from all over North America. It boasted 30 moving trains, several monorails, over 2.7 million bricks, and was the single largest layout at the entire show.



One of the largest LEGO Train layouts ever made. 13 ILTCO clubs combined to make a layout that was 50' by 70' and had over 2.7 million bricks (NMRA Model Railroad Show, Cincinnati Ohio, 2005)



Train & Town

<http://www.pennlug.org> -- <http://news.lugnet.com/trains/>

PennLUG's Road and Track Standards

In an effort to take our club train layouts to the next level and add an increased level of detail our club, the Pennsylvania LEGO Users Group, has been working to develop a set of standards for ballasted track and brick-built roads. Here are few basic examples of how the whole system works. More complicated areas such as curves, intersections, and elevation changes are possible but require more detailed explanation and perhaps advanced building skills.

The ballasted track is built up with plates for a contoured ballast and uses 1 x 1 and 1 x 4 tiles for modeling railroad ties. These are built in sections on 32 x 32 stud baseplates with two side by side tracks to create a double track main line around our layout.

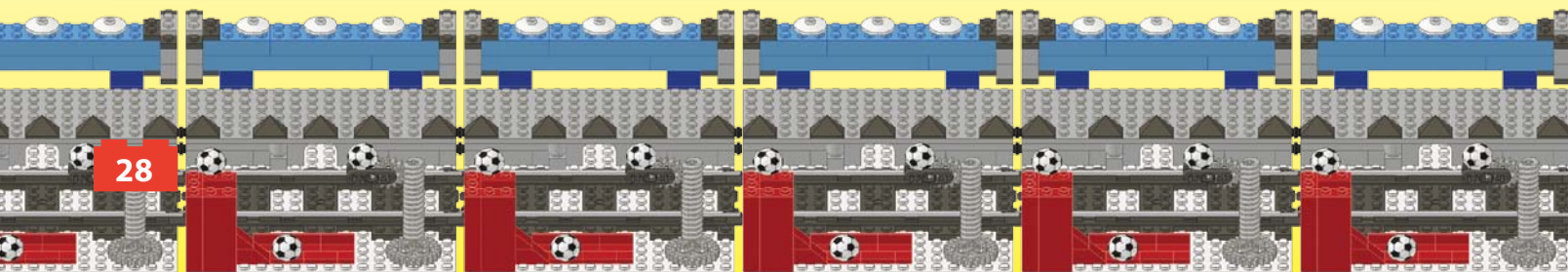
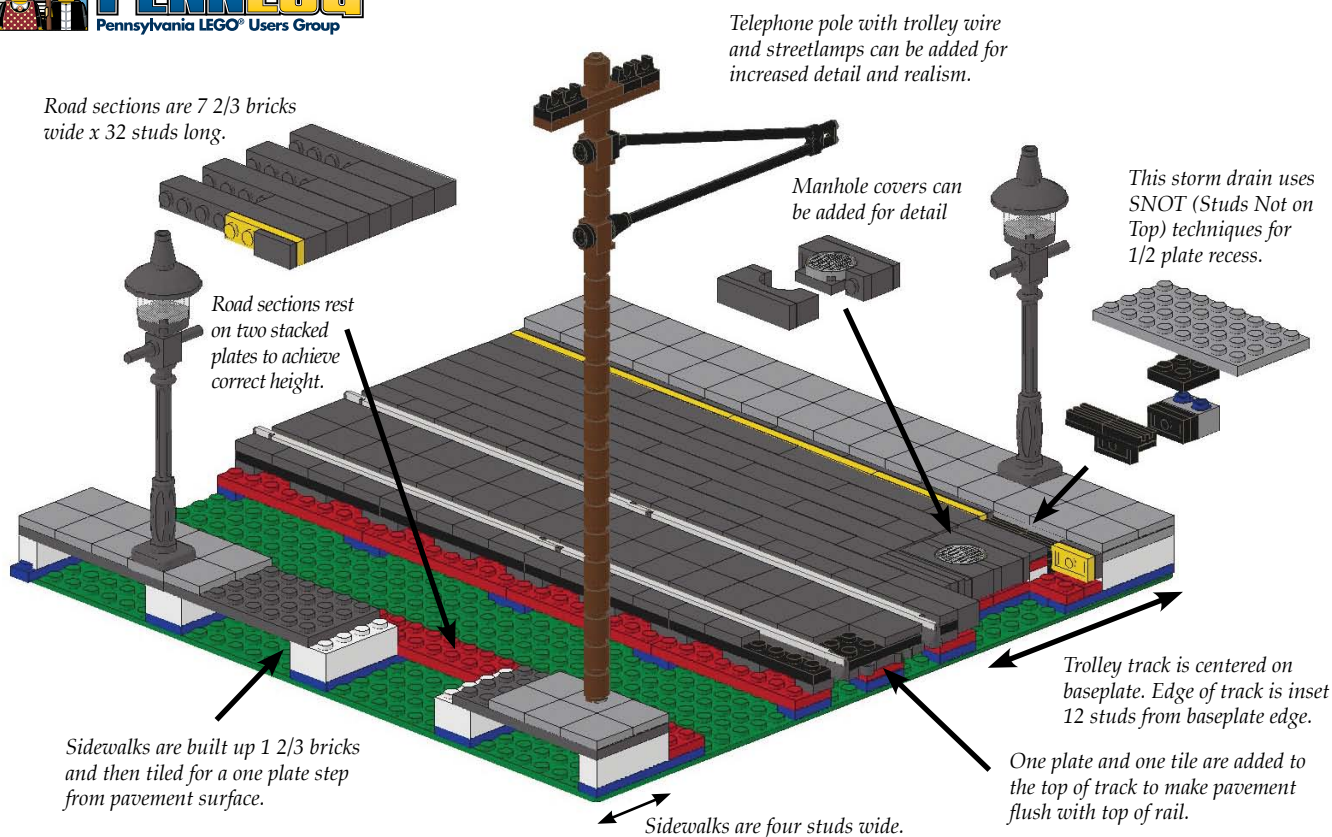
Road sections are built up for the addition of trolley tracks running through the street. The trolley track itself is elevated

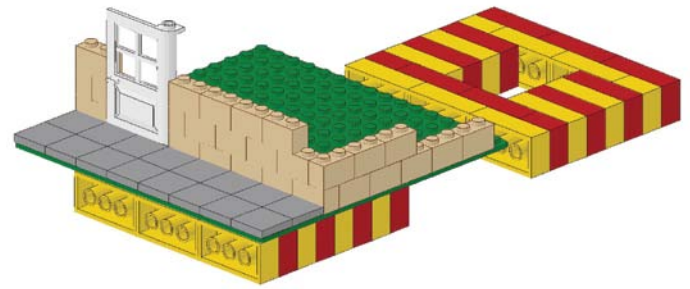
two plates to match our ballasted rail. The pavement sections are then built up to make them flush with the top of the rail. Sidewalks are four studs wide on each side of road section and when combined with additional sidewalk are from buildings such as a Café Corner they create a great area for posing mini figs in town.

When using buildings built directly on top of baseplates such as a Café Corner or Green Grocer spacer blocks are used to bring the building up to the same height as the side walk on the built up road sections. These blocks are made from stacks of 2x bricks laid on their side. The tiled baseplate of the building is then placed on top and the heights of each sidewalk will meet up perfectly. Alternatively building bases can be built up on the baseplate to match the height of the sidewalk and eliminate the need for spacer blocks.



Standard: Straight Street Section with Trolley Track



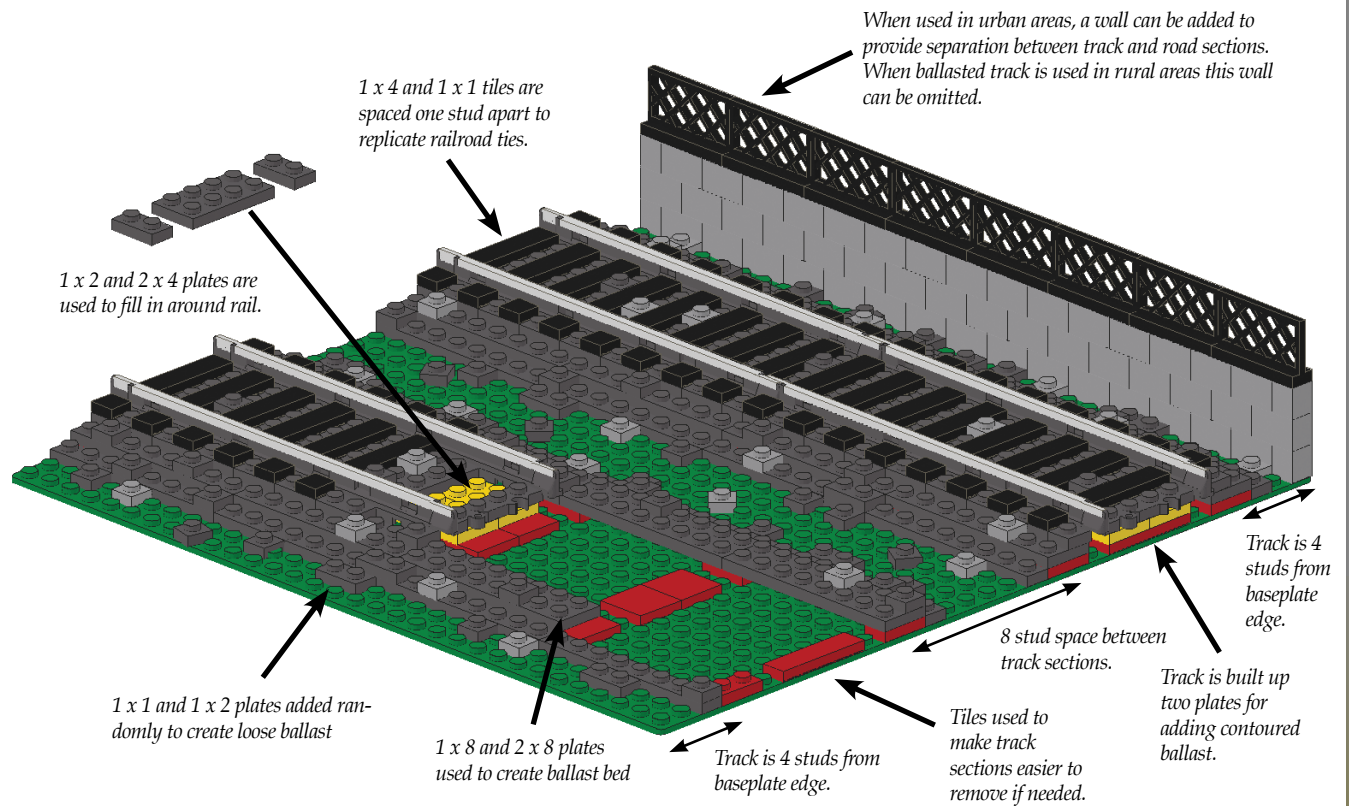


Above is an example of spacer block use with a 16 stud plate on top.

To the left is an example of both the rail and street standard at work. The front plate is a double track section (as defined below) and the back is a street with trolley (as seen on the previous page).



Standard: Ballasted Double Track Main Line



Moonbase

<http://www.brickiwiki.com/page/LEGO+Moonbase>

Basic Grid Layout:

- 48 x 48 baseplate (gray)

Restrictions:

- NO ground-level construction is allowed within a 4 stud margin of the edge of the baseplate

Connectors:

- Moonbase layouts use a single design for an centered, elevated corridor to connect modules. The corridors have two technic bricks on the edge to mate with the next module's corridor

Corridor Stanchion:

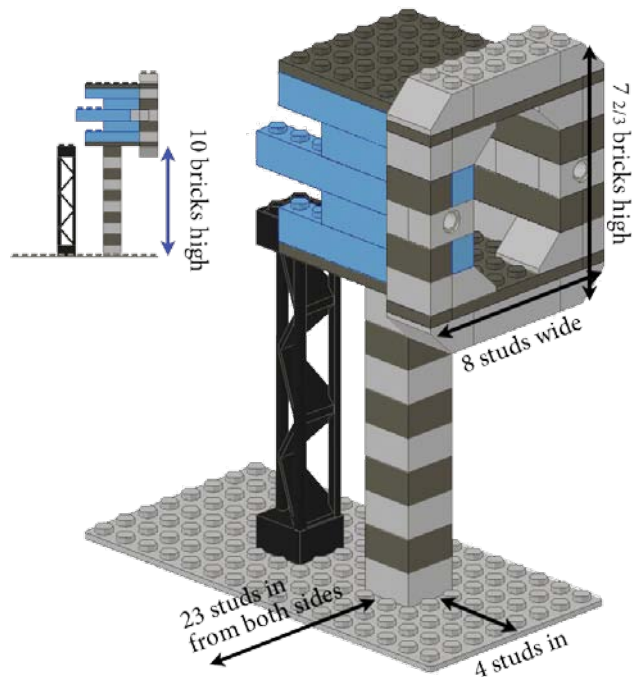
- 4 studs in from edge of baseplate
- 10 bricks high

Corridor:

- 6 studs wide
- 5 2/3 bricks high (including bottom and top plates)
- 2 studs in from edge of baseplate
- Must be centered on baseplate edges.

Airlock:

- 8 studs wide
- 7 2/3 bricks high
- 1 x 2 Technic bricks with one hole in the middle of each side
- Should rise 1 brick above and hang 1 brick below the corridor.

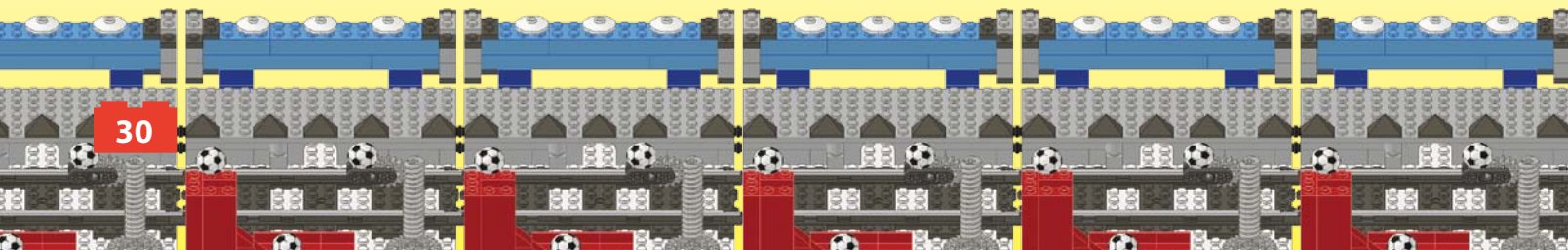


Corner Module:

- This has the same requirements as the straight section, but it has the connectors on two adjacent sides of the baseplate. These are usually built up with towers, etc.



A few MoonBase modules connected in a display (BrickFest PDX 04)



Classic Castle

<http://www.classic-castle.com/ccc/cccstandard.html>

Basic Grid Layout:

- 32 x 32 baseplate (green)

Castle Module Types:

- Straight and Corner

Connectors:

- 1 x 2 Technic bricks with 1 hole each
- centered on one edge of the baseplate

Wall:

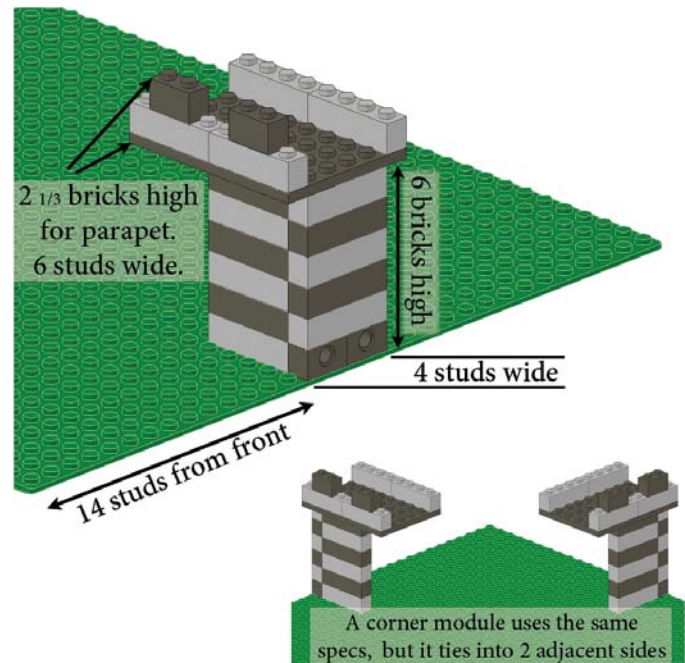
- 4 studs wide
- 6 bricks high

Parapet:

- 6 studs wide
- 2 1/3 bricks high

Module Middle Design Considerations:

- The specifications call primarily for meeting the connecting places properly, using the 2 technic bricks (as shown in the picture). Outside of that and making the edge the same size as listed above, you are free to create whatever you'd like. The wall can move around or have doors/gates or be taller or whatever, as long as the other end of your module brings the wall back to the proper size and location to meet with the next module's wall.



Corner Module:

- This has the same requirements as the straight section, but it has the connectors on two adjacent sides of the baseplate. These are usually built up with towers, etc.



Classic Castle module waiting to be joined to the next module (BrickFest PDX 04)

Great Ball Contraption

<http://www.teamhassenplug.org/GBC/>

Concept:

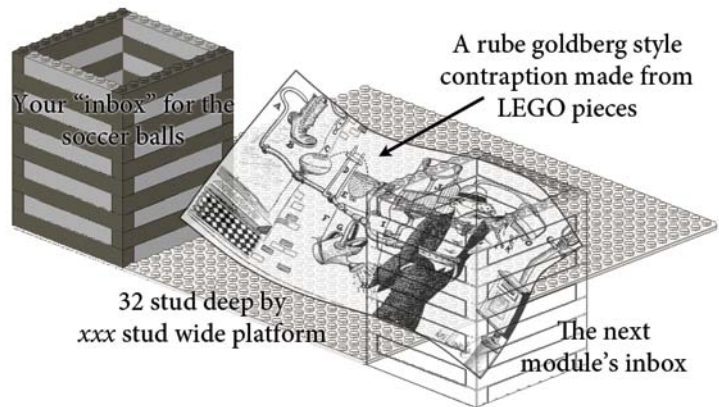
- The idea of the G.B.C. is to build a Rube Goldberg type machine that transfers LEGO soccer balls from one module to the next. The machines are fun to make and even more fun to watch.

Basic Layout:

- There are a few different ways of making basic layouts (see the link above for details), but the simplest one is based on a maximum 32 stud depth from the front of the basket.

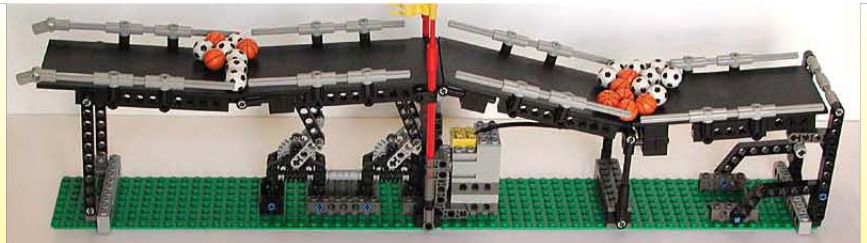
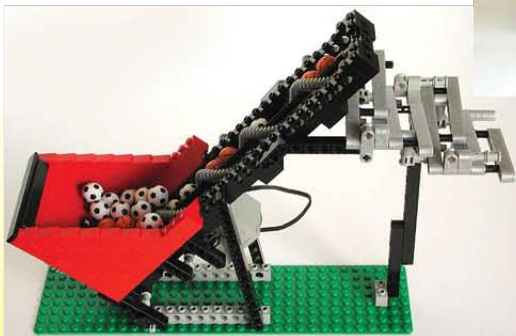
Module Build Rules:

- Each module should have an "in" basket, and will move balls to the next module's "in" basket, which must be directly in line.
- The IN basket should be 10 studs by 10 studs (outside dimension) with an 8 x 8 opening, and should be 10 bricks (beams) tall.
- The front of the basket should be 32 studs from the back of the module. This will allow all modules to be lined up against a wall. The back of the module CAN be closer to the basket, but not farther.
- The In basket should be located on the left side of

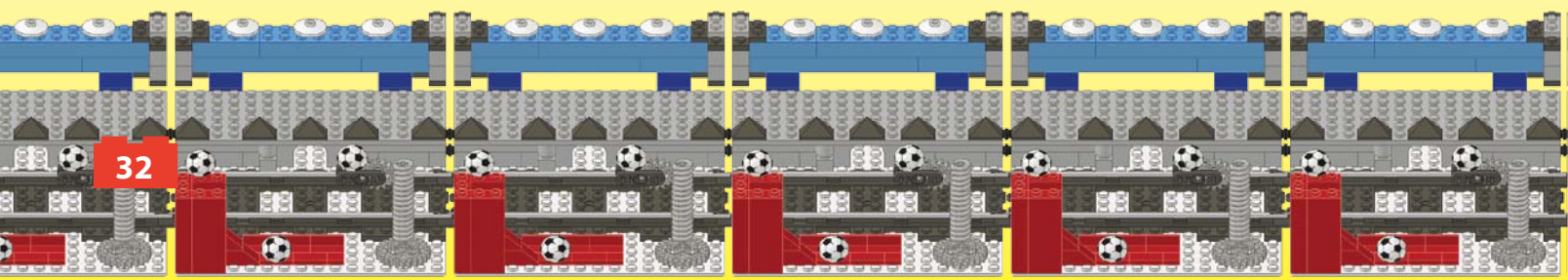


the module, and output should go to the right.

- There are no size limits, beyond those listed
- Each module should be able to accept balls at an average rate of 1 ball per second. Balls can be passed continuously, or in a batch. A batch should not exceed 30 balls.



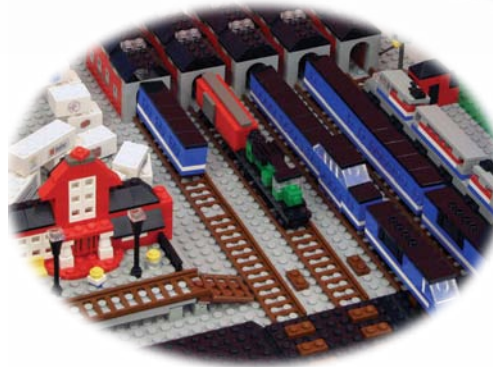
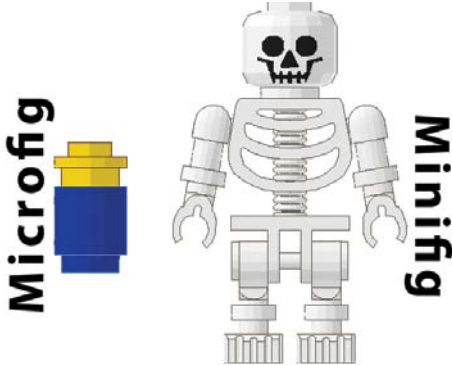
A few GBC modules that were designed and built by Philippe E. Hurbain (<http://philohome.com/gbc/gbc.htm>)



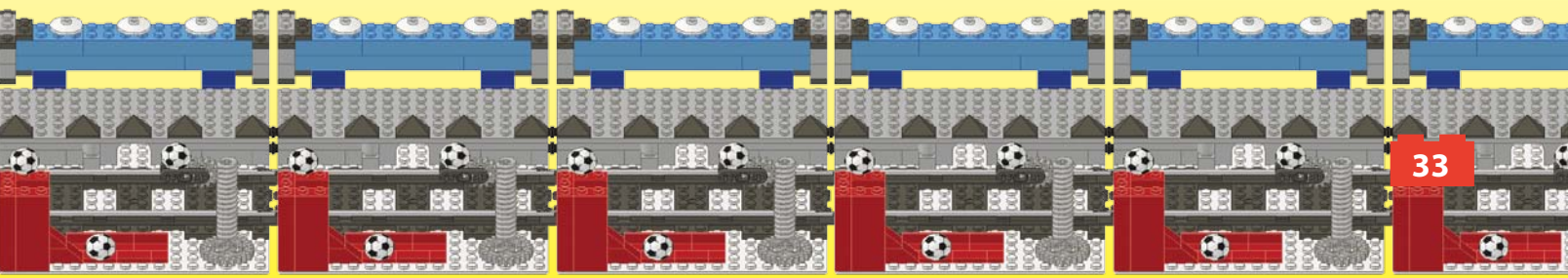
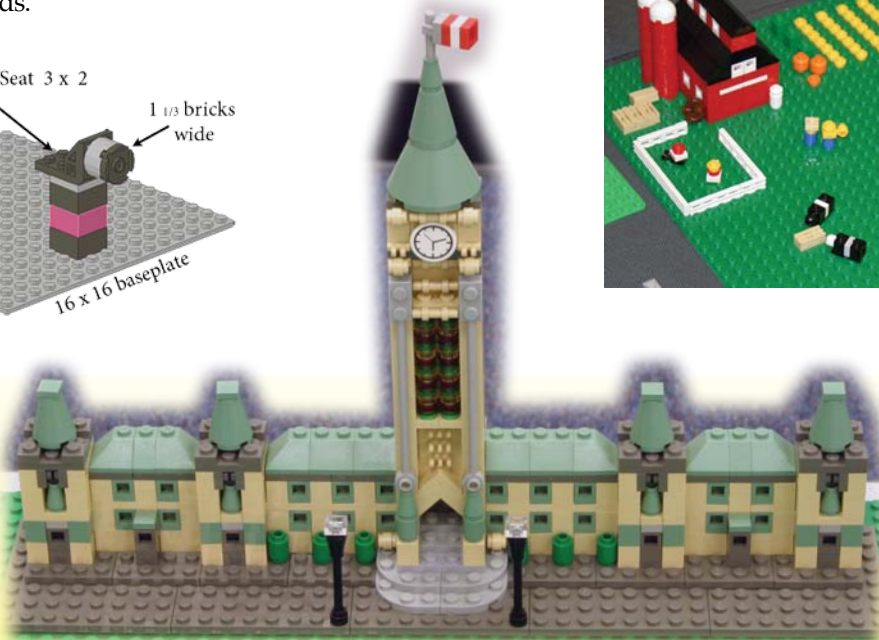
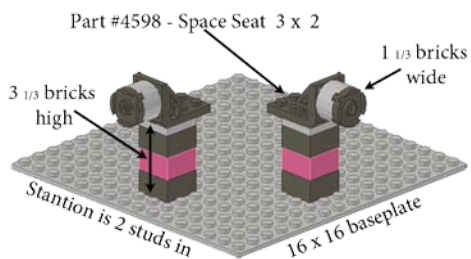
Micro Scale

<http://news.lugnet.com/build/microscale/>

This is more about a scale than a standard. Around 2004-2005, a new scale of builds became quite popular in the AFOL world. It is called MICRO scale. The requirements are actually quite simple. The scale defines the size of a "person" and all of the builds are geared toward a realistic rendering of that scale. The "micro-person" is exactly 4 plates tall, usually made of a 1 x 1 round brick (representing the body and legs) topped by a 1 x 1 round plate as the head.



People have gone further with layouts by defining other standards for the scale, like the ones covered in this article. I have included a sample "Micro Moonbase" standard as well as some layouts showing other micro standards.





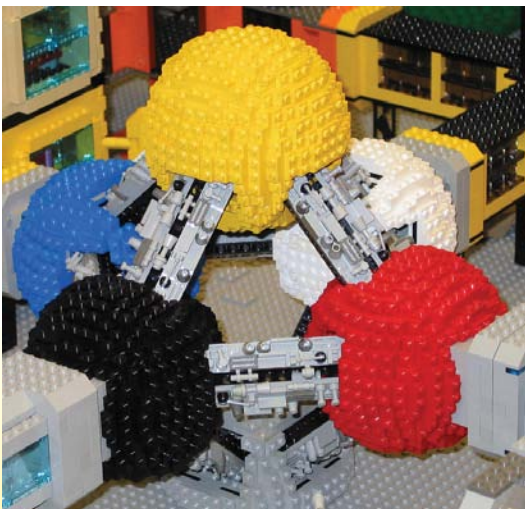
The Great Ball Contraption layout from BrickFest 2005, Washington DC



Day 1 of setup at the NMRA 2005 show in Cincinnati, OH. It took about 16 hours to get the layout up and running.



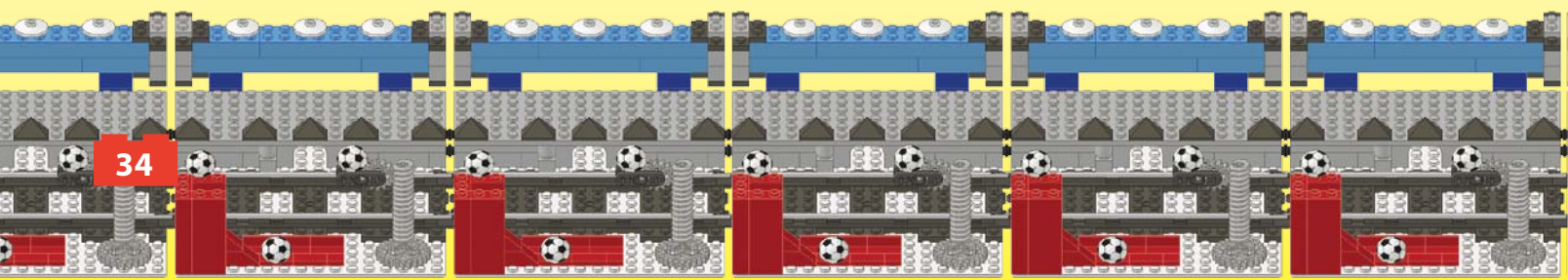
A Micro Moonbase module from NWBrickCon 2004 in Seattle, Wa



A very unique Moonbase module from NWBrickCon 2004 in Seattle, Wa



A Classic Castle layout from BrickFest 05 in Washington DC





The crowd enjoys the Train layout at the 2006 NMRA show in Philadelphia Pa



A rather large Moonbase module (BrickFest 2004, Washington DC)

Various layouts from several different shows

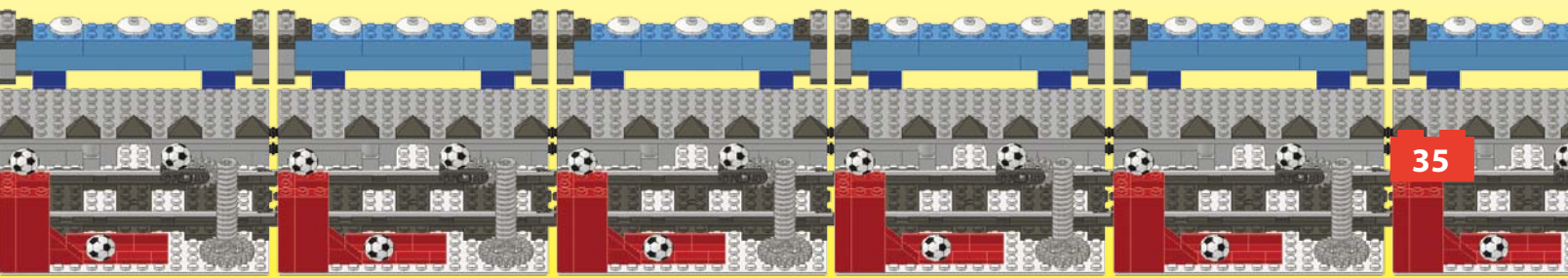


A Micro Castle layout from NWBrickCon 2004 in Seattle, Wa



So how does it get to the show?

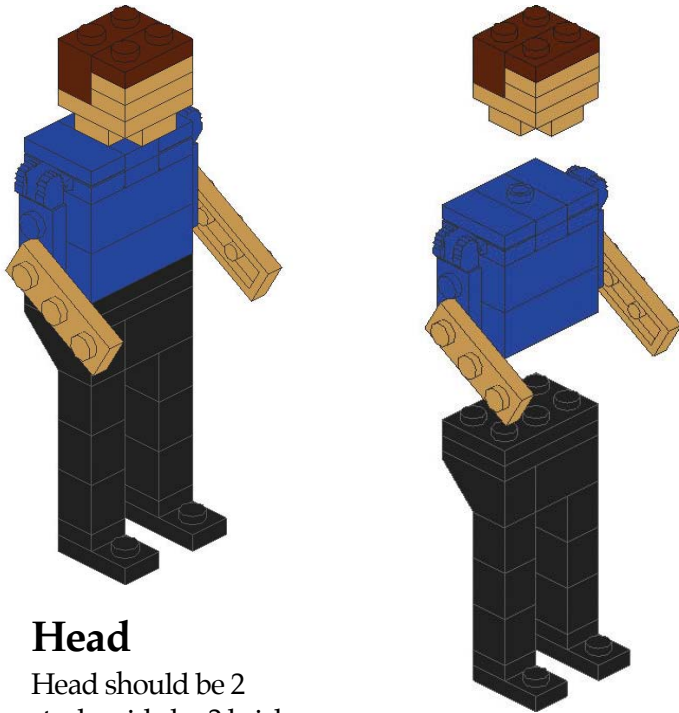
The Sand Hills Hotel being packed and then displayed at ScanFest 08, Charlotte NC



Miniland Figure

<http://www.modelbuildingsecrets.com>

Guidelines and Illustration by Mariann Asanuma



Head

Head should be 2 studs wide by 2 bricks deep. Head height can vary, but usually is 5 plates high.

Miniland scale refers to the 1/20 scale models that are used in all the LEGOLAND parks. Most adult Miniland figures are roughly 4 inches (10 bricks) tall, give or take, and are brick built.

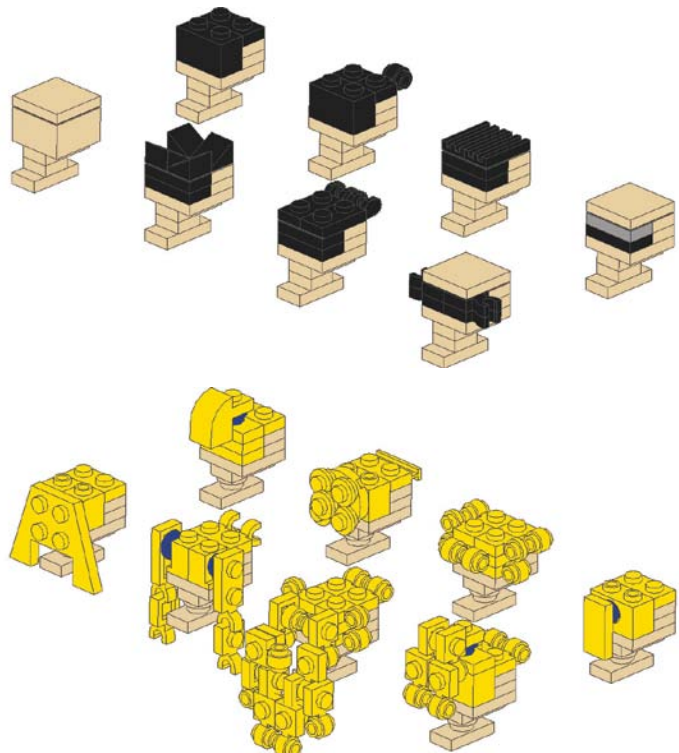
There are many advantages to building in Miniland scale. Miniland people can do a lot that Minifigures cannot do. Unlike Minifigs, Miniland people can have a variety of outfits, hairstyles, and accessories that have never been made in Minifig scale. Also, Miniland people can be short, fat, tall, skinny, or anything in between.

The larger scale of 1/20 instead of the Minifig scale of 1/50 has a lot of advantages to build in. You can get much more detailed and all the tools and weapons that are way too big in a Minifig's hands are just the right size in a Miniland person's hands.

A basic Miniland person consists of head, torso, and legs. There are countless variations that can be made, but here you can see a typical Miniland man and woman.

Both men and women have a variety of hairstyles they can choose; here are just a few examples to give you an idea.

This is just the tip of the iceberg when it comes to Miniland building, where you go from here is up to you.



Arms

Arms can be attached to the body either with a click hinge (above) or with a 1 x 2 Technic Brick with hole with a Technic Half pin inserted to add a side stud.



<http://www.flickr.com/photos/27826007@N05/>

Guidelines and Illustration by Angus MacLane

Head

Head should be 3 bricks wide by 3 bricks deep. Head height can vary, but usually is 4 bricks high.

1 stud should be visible on top of head in the center.

From the eyes to top of head should be at least 5 plates tall.

1 x 1 Technic brick with hole that holds the ears should line up with the nose.

Upper lip should be at least 1 plate tall.

Chin should be at least 2 plates tall below the teeth.

Neck is usually a 1 x 2 jumper plate (1 x 2 plate with 1 stud), but ideally 2 x 2 jumper plate (2 x 2 plate with 1 stud on top) if available.

Body

The body can range from 2-4 studs wide depending on the character, but it is ideally 3 studs wide and always 2 studs deep.

The body averages 3 bricks tall, not including the neck which is almost always 1 plate high.

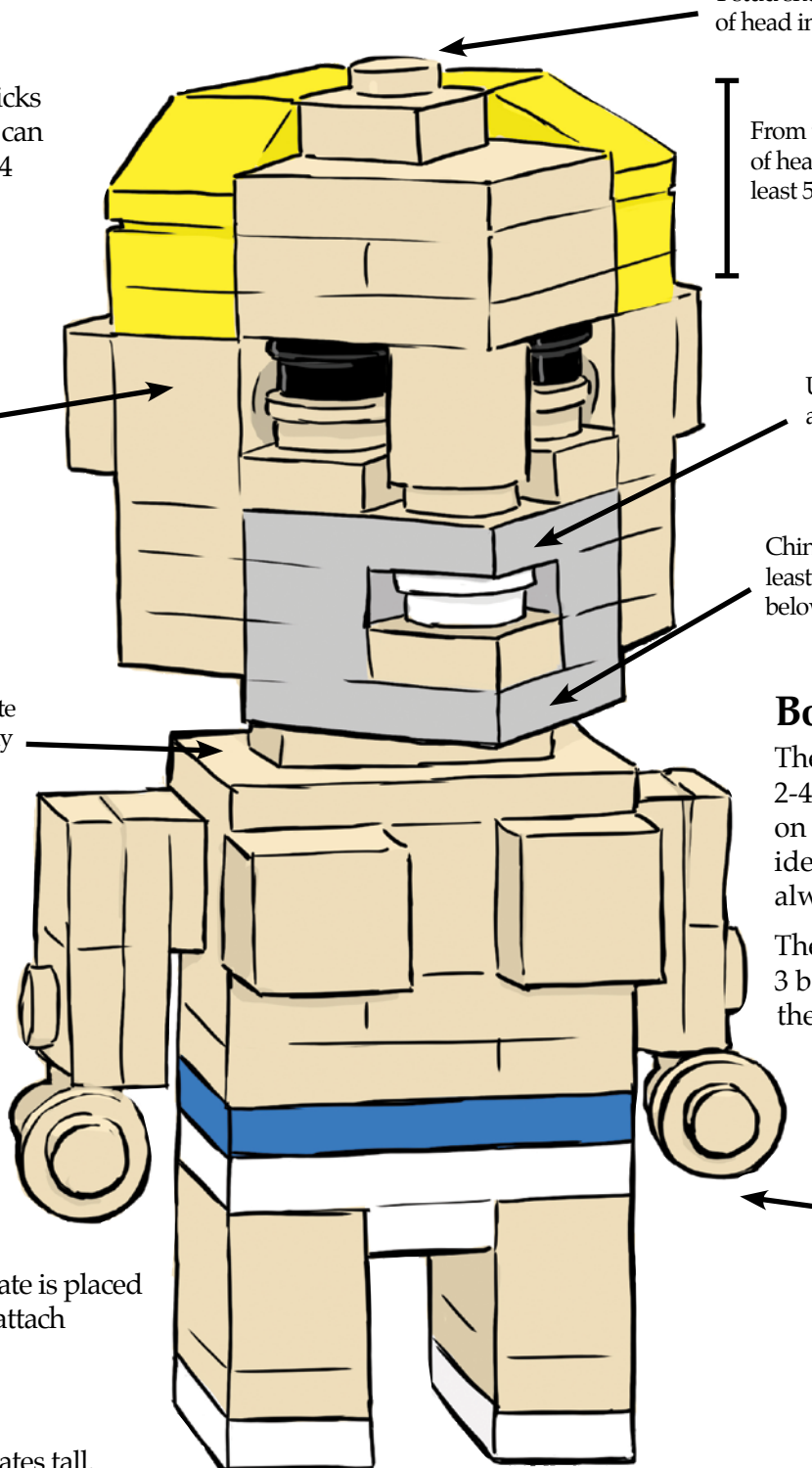
Arms

Arms are attached to the body with a headlight brick on each side of the body, with side studs pointing outward - a 1 x 1 plate is placed on the side stud to attach the arms.

Hands should always include 1 x 1 round plate on top of 1 x 1 modified plate with clip light unless an accessory is needed.

Legs

Legs should be 4 plates tall.



From Power Miners to Atlantis: How a Model Jumped Themes!

Not all models are designed perfectly the first time. Here, we get a look at a design that began in one theme, but was produced in another!

*Article by Hadley Scrowton
Photography by Mark Stafford*

This page: The first sketch model for set 8080, which was a non-transforming version of the mecha.





Hello again Mark, hope you're doing well?
Yeah, all good thanks. Enjoying the projects I'm working on.

How did you end up designing set 8080, the Atlantis Undersea Explorer? We thought you were working in LEGO Space!

I was! I still am in fact. However the Space Police, Power Miners and Atlantis teams were all working together last year, so as well as designing several of the Power Miners and Space Police sets I also had the opportunity to chip in some work on the exciting new Atlantis project.

Just this set though?

In the retail range yes, but I also designed the LEGO Club BrickMaster exclusive set (20013) and the Brick Master Atlantis book.

But you told us this actually started as a Power Miners set?

Kind of. When I was asked to do this set I first built an underwater Mecha vs. a mutant eel, I really liked it, and used a lot of my experience from Exo-Force in it. The model was stable and cool and I even nailed it on price with the first attempt. However we got feedback that they wanted a vehicle rather than a 'robot'.

But they got a mecha anyway, how did that happen?

That's where the Power Miners connection comes in. As I often tell people 90% of the models you build as a LEGO Designer never come to full fruition as a LEGO set, but if an idea is cool enough you keep hold of it and hope its time comes. (Like the Mars Mission motorcycle that ended up in Agents set as I revealed in issue 2 of Brick Journal) Back in 2008, during the early Power Miners development I built a transforming truck that stood up as a mecha, we decided at the time that although it was cool it was not a function that worked with the heavy machinery of Power Miners, so I set it aside and worked on other ideas.



This page: The first version of the transforming mecha.



After the rejection of the pure mecha as an Atlantis set, I convinced Will Thorogood, my Design Lead on Atlantis (Space Police and Power Miners) to see if they might accept a sea bed vehicle that transformed into a mecha, therefore getting the best of both worlds. He backed me, and we sent photos of the first sketch model off. They loved it, and here we are.

But they chose to portray it as a Mecha on the box?

Yeah, after all that! Still, it was the right decision to reject it first time around; the original mecha model looked cool but had very little play to it. It was a robot vs. eel fight, but nothing else. The transforming function makes this so much cooler. Now it's an exploration vehicle with the ability to become a cool mecha when attacked by the guardians of the Atlantis Portal. It's a far better toy.


So do you have many more 'rejected' models on your desk you hope to slide in somewhere in future?

A few, but not as many as you might think, really cool ideas have a way of mutating into something usable pretty quickly, so only 2 or 3 full models are waiting for that perfect project to come along. I have a lot of 'table scraps' though, cool brick geometries and unusual techniques that I might one day find a use for, or be able to turn over to another designer for their models!

Can you tell us if you continued in Atlantis, or went on to more Space Police sets?

As Will told me: "Underwater is a chance to design spaceships with propellers." and I like to build spaceships! But sorry, I can't talk about future lines. I can also tell you that LEGO Space continues as an evergreen (theme), so there will always be a LEGO sci-fi line just like there will always be a Castle line, but these will be refreshed every two or three years with a new direction and new protagonists. Make of that what you will!

Thanks for your time Mark, until next time!

Cheers, take care! 

*You can see more of Mark's models at
<http://www.mocpages.com/home.php/4516>*

If you have a QR code reader on your phone, you can scan the code to the right to go directly to Mark's web page.



This page: The final version of the transforming mecha, with the set box in the middle.

Hello again all friends, it's a great pleasure for me to join again for this fantastic issue of *BrickJournal*. Like before, the mini model presented here is associated to the general theme covered in this issue, which is about education. Here I'd like to connect the education theme with the *Star Wars* universe with an architectural mini model.

After the fall of the Empire and the return of the Jedi, namely Luke Skywalker, he was the first of a new generation of Jedi Knights. His plan was to set up an academy to train and educate force-sensitive people to eventually become Jedi Knights of the New Republic. Eleven years after the destruction of the first Death Star, his search for an appropriate location for his academy brought Luke Skywalker back to the fourth moon of Yavin. There the ancient Massassi Temple had served the Rebel Alliance as their headquarters until the Battle of Yavin.

Like the Jedi Temple on Coruscant, the Great Temple of the Massassi is a ziggurat, but with the difference that here a pentagonal layout was used. Pentagonal shapes are very difficult to realize with bricks, however, the 2 x 3 wedges provide an excellent method to construct a perfect pentagon. The construction was then performed from the pentagonal top to the bottom, and then completed by the topmost levels in a standard squared manner. Luke Skywalker's X-Wing (a new micro design, although not in scale) rounds up the design and bridges the gap between Rebel Base and Jedi Academy.

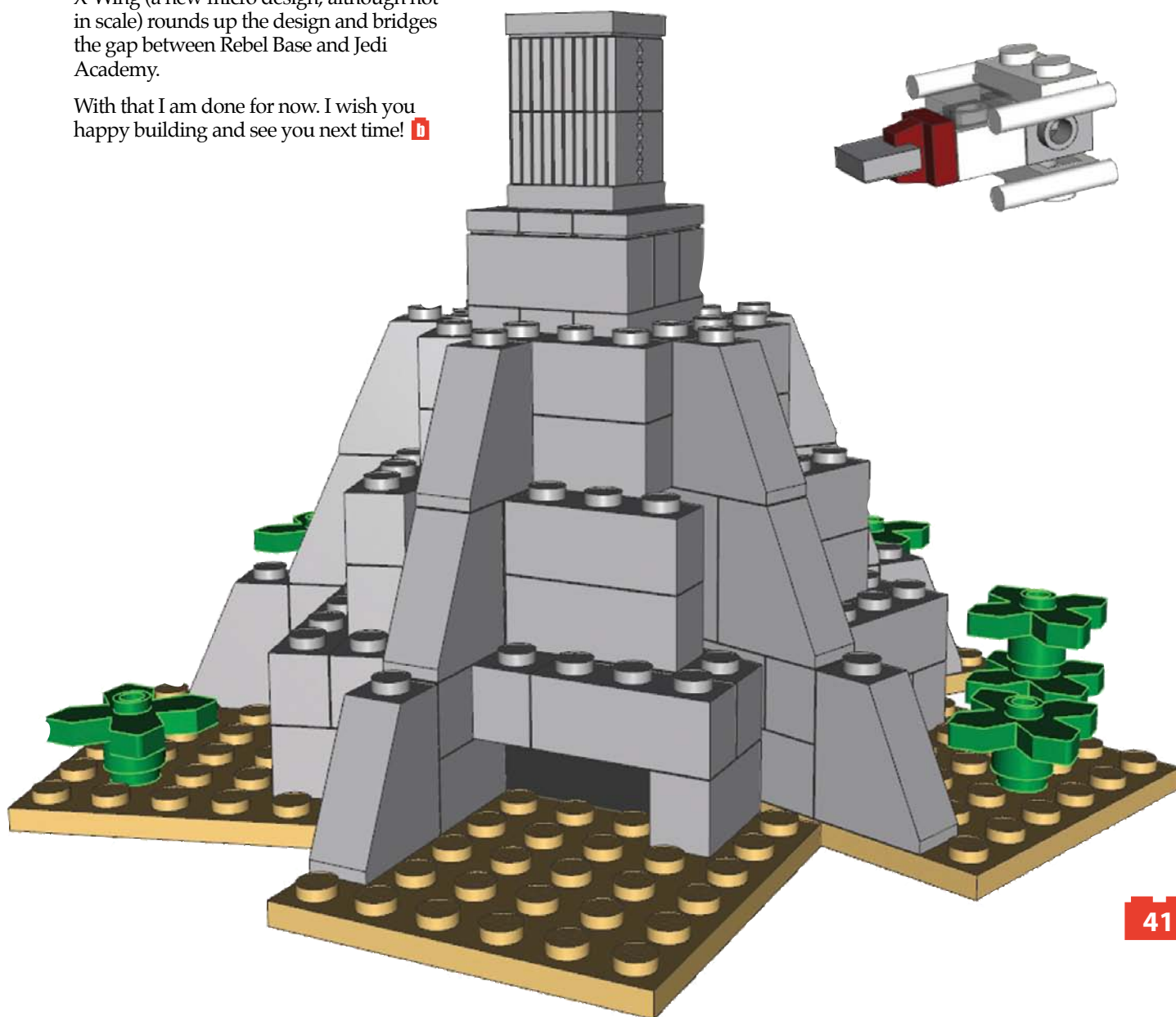
With that I am done for now. I wish you happy building and see you next time! 

You Can Build It

MINI Model

Luke Skywalker's Jedi Academy

*Design and Instructions
by Christopher Deck*



Parts List

Inner Column

Numb.	Color	Part	Description
2	Md. Stone Gray	3005.dat	Brick 1 x 1
2	Md. Stone Gray	3003.dat	Brick 2 x 2
4	Md. Stone Gray	43898.dat	Dish 3 x 3 Inverted
2	Md. Stone Gray	4073.dat	Plate 1 x 1 Round

Five Outer Walls

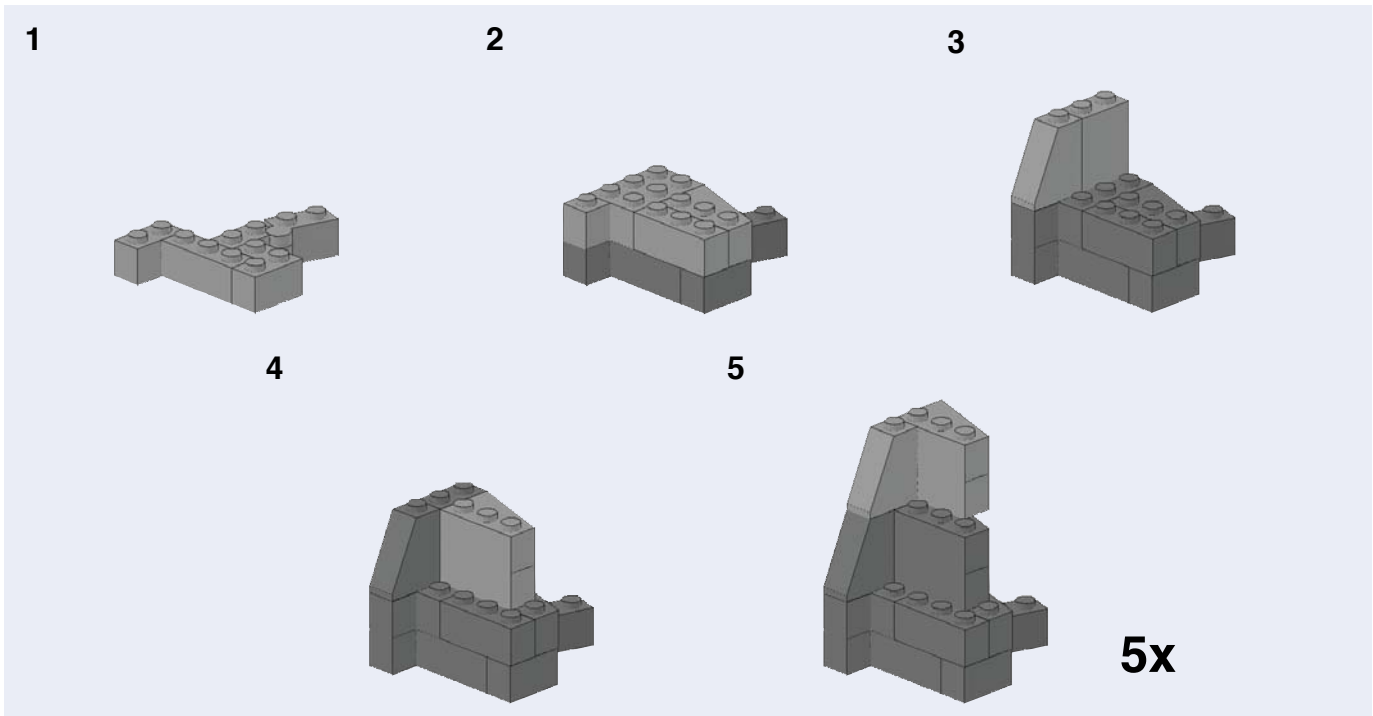
Numb.	Color	Part	Description
5	Md. Stone Gray	3005.dat	Brick 1 x 1
5	Md. Stone Gray	3004.dat	Brick 1 x 2
5	Md. Stone Gray	3245a.dat	Brick 1 x 2 x 2
10	Md. Stone Gray	3622.dat	Brick 1 x 3
5	Md. Stone Gray	2357.dat	Brick 2 x 2 Corner
5	Md. Stone Gray	3002.dat	Brick 2 x 3
5	Md. Stone Gray	3831.dat	Hinge Brick 1 x 4 Base
5	Md. Stone Gray	3830.dat	Hinge Brick 1 x 4 Top
10	Md. Stone Gray	60481.dat	Slope Brick 65 2 x 1 x 2
25	Md. Stone Gray	6565.dat	Wedge 3 x 2 Left
5	Tan	3958.dat	Plate 6 x 6

Top

Numb.	Color	Part	Description
4	Md. Stone Gray	2877.dat	Brick 1 x 2 with Grille
3	Md. Stone Gray	3622.dat	Brick 1 x 3
1	Md. Stone Gray	3024.dat	Plate 1 x 1
3	Md. Stone Gray	3623.dat	Plate 1 x 3
1	Md. Stone Gray	3022.dat	Plate 2 x 2
2	Md. Stone Gray	30039.dat	Tile 1 x 1 with Groove
2	Md. Stone Gray	63864.dat	Tile 1 x 3 with Groove
1	Md. Stone Gray	3068b.dat	Tile 2 x 2 with Groove

Exterior

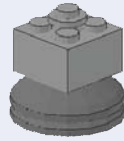
Numb.	Color	Part	Description
1	White	4070.dat	Brick 1 x 1 with Headlight
1	Md. Stone Gray	4733.dat	Brick 1 x 1 with Studs on Four Sides
2	White	3839b.dat	Plate 1 x 2 with Handles Type 2
1	Md. Stone Gray	2555.dat	Tile 1 x 1 with Clip
1	Trans-Black	3070b.dat	Tile 1 x 1 with Groove
1	Md. Stone Gray	3070b.dat	Tile 1 x 1 with Groove
12	Green	4727.dat	Plant Flower 2 x 2 Leaves



6



7



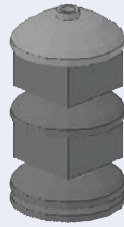
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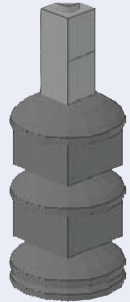
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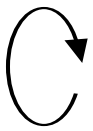
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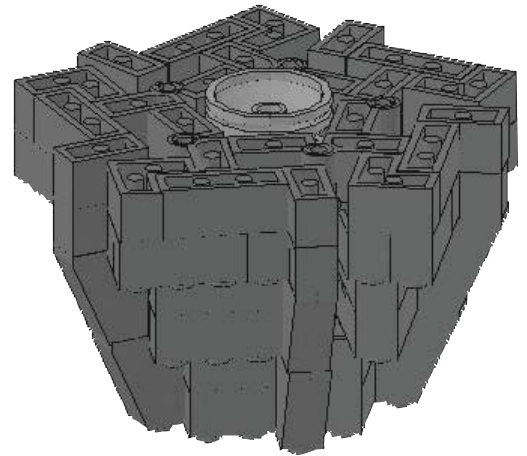
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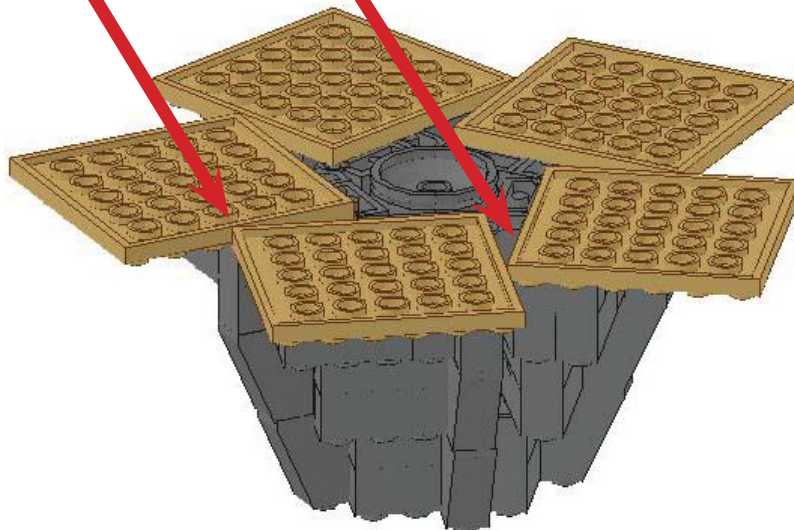
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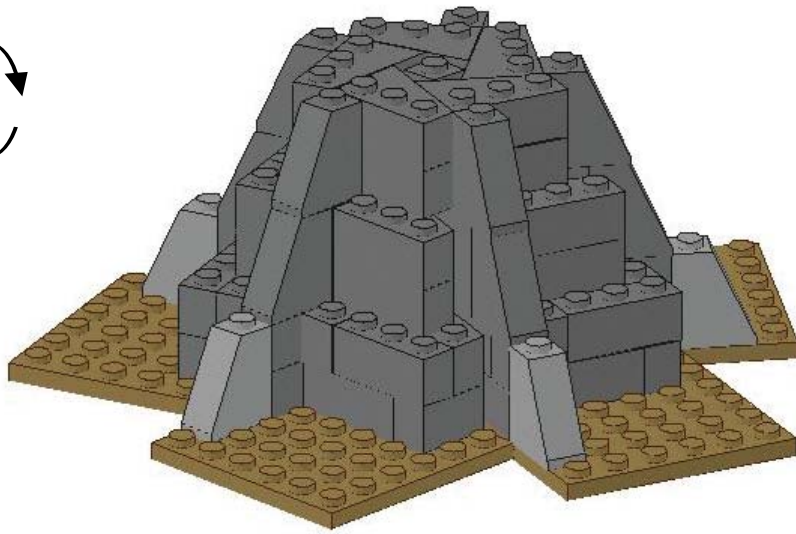
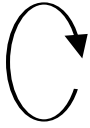
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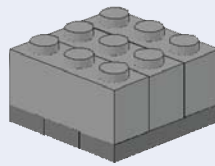
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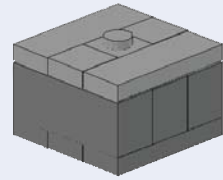
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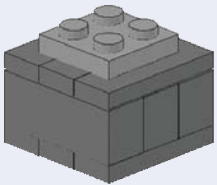
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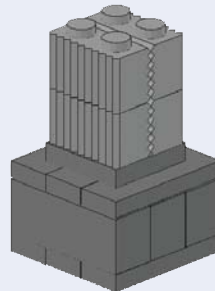
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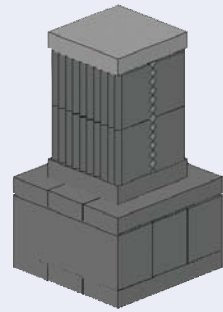
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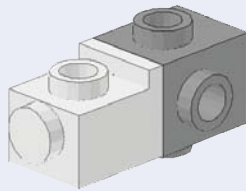
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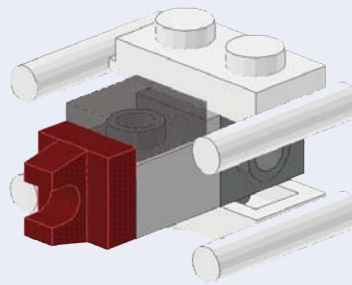
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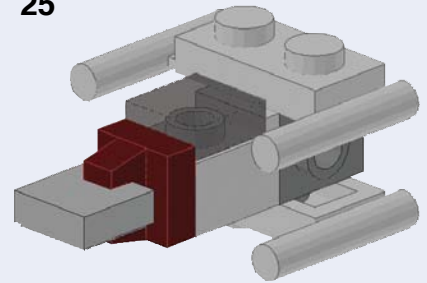
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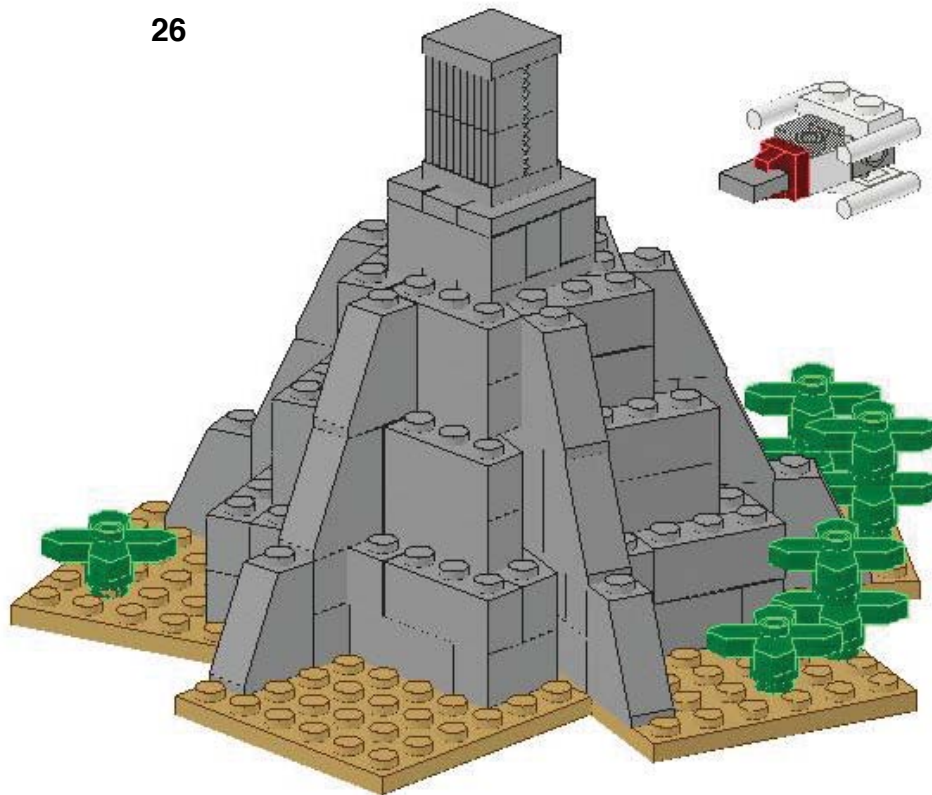
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You can see more of Christopher's models at his webpage:
<http://www.deckdesigns.de/>

If you have a QR code reader on your phone,
 you can scan the code to the right to go
 directly to Christopher's website.



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Building Minifig Customization 101 Expressions!

Article by Jared K. Burks

Editor's Note: I know many of you were expecting a display article as alluded to last issue; however I mixed up the publication dates so that article will follow in next issue. Many apologies for the error. — Joe Meno



Guidelines for the creation of a standard head decal in the style of The Lego Company.

Note 1: The guidelines are based on the new design of the official Lego head (with eye twinkle).
Note 2: The guidelines are based on most common design use by TLC.
Note 3: Other possibilities are always possible.

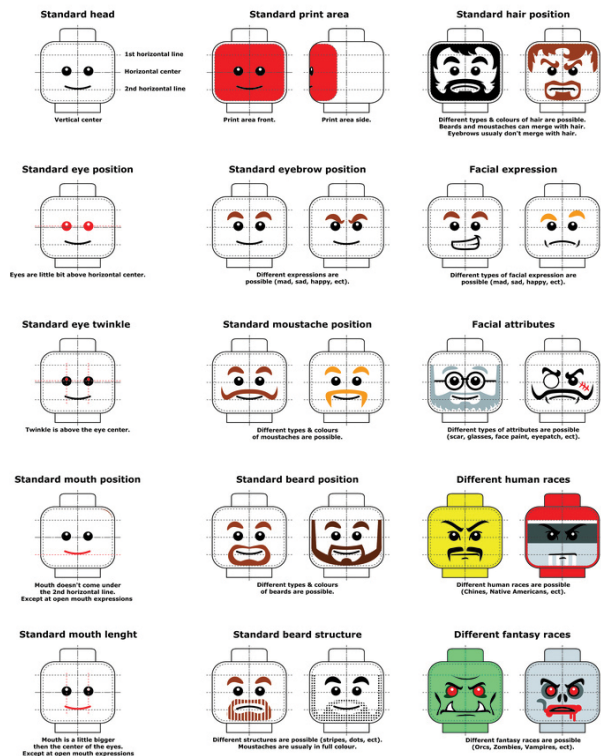


Figure 1. Kurt "Capt. 5p8c3" Meysmans' Minifigure Head Guidelines. Please note the placement of the minifigure eyebrows, eyes, and mouth. Kurt nicely presents the information making it easy to create most any minifigure face.

I am sure that everyone is diligently hunting for the minifigs from the Collectible Minifigure Series, just as I am. There is an important detail that the LEGO® Group has emphasized in these series that is the discussion of this article, "Minifig Expressions." By adding expressions to your custom figure's face it makes that figure more real and more recognizable. It adds that little detail that makes them at home in the custom vignette or build where they are placed.

In this article I will discuss completing the minifigure design by adding an expression to the minifigure face. As the song from *Amie* states, "You are never fully dressed without a smile." The LEGO Group has subscribed to this philosophy for years — just look at how many "smileys" the LEGO Company has supplied us with over time! Luckily, in recent years, the LEGO Group has started to supply us with more expressions. However, I think, as a customizer, we can do better to capture those grimaces, snarls, frowns, and overjoyed expressions. This is especially true with today's generation, who has grown up with instant messaging and texting services with the plethora of emoticons (These same emoticons can serve as inspiration or foundations for your expression creations). Why can you express emotion in a text message and not in a custom figure? Make sure you make your figures as expressive as they can be.

To begin, let's think about the scale of the minifigure face. Something I have struggled with (and I am sure others have as well) are the dimensions of the LEGO head and the scale of the LEGO face. As we all know the LEGO figure is in a unique scale. The head is no exception. Thus, we need to evaluate what the LEGO Group has done to better understand the dimensions of the minifigure face. Luckily most of the work has been done for us by Kurt "Capt. 5p8c3" Meysmans' in his Minifigure Head Guidelines. He clearly and concisely lays out where to place the eyes, eye twinkle, eye brows, and mouth on the head. He shares his guidelines on Flickr, <http://www.flickr.com/photos/26161965@N06/3507059999/>. The foundation of his layout is what is taught in face drawing: the rule of thirds, which divides the face into 3 equal portions vertically. This allows for the scale and placement of the facial features to be properly placed and in scale to the figure. In Kurt's guide he also supplies great examples of beards and mustaches and the inclusion of hair in the face design. Decal designs featuring hair require the decal to flow onto the curve of the minifigure head to allow the decal to be properly placed in


relation to hats or other minifigure head accessories.

Using the information in Kurt's guideline I have created a decal template of my own that I commonly use to draw minifigure faces. This helps me keep the face in proportion to the LEGO head. I have placed all the lines on a single template to make it more inclusive. Also in my template I include the complete wrapping area in case the design needs to completely encompass the minifigure head.

Now that we have conquered the scale of the minifigure face, we can start to imagine the different expressions we can create. It is important to match the minifigure expression to the figure and to its surroundings. By making the expression fit the surroundings, you will find that by customizing this small area of the figure you can add humor or interest to your figures and MOCs. Just some of the expressions for the standard figure I have created are presented in Figure 3. In this photo by Jordan "SirNadroj" Schwartz, he has added humor in displaying the minifigure expression by using the construction worker with the shocked expression.

The basic expressions that can be created could be added to most any design. The expressions presented in figure 3 are presented in flat form in figure 4. Most of these were inspired by cartoonist's facial expressions and the basic vowel sounds (A, E, I, O, and U) to allow the figures to have almost lifelike speaking mouth movements. If you look into the basic cartoon shapes of the human face many expressions can be extrapolated into LEGO form. Remember that facial expressions don't stop with two eyes, two brows, and lips. I have added tattoos, scars, ears, noses, ear rings, nose rings, and much, much more. If you see it in your inspiration add it to your design.

Once you have your facial expression drawn, either on computer or on paper, you can add it to your minifigure's head by a few different methods. In previous articles I have discussed the creation of waterslide decals, a viable option here — I would refer you to Issue 9: Decal Design. A second option is really a modification of the first. If you have drawn your face on paper you can scan it into the computer and bring the scanned image into a vector art program. Once in the program you can convert the image with a raster-to-vector conversion (most vector programs have this option and they work with various degrees of success). If the conversion doesn't work for you, you can trace your design in the vector program from the scanned image and size according to the templates supplied in this article. Once appropriately scaled, decal printing and application would be the same as above and mentioned in the reference. The third option would be to paint the face directly onto the minifigure's head. This takes very small brushes and a steady hand. I have even seen some people use needles to apply very small droplets of paint, so this option takes practice and requires you to find applicators that work for you to deliver the small amounts of paint required.

The next time you sit down to create that favorite figure, ask yourself what expression he or she would commonly wear. Once you have established what the common expression is, think about how you could take your figure to the next level by adding something a little different. Give your figure a bit more character by expanding his or her facial expression. 

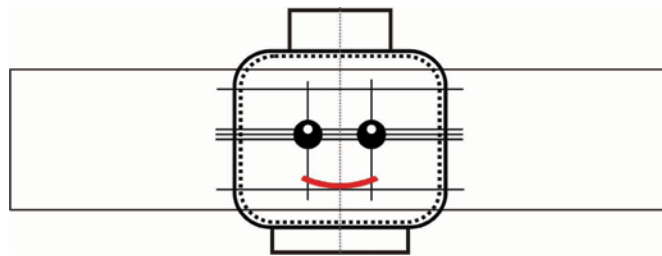


Figure 2. Minifigure face template. Using this simple template you can create most any face to LEGO scale.

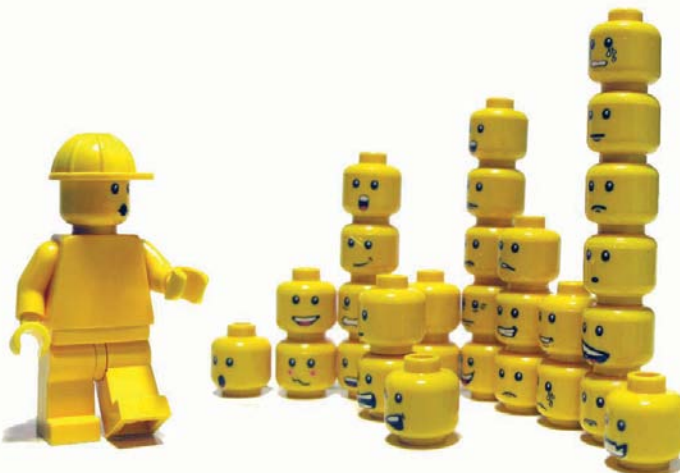


Figure 3. Expressions, photo by Jordan "SirNadroj" Schwartz. Notice the humor he employs by using the "O" expression to show the figures surprise.

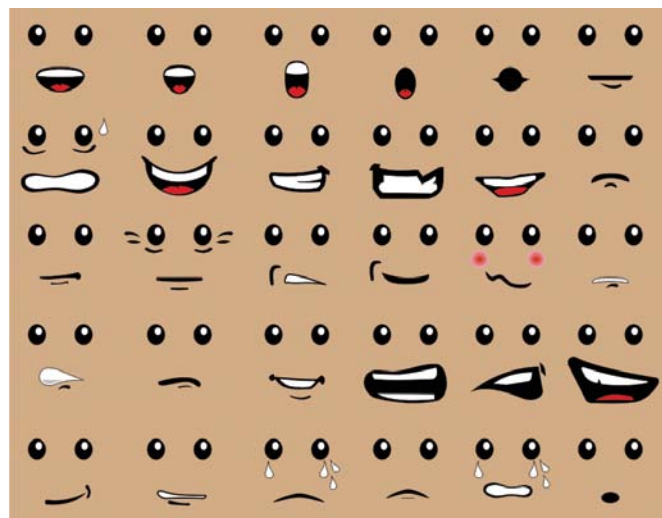


Figure 4. Basic expressions: Row one includes the basic vowel sounds (A, E, I, O, and U). The faces continue through the basic emotions. Notice that in some cases the mouth needs to be oversize to complete the expression.

You can see more of Jared's work at his webpage:
www.fineclonier.com

If you have a QR code reader on your phone, you can scan the code to the right to go directly to Jared's website.



Next Time:

Minifig Customization 101 –Minifig Displays!!!


You Can Build It

School Bus

All Aboard!

*Design and Instructions
by Geoff Gray*

To go with the theme of this issue, here's a design for a school bus that is minifig scale! With an opening door and removable roof, the bus is a great addition to any layout.

Have fun building! 

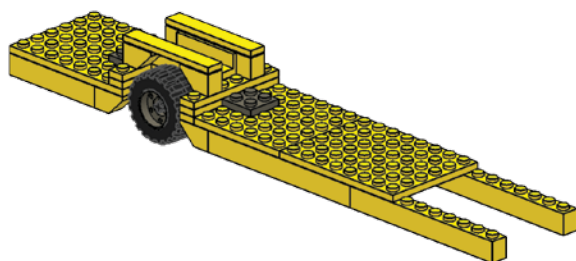
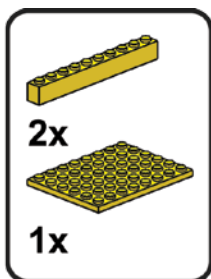


Parts List

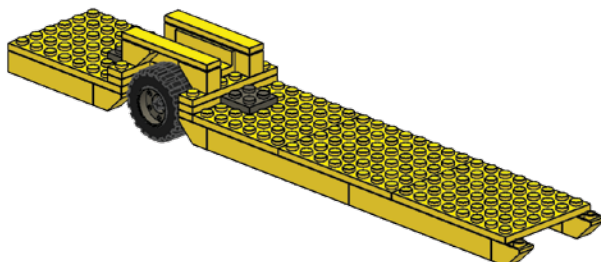
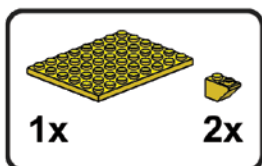
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3	Yellow	3036.dat	Plate 6 x 8
17	Yellow	6556.dat	Train Window 1 x 4 x 3 New
80	Yellow	50950.dat	Slope Brick Curved 3 x 1
12	Yellow	3009.dat	Brick 1 x 6
1	Trans Clear	4864b.dat	Panel 1 x 2 x 2 with Hollow Studs
2	Black	2877.dat	Brick 1 x 2 with Grille
5	Black	3795.dat	Plate 2 x 6
2	Yellow	3622.dat	Brick 1 x 3
6	Yellow	3666.dat	Plate 1 x 6
10	Black	3666.dat	Plate 1 x 6
1	Dark Gray	2436.dat	Bracket 1 x 2 - 1 x 4
2	Dark Gray	3832.dat	Plate 2 x 10
2	Yellow	3021.dat	Plate 2 x 3
4	Trans Yellow	4073.dat	Plate 1 x 1 Round
4	Trans Red	4073.dat	Plate 1 x 1 Round
4	Dark Gray	3700.dat	Technic Brick 1 x 2 with Hole
4	Yellow	2555.dat	Tile 1 x 1 with Clip
4	Red	2555.dat	Tile 1 x 1 with Clip
4	Dark Gray	55982.dat	30.4 x 14 Wheel with Axlehole
12	Yellow	3023.dat	Plate 1 x 2
6	Black	3023.dat	Plate 1 x 2
18	Yellow	3665.dat	Slope Brick 45 2 x 1 Inverted
4	Black	3665.dat	Slope Brick 45 2 x 1 Inverted

Numb.	Color	Part	Description
2	Yellow	6636.dat	Tile 1 x 6
3	Black	6636.dat	Tile 1 x 6
2	Black	32073.dat	Technic Axle 5
2	Yellow	3005.dat	Brick 1 x 1
2	Trans Clear	3005.dat	Brick 1 x 1
4	Yellow	6111.dat	Brick 1 x 10
2	Yellow	3020.dat	Plate 2 x 4
2	Yellow	30413.dat	Panel 1 x 4 x 1
10	Black	4477.dat	Plate 1 x 10
4	Yellow	2420.dat	Plate 2 x 2 Corner
4	Black	2540.dat	Plate 1 x 2 with Handle
4	Black	3623.dat	Plate 1 x 3
2	Yellow	3623.dat	Plate 1 x 3
1	Trans Clear	826.dat	Door 1 x 3 x 4 Right with Window
2	Yellow	3958.dat	Plate 6 x 6
6	Black	3958.dat	Plate 6 x 6
1	Trans Clear	4176.dat	Windscreen 2 x 6 x 2
1	Yellow	890p01.dat	Roadsign Clip-on 2 x 2 Octagonal w/ Red Stop Sign Pattern
1	Yellow	2921.dat	Brick 1 x 1 with Handle
4	Black	30391.dat	30391.dat
1	Yellow	3010.dat	Brick 1 x 4
1	Yellow	3710.dat	Plate 1 x 4
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14	Black	2431.dat	Tile 1 x 4

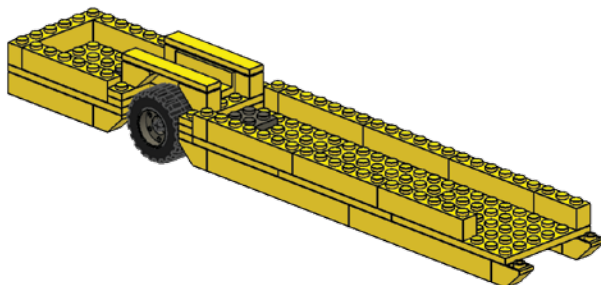
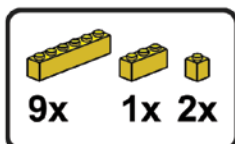
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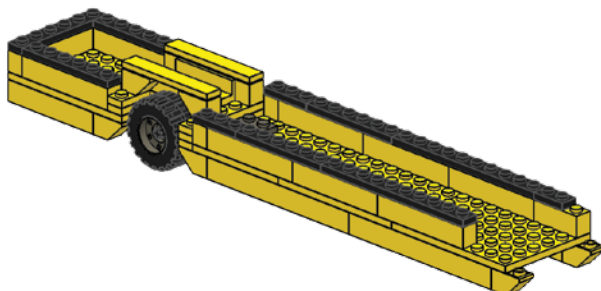
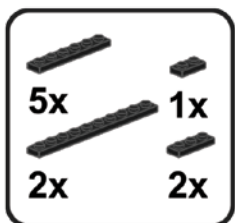
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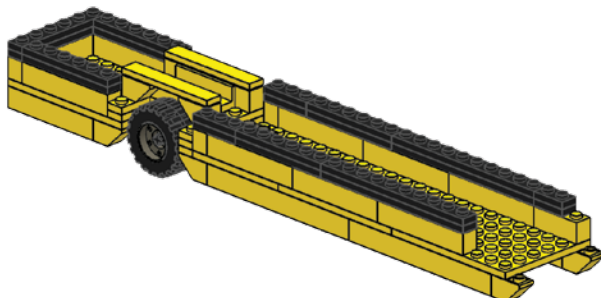
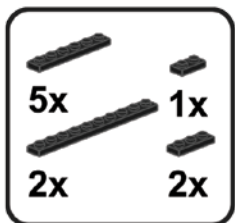
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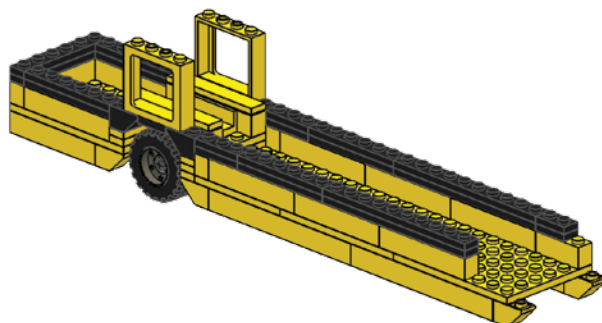
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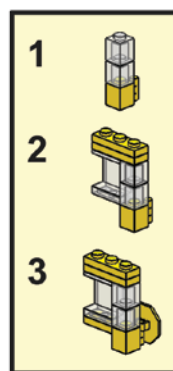
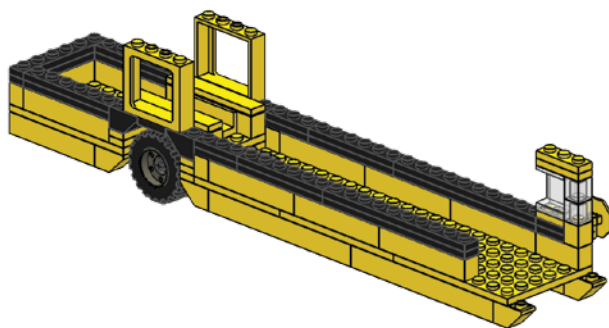
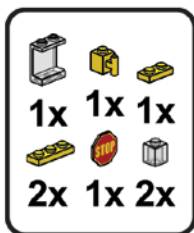
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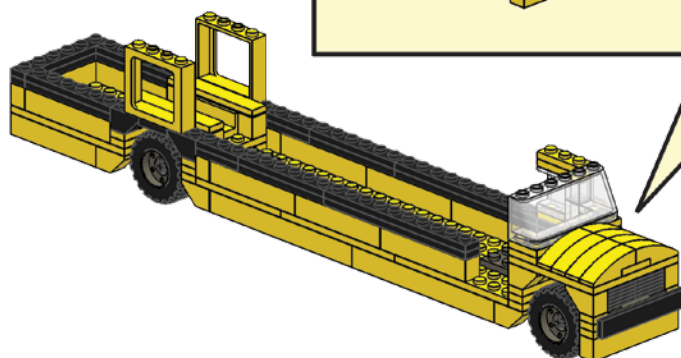
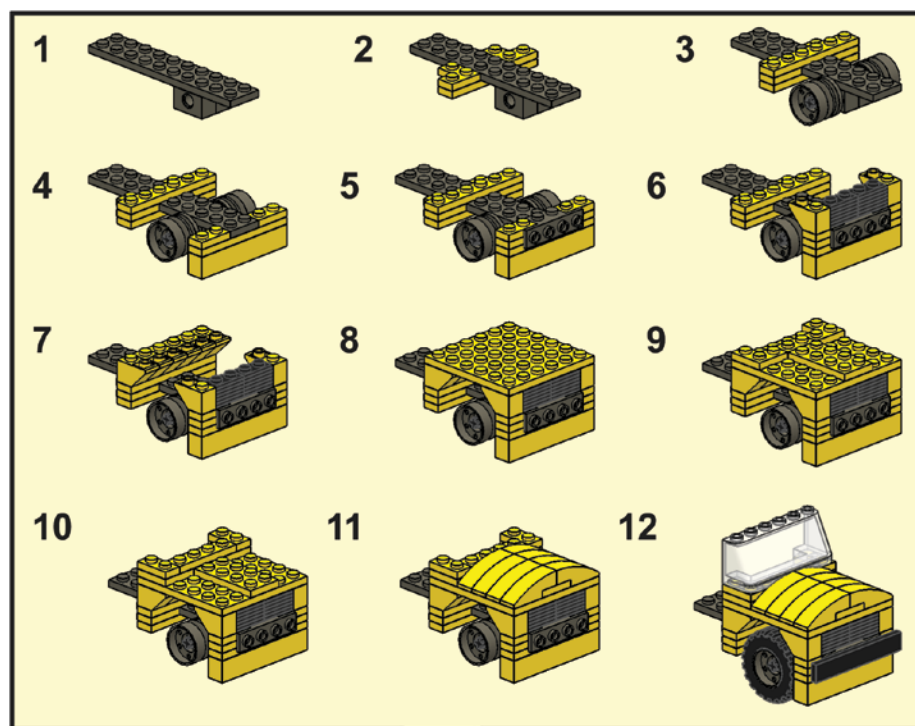
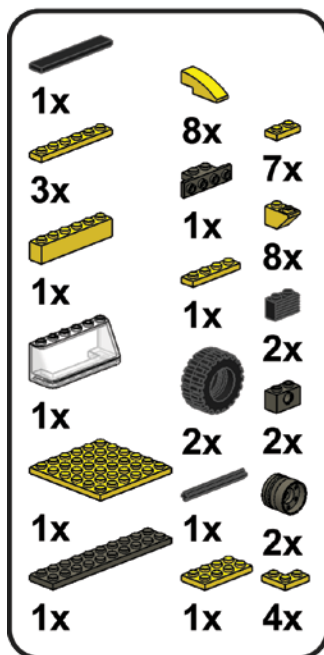
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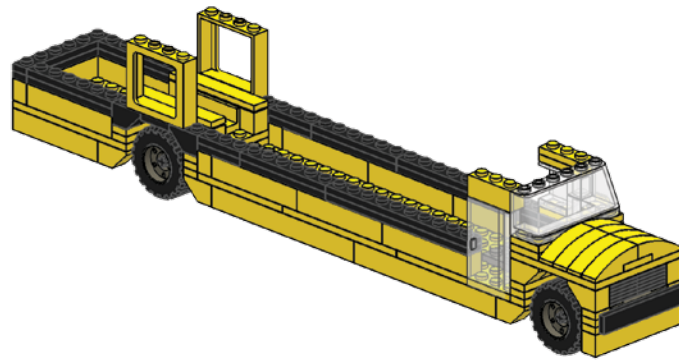
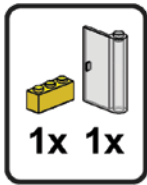
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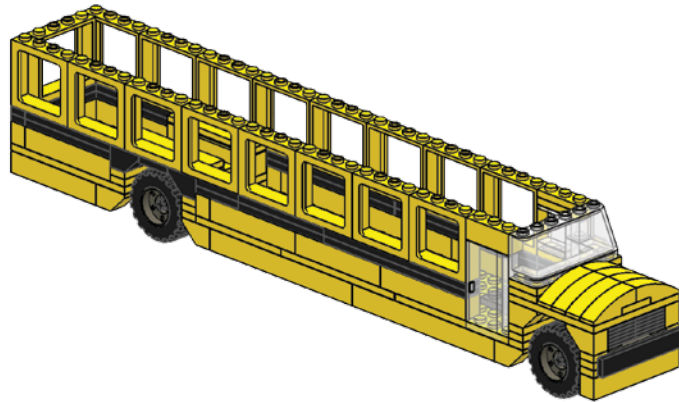
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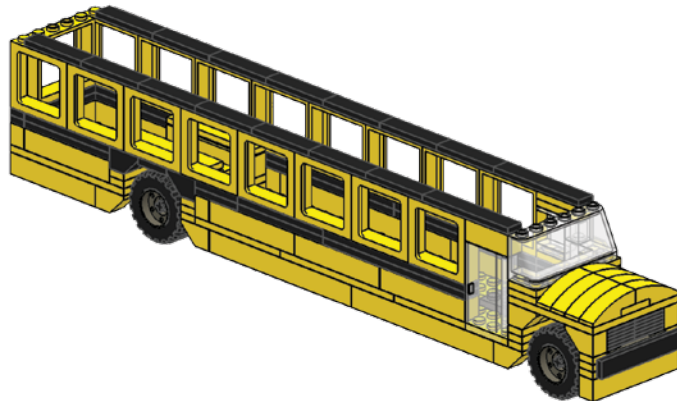
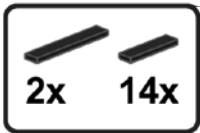
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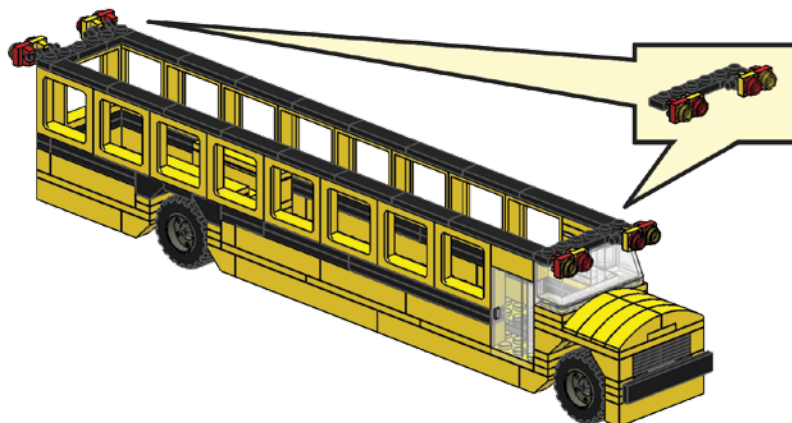
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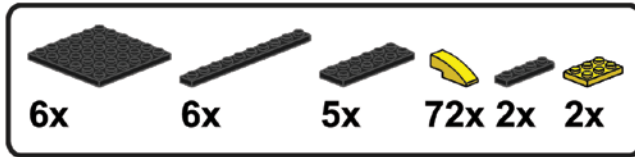
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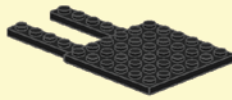
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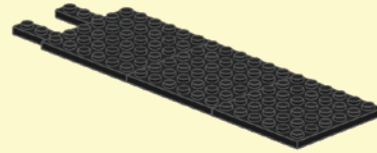
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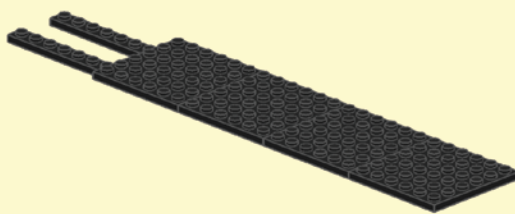
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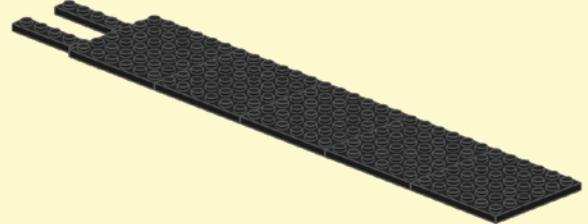
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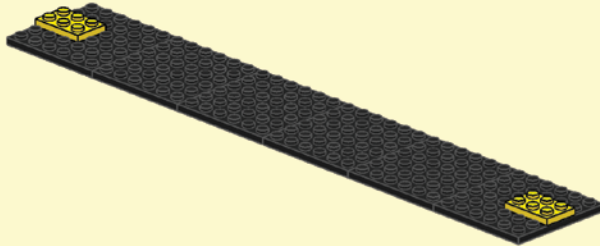
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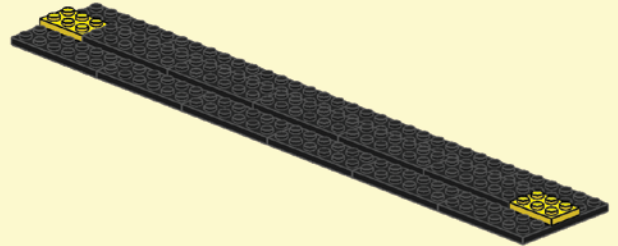
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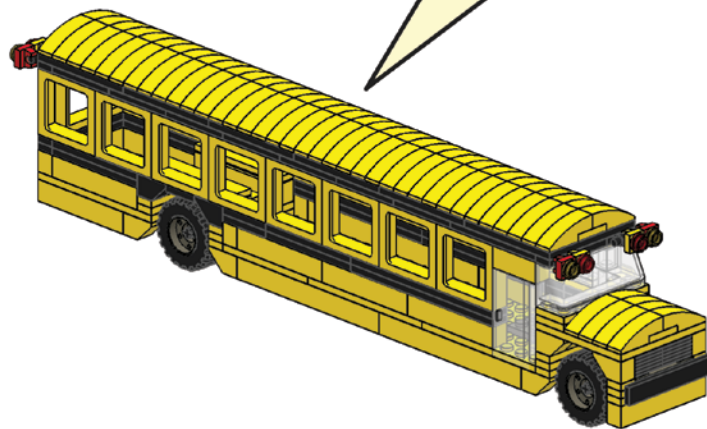
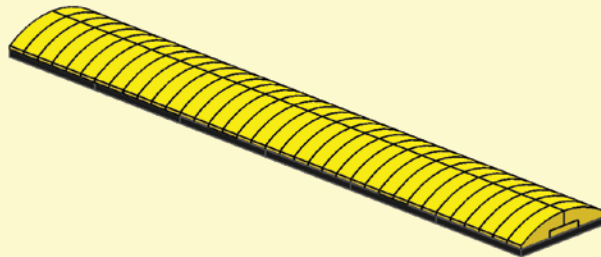
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Family Fun Day

Article and Photography
by Geoff Gray

The technique I use to store all of the free build pieces is to use an old bedsheet for the pieces to lay on. At the end of the build, I simply grab the corners of the sheet, pick up the whole thing and set it in a plastic tub. This is quick and easy, and I found that it makes kids more likely to play since they do not have to spend any time "cleaning up."

Years ago, when my children were younger, our family had a rule in our house that there would be one day a week where for most of the day, there would be no chores, rules or lectures from my wife and me. The kids asked us to do this so they could have some guaranteed time to not worry about all the things that had gone wrong during the week. We started calling this "Family Fun Day."

At the time (well, honestly it hasn't stopped) I would find LEGO sets on sale and purchase some just to have on hand. They were put on a shelf and once a month the kids would choose one of them and build it according to the instructions. When they were done, the kit was torn apart and all of the pieces dumped into a big tub with pieces from other sets we had torn apart. The next three weekends, our Family Fun Day consisted of doing "free builds" with the pieces in the tub.

A "free build" is a time where you sit down in front of a pile of miscellaneous pieces and build from your imagination. You should not have any idea what you want to build until you start the build session. This gives you a chance to be very creative. This type of build is very frequently done at the various fan festivals all over the world.

We had a couple of rules that we always used when doing our free builds:

- 1) You were not allowed to use any instructions of any type. Everything had to be built by imagination.
- 2) Whatever you decided to build could only be worked on during that build session. Each time we had a free build, we had to start a new model from scratch.

We always had fun coming up with different things, but for some reason, we almost always ended up building space ships. This often led to having "battles" against each other. The kids would make up the rules on the spot. No matter how hard I tried to build a good ship based on the "rules of the day," I always lost. I think the kids have a great future as lawyers or managers.

The free builds helped the children in many different ways. It made them use their imagination and sparked many different ways of thinking and tackling design problems. It helped them learn to find pieces they wanted quickly (anyone who has looked through a random pile of pieces knows how difficult it can be to locate the specific part you want). They were soon pros at going through the pile and finding what they needed. The biggest benefit that came from these builds was quality family time.



Members of NCLUG gather on a Saturday afternoon to enjoy some free build time

I also learned another way to effectively use this free build. I started teaching classes in the community. I would setup a day and time for a class (usually in a public library or our local art guild building) and advertise for the class, inviting children of all ages and their parents (this was not a baby-sitting opportunity, but a way of teaching parents as well as the kids).

At the start of the class, I would have my sheet full of pieces laying out on the floor, and as kids arrived, I would let them immediately sit down and start building. The parents would usually gather in small groups and chat amongst themselves. Once everyone was present, I would start the class by standing right in the middle of the pile and telling the kids a few facts about the elements, such as the names: "plates", "bricks", "panels", "hinges", etc. I would be sure to show the parents as I

succeeded in separating the plates, but many had not. At that point, I introduced them to the Brick Separator. Rarely had any parent even known that these existed. As part of the class, I gave each family a brick separator.


This style of teaching continued throughout the class, which usually lasted about two hours. I would go to the kids and teach them a quick technique like SNOT or how to make models more stable. Sometimes I would question them on piece names, or I would show them a piece and see who could find one in less than 30 seconds. The entire time they were allowed to keep building. This kept their interest and made them want to stay for the entire class. I would also talk to the parents about different things like how to store the pieces, the history of the LEGO Group, some of the manufacturing and quality control techniques used by the

"When they were done, the kit was torn apart and all of the pieces dumped into a big tub."

went, but I focused primarily on the kids. This would take about 2-3 minutes. Then I would let the kids get back to building.

I would then take a couple of 2 x 4 plates and connect them to each other. Then I would stand on the plates to make sure they were really stuck together. I would hand these out to the parents and ask them to separate them. I said they needed to do this without using their teeth or any sharp objects like knives, etc. I wanted them to figure out how to separate them without doing damage to the pieces. After a few minutes, some parents had

company. I also answered many questions they thought of. As the class progressed, the parents became as enthusiastic as the kids. I would often have a group of adults who wanted to try their hands at free building. I always had a second tub of pieces and set it out for them to use. However, no matter how creative the parents were, they always agreed that the kids out-built them.

The class was a great time for everyone and I had several families that came to several of the classes because the kids were having so much fun. 

Set Draft

I often get asked how I collect so many pieces of the same type, especially when most sets do not contain a lot of the same pieces. One way that I, and many other AFOLs, do this is by having a "Set Draft." The idea is very simple. Several people agree on a particular set that each person will buy (Maybe something like #6745 "Propeller Power" for \$19.95) Then all of the people get together and they open their sets and sort them into the different pieces, combining all like pieces from the sets (all yellow 2 x 4 plates go into a single pile. All black 1 x 6 plates go into a separate single pile). Once this is done, everyone selects a number from a hat to determine the draft order. The order most often used is: Round 1 - lowest to highest; Round 2 - highest to lowest; repeat as necessary. When it is your turn, you select any single pile you want, and those pieces become yours.

One other note, each person gets one draft position for EACH set they bring. So if you brought three sets, you would get different draft numbers and would select a pile three different times during each round.



These are a few of the models I created during Family Fun Day builds. I called the collection of models the "League of Extraordinary Space Ships." Although I thought they were very well built, I always lost the battles I had with my children. I guess that is what I get for letting them change the rules whenever they wanted. Their argument was simple and I could not refuse them. They said that "During Family Fun Day, there were no rules." Sigh. I had been outsmarted by my kids.

Event Report: **LEGO WORLD** **2009:** **Bringing Bricks** **of Fun** **to Holland!**

*Article and Photography
by Megan Rothrock and Amar Nanda*

*Above: So many bricks, so little time.
Opposite: A skyline dominates the airport layout.*

With 72,000 visitors, LEGO World in the Netherlands remains the largest LEGO event in the world. This six-day LEGO event took place from October 22-27, 2009 in De IJsselhallen (events hall) in Zwolle in Holland. It is a good opportunity to meet fellow LEGO fans and share ideas and above all – have fun. There are lots of activities organized for the AFOLs including dinner and a program in the evening, creating a fabulous atmosphere ensuring everyone has a good time.

In the first hall many members of the Dutch LEGO club, De Bouwsteen, showed their models. One of the interesting displays was the “Incidenten LEGO city” (City of Accidents) which contained several disasters that occurred in the Netherlands. Very clearly a LEGO airplane of Turkish airlines crashed near the runway, with fire fighters trying to rescue all passengers. There was also a rendition of the Dutch Royal Family car crash near the monument of Apeldoorn, among other catastrophes.

Another town display was much smaller but had even more hidden items to look for: an underground train station. It had an illuminated hall with ticket machines, minifigures reading a newspaper and, of course, trains stopping at it. It was interesting to see a traditional marketplace combined with a modern town layout. An orchestra was situated in the streets with each minifigure holding an instrument. It was good to see the streets aligned with pots with flowers and houses with a small garden in the front.

The Belgian LEGO club Belug was also present this year with a detailed scenario of pirates, including islands and a battlefield. All of the ships were carefully placed on many (after some time, I stopped counting, since there were so many) 32x32 blue





Above: A train station using the older 4.5 volt blue tracks.
Below: The stave church of Heddal.



plates among all islands, which were well-forested with palm trees and inhabited by indigenous minifigures and monkeys. Part of this layout was a French fortress, with an amazing number of mini-figures, standing in line as brigades inside with some trying to defend the fortress on the edges of the walls. It must have been quite a job to get all the different mini-figures on the right place, but the result was nice.

My next surprise - The Stave church of Heddal - almost a meter tall and measuring 0.6m x 0.9m - was impressive to see. With a curved wall on one side of the church and towers built with SNOT (Studs Not on Top) techniques, the construction must have been a real challenge, as well as gathering the huge amount of tan bricks to build it. Not only was care given to the Stave church, but also to its surroundings which were covered in a forested environment. Creeks and trees with fruits hanging as well as birds nesting in the canopies made everything compete. Of course, there is no old Norwegian stave church without having Vikings! The Vikings seemed to be arriving by their famous ships in a small town and unpacking their goods. To give an idea of the details, there was a fossilized horse, some small goats and a waterwheel. It was good to see visitors looking for these details. Such non-city displays were definitely crowd-pleasers.

After having seen so many LEGO models there was always time to hit the second-hand LEGO stalls! This was also a big part of LEGO World: finding these fabulous old LEGO bricks. During the event, the unbelievably large stock of LEGO sets was sold out from the giant LEGO store after 3 days because of the popularity of several sets. One of the employees at the stall, Frauke, tells "It's very good to see people walking here so happily. Adults (AFOLs!) seem to be the bigger spenders the gadgets especially are a favourite. Last year was also a very cozy and friendly atmosphere, so I definitely will be here next year".

The friendly LEGO designers in the other hall tried to do their utmost answering questions from the visitors. One of the most asked questions by kids (and parents) was how to become a LEGO designer and, of course, what is coming out next year. The Power Miners seemed to be good in attracting the attention of kids, who carefully watched all items standing in the showcase. The LEGO designers were able to show an exclusive sneak preview of Prince of Persia and Toy Story sets which will be launched in 2010! They were not able to answer the big question "what month in 2010," but we waited with a big smile. *Brickjournal* had a stand next to the LEGO designers with copies of their magazine for sale, and we were quite busy answering questions, and promoting the magazine to European AFOLs!

Not too far from us was the LEGO Online Community Team with: Design byME, LEGO Digital Designer (LDD), and LEGO Universe. The Design byME team were busy introducing the company's rebranding of LEGO Factory: LEGO Design byME, which lets you design, share, and buy your very own custom LEGO model, including instructions and your own model printed on the box! The LDD team were there to introduce kids to LEGO Digital Designer, allowing them to build with virtual LEGO bricks on the computer! All computers were occupied all the time and some nice designs were already being made by kids. After seeing the smiles on their faces after designing their own box and having hours of fun, there is no doubt that this was a success! Next to LDD was the LEGO Universe corner swarming with kids and LEGO bricks flying



Above: The LEGO City of Accidents.

about as they were feverishly building what they would like to see in the LEGO Universe Game to be released this year!

In the second hall was a child's dream: mountains of LEGO bricks and a massive area to build their own creations. This hall was filled with rows of kids alongside the tables and loads of kids on the ground who tried to do their utmost with all the bricks!

A highlight of the LEGO World was the creation of the largest LEGO Mario model (from the Nintendo Mario series of games) by Dirk van Haesbroeck after six days of constructing. Measuring 1.80 meters and consisting of more than 40,000 bricks it was auctioned for €3,500, which will be donated to the Ronald McDonald Children's funds. Also this year the Jetix hall was filled with kids being entertained with Dutch music and dance. On the sidelines, the adults tried not to get bothered by the music, however some Bouwsteen members were 'caught' dancing themselves all the way into the hall. It is still popular and probably a key element for the success of LEGO World.

If kids wanted to enroll in a LEGO building competition, the next to last hall was the place to be. In one corner, kids were hurrying to make a electric toothbrush as soon as possible. The result was a nice collection of yellow and white toothbrushes with fancy brush heads. While hurrying in one corner, others were building their own dream house, with red roofs, terraces, and large gardens. Having seen all places alongside the building tables, adults and kids alike had a good time playing with LEGO bricks.

For the MINDSTORMS fans and volunteers, there was something more than accepting or ignoring the music and screaming in the Jetix hall. There was a demonstration of an impressive MINDSTORMS model: an automated replica of the LEGO Element Storage Facility at the LEGO Factory in Billund, Denmark. It was powered by over 20 motors, sensors, cables and NXT controllers. Starting with a card reader and



Above: A band plays at one of the layouts.



Above: A subdivision takes shape at LEGO World.

Left: A house takes shape at the house building table.



using many, many functions, it would distribute printed LEGO World 2009 bricks for some lucky kids. Well done, and as far as the public opinion, next year will be more advanced. You can view this amazing 'cube' in action on YouTube website: <http://www.youtube.com/watch?v=lehEMDYS9MY>, filmed by Megan Rothrock.

For the AFOLs, there were some noteworthy events: Imagine building the Grand Carousel (set 10196) with five people in only 1 hour, 22 minutes and 11 seconds! This world record attempt was done by a speed builder team: Maico Arts, Martijn Bosgraaf, Peter Dijkstra, Eugene Gerner and Dirk Plug. After opening a countless number of bags and sorting out 3200 pieces the team succeeded in their astonishing new world speed record!

Congratulations also to the speed builders team which built the Technic crane truck (set 8258) in a record time of only 1 hour, 13 minutes and 50 seconds!

7 days and 7 nights later –many dinners and even more conversations further - we had to pack all LEGO and forget about the crowds. No worries! Next year will be a special year for LEGO World in the Netherlands, since they will be celebrating the 10th Anniversary of LEGO World! Keep all eyes and ears open, and see you next year! 

If you have a QR code reader on your phone, you can scan the code to the right to go directly to the MINDSTORMS video.





Mastering FIRST LEGO League: The Basics of Batteries

Article by Randy Miller
and Tatiana Znayenko-Miller

This is the fifth in a series of articles about both basic and advanced techniques that can help your FIRST LEGO League team achieve mastery of the robot and the game. This article is the first of a two part series on batteries. The secrets of how batteries impact the performance of an NXT robot is one of the true black arts of robot performance. This article shows some of the commonly used batteries and their weight characteristics. We will also give you some tips on how you can begin to understand the voltage characteristics as well. The next article will present the advanced elements of voltage characteristics.





There are many factors that contribute to the variation of the robot. Many of these factors deal with weight distribution and friction. These problems can be solved as part of the robot design. However, variation caused by the motors cannot be solved by changing the robot. Robotic functions usually involve pushing, pulling, or lifting an item. All of these functions require the motors to drain current from the batteries. Batteries also add weight and cost to the robot.

Batteries

There are several battery options for your LEGO Mindstorms NXT robot. There are many important characteristics of these batteries including cost, weight, whether the batteries are rechargeable, and voltage. The table below shows these characteristic for the popular types of batteries that used in LEGO Mindstorms NXT robots. Energizer provided batteries for our tests and their permission to use their batteries in this article. However, many other battery companies provide similar batteries.

Choosing the best batteries for your competition is very important. Unfortunately, it isn't as simple as a simple recommendation by this article. Some competitions are power intensive while others require less energy. Regardless of the competition, maintaining the same voltage and weight in practice and in competition is important to creating consistency. Consistency is the key to getting perfect (400 point) runs.

Battery Comparison Chart: NXT and Energizer

Name	Voltage	Weight (in grams)	Approximate Cost
 NXT Rechargeable Battery	9.0 V <i>1400 MilliAmpHour capacity.</i>	152	\$54.95
 Energizer Lithium/Iron Sulfide (Not rechargeable)	$1.6 \times 6 = 9.0V$ <i>3000 MilliAmpHour capacity.</i>	$14.5 \times 6 = 87$	\$16.00
 Energizer Alkaline Zinc-Manganese Dioxide ($ZnMnO_2$) (Not Rechargeable)	$1.5 \times 6 = 9.0V$ <i>2850 MilliAmpHour capacity.</i>	$23.0 \times 6 = 138$	\$5.00
 Energizer Rechargeable Nickel-Metal Hydride (NiMH)	$1.2 \times 6 = 7.4V$ <i>2300 MilliAmpHour capacity.</i>	$30.0 \times 6 = 180$	\$19.00

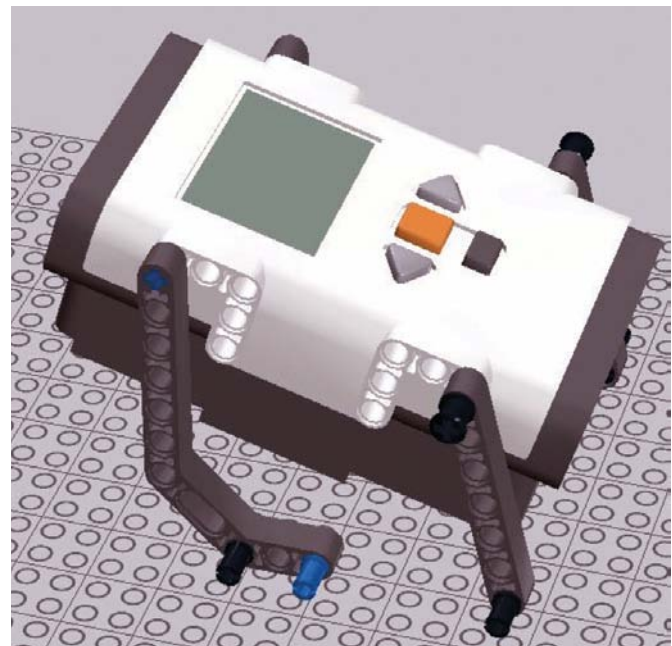
Recharge or Not

The NXT Rechargeable Battery pack has a unique advantage in that you can recharge it without having to remove it. The charging cord can be plugged directly into the “brick”, allowing the robot to run directly off AC power. The problem with NXT Rechargeable battery is that most teams have only one of these because of their cost. When the battery needs charging, the team is effectively offline while they wait for the battery to charge completely.

Regular rechargeable batteries do not have this problem because it is easier to get twelve (or more) and bring in one set (of six) while another set charges. The robot must be designed to allow easy access to these batteries. Many teams use a swiveling LEGO Mindstorms NXT base to allow easy access to the batteries. When the two front pins are pulled out, the base can be pulled up for easy battery access.

The same base is necessary for non-rechargeable batteries. One problem with non-rechargeable batteries is that we may have to recycle them after a few runs to maintain the same levels of voltage. These recycled batteries can be used normally in things that are not as sensitive to voltage differences as the LEGO robot. However, buying new sets of batteries after a couple of runs can be quite expensive.

A team can practice their robot runs hundreds of times for a FIRST LEGO League tournament.



Design for the swiveling LEGO Mindstorms NXT base

Hybrid approaches can also be used. Rechargeable batteries can be used to build the basic robot runs and then these runs can be perfected using Lithium Ion batteries. Lithium batteries

were a favorite of many teams at the National and World Championships. However, they are by far the most expensive option for FLL teams.

Weight

Weight is always a factor in a FLL robot design. The more weight, the more current is required by the motors to move the robot. Add friction from pushing an attachment around and your motors could be drawing quite a bit of current (and depleting your batteries). The ideal robot weight depends on the tasks that robot has to perform and the accuracy of the turns that it needs to complete but in many cases, a slim robot is better than a heavy one.

At 87 grams, the Lithium Ion batteries are nearly half the weight of the NXT Battery Pack. With the highest milliAmpHour capacity, these light batteries also pack a real punch. It is for this reason that these expensive batteries are a favorite among competitive FLL teams.


Even so, the NXT Battery Pack is the most attractive option for new or intermediate teams. The idea of spending \$50 on batteries for a single competition (and much more on practice) is hardly attractive to most parents and coaches. For that reason and the ease of charging, this battery pack is best value for the money. Its added weight is often not noticeable on most robots.

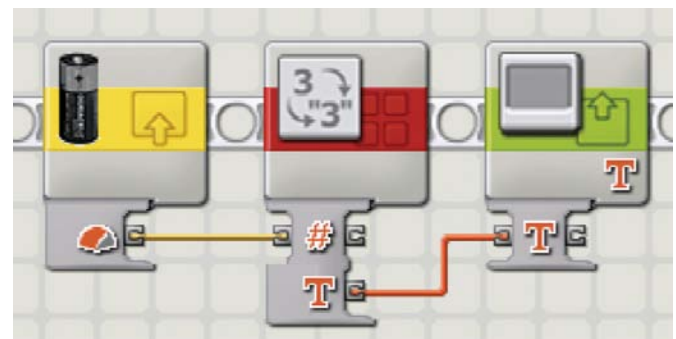
Voltage

The key to understanding voltage is to be able to measure it. The problem is that NXT/G (our programming language) out of the box does not contain a voltage measuring capability. Fortunately, Guy Ziv has created one which is available at <http://nxtasy.org/2007/04/19/battery-level-nxt-g-block/>. Once we add this block to our programming language, we can build a simple program to display the current battery level (in milliVolts).

We don't recommend incorporating this block into your programs and in fact, this block is considered an add-in and not legal in FLL programs. It is interesting for voltage experiments but the use of this block must stop there. We will show the results of our extensive experiments in the next installment of this column. In the meantime, we include this block so that you can conduct your own experiments. Please set up a blog and publish the results on the web.

Conclusion

All batteries are not alike. Choosing the batteries that meet your financial and competitive needs is essential to maximizing your fun in FIRST LEGO League. It is easy to look at the popular Lithium non-rechargeable batteries and suggest that these would be best for your team. However, there are drawbacks to these batteries as well. We will discuss the advanced characteristics of these batteries in the context of the NXT motors and rotation sensors in the next issue. 



Program to display the current battery level. At the left is the voltage measuring block. The second block is a "define variable" block, where the reading from the voltage measurement is given a text value. The third block is a "display variable" block, where the value from the previous block is displayed on the NXT screen. Note the data wires (the colored lines) define the path of reading.

Model
Building Secrets
From The Masters

Ever wanted to build like the Pros?

Let Model Building Secrets show you how! Check out "How to Build a Round Ball with Square Bricks!" The first in a new series of books that teach you how to build just like the Master Model Builders. Created by Mariann Asanuma, a former Master Model Designer at LEGOLAND California.

www.modelbuildingsecrets.com



Gary McIntire with the final sand castle and his first sketch of the model!

Gary McIntire: Building Castles in the Sand

LEGOLAND® California offers a LEGOLAND Ambassador Pass, which is a lifetime pass to all the LEGOLAND parks worldwide. It also allows passholders to go to LEGOLAND California to meet with a Master Model Builder and build an exclusive model. BrickJournal was able to talk to the Master Builder and designer of this year's set!

Article and Photography by Joe Meno

This year's model is a sand castle. Why was this selected?

Well, we just opened our water park and so we wanted something that was kind of summery, beachy, watery themed, kinda like a water park is, so a sand castle was the obvious choice.

What have been some other previous LEGOLAND Ambassador models?

Last year, we were celebrating our tenth anniversary, so we did a cupcake model. The year before that, we had just opened Land of Adventure, so we had a little sarcophagus model and a little obelisk. The year before that, we did a butterfly and a frog and that year didn't follow any significant theme.

How long did it take you to design the sandcastle?

Well, I started designing it about four months before it was completed. Now I wasn't designing it for eight hours a day, everyday straight. Only two months of the time was design. The other two months were spent on creating the building instructions for it. So altogether, if I were to compress it all down, it would have been somewhere around a few days to actually design the model itself, but it's a matter of coming up with the prototype, and another prototype and another prototype, and try a few different things out and decide on one and rebuild it and refine it and I took that model apart and created an alternate model based off of that so there were two options available. The process took over a couple of months along with all the other projects that are in progress at the Model Shop.

What design did you have in mind for the sand castle?

I was pushing for a castle that looked like a sand castle specifically and not just a castle made of tan bricks. That meant that I wanted to incorporate a lot of slopes and stuff in it so it made it look like it was mounted in sand. At the same time I wanted to have enough little tiny details in it that it would look like a miniature castle. The cool thing about making a sand castle, I think, is that it's making a miniature world and imagining being able to go inside of it. That's the appealing part of building it in LEGO. As well as creating a miniature thing that you can imagine shrinking down and going inside of, so I included some tiny details on the inside of the castle to reinforce that - there's little doorways and archways, little details and stuff on the interior of it as well as some archways and what not on the exterior. I wanted to give it that lifelike kind of feel, like it was a castle that was lived in, that little tiny people inhabit.

There's alternate model instructions with this set. Why did you design another castle model?

I wanted to do something different this year, as we haven't done this in the past. Really, I am just going off of the LEGO standard here for having an alternate model where you could build one model or another one. I decided that the one I built was very difficult and I wanted to have a second option for our Ambassadors, so once I got the first one all locked in to where I wanted, I just took it apart and then used those pieces to build a second sand castle that was simpler. I basically made it symmetrical, which makes it much simpler to build. I also made it more square and that simplified quite a bit as well while at the same time trying to incorporate some cool little details without it becoming too complicated.

What's the total piece count?

About 230 pieces. Which makes it close to, if not the biggest, model done yet for the Ambassadors.

How many models were produced?

We did a very limited run of 800 kits. This is only available in LEGOLAND California. For Ambassadors, if they are not able to attend the building session, the set can be mailed to them.

How many people attend the building sessions?

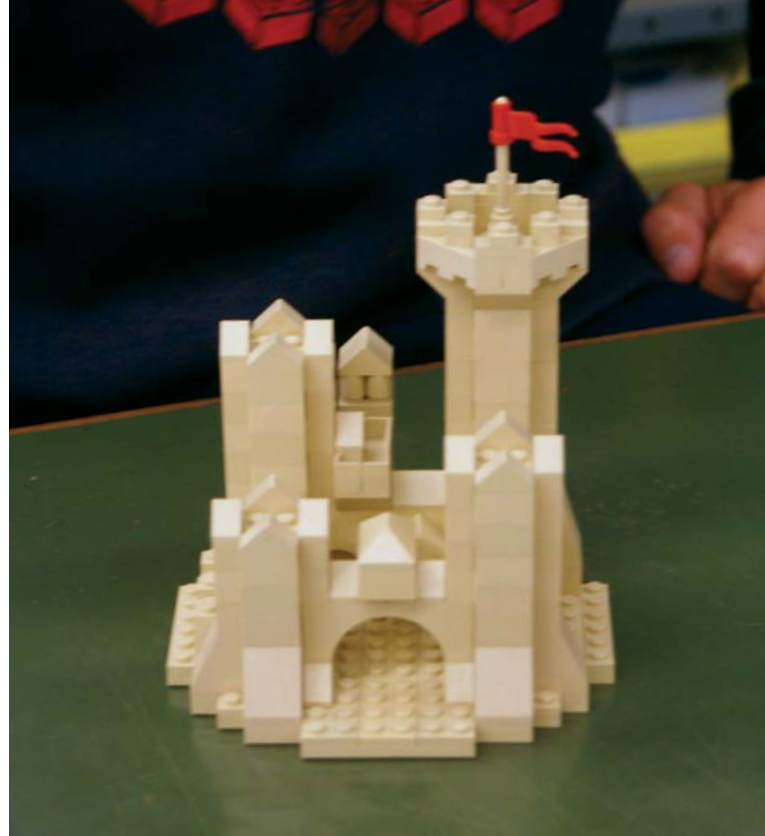
We have an average of 25 people in each session. We do a total of 20 sessions, so 20 times 25 equals 500.

Was there anything that you wished you could have included in the model?

No, not really. I think I already had in mind about the size that I needed it to be and so I didn't really go overboard when I designed it. That and I was really fortunate that people that would have done budgetary cuts on it didn't - they liked it the way it was and didn't have any problems with it. I actually don't have any complaints about it. It's the way I wanted it to be. On top of that, I was actually able to get the tan 1 x 1 slopes into it before they are available in any sets. They will be in the Tower Bridge set later this year, but as of right now, the Ambassador models are the only ones with those pieces.

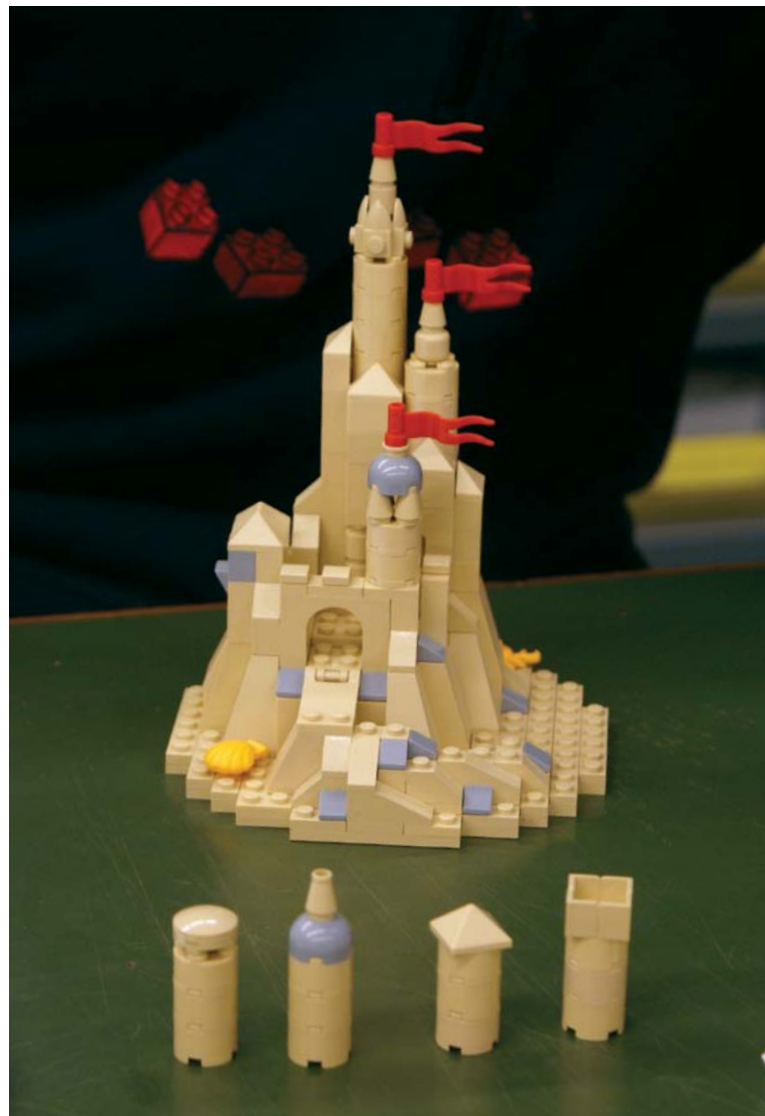
How did you get those special pieces?

Well, I have to put together an order for the elements that are in the kit based off a spreadsheet of available elements that is received directly from Denmark. There were actually elements



Above: A prototype of the sand castle.

Below: Final prototype of the first sand castle, with some detail models in front.



that we had in our shop I couldn't use in prototyping because we couldn't order any more of them. There were other elements in the list that were brand new that were available for me to order that we didn't have yet, so that was one of them. It was new and already produced and the set itself hadn't gone into production. I was able to get hold of them and crank them out. I was happy that I was able to squeeze 16 of them into this set.

How was working with a fan (Joshua Delahunty, who wrote his insights on the next page) to create the instructions?

It was really easy working with Josh. I think he was very professional and approached it like it was a job. At the same time it was definitely a work of passion for him. I think his passion for it really is what made it, what brought it up to his quality standards that he was very adamant about enforcing and making it as true to what you find in a LEGO set as possible. He really pushed to do everything he could to make it look like that, and I think he did an amazing job. It was really great working with him and a real privilege to work with him on that.

I sent him two copies of each of the two castles as prototypes. From there, he was able to take one of them apart and build and design it virtually, while using the other one to guide him through reconstructing it. Then he would go about breaking

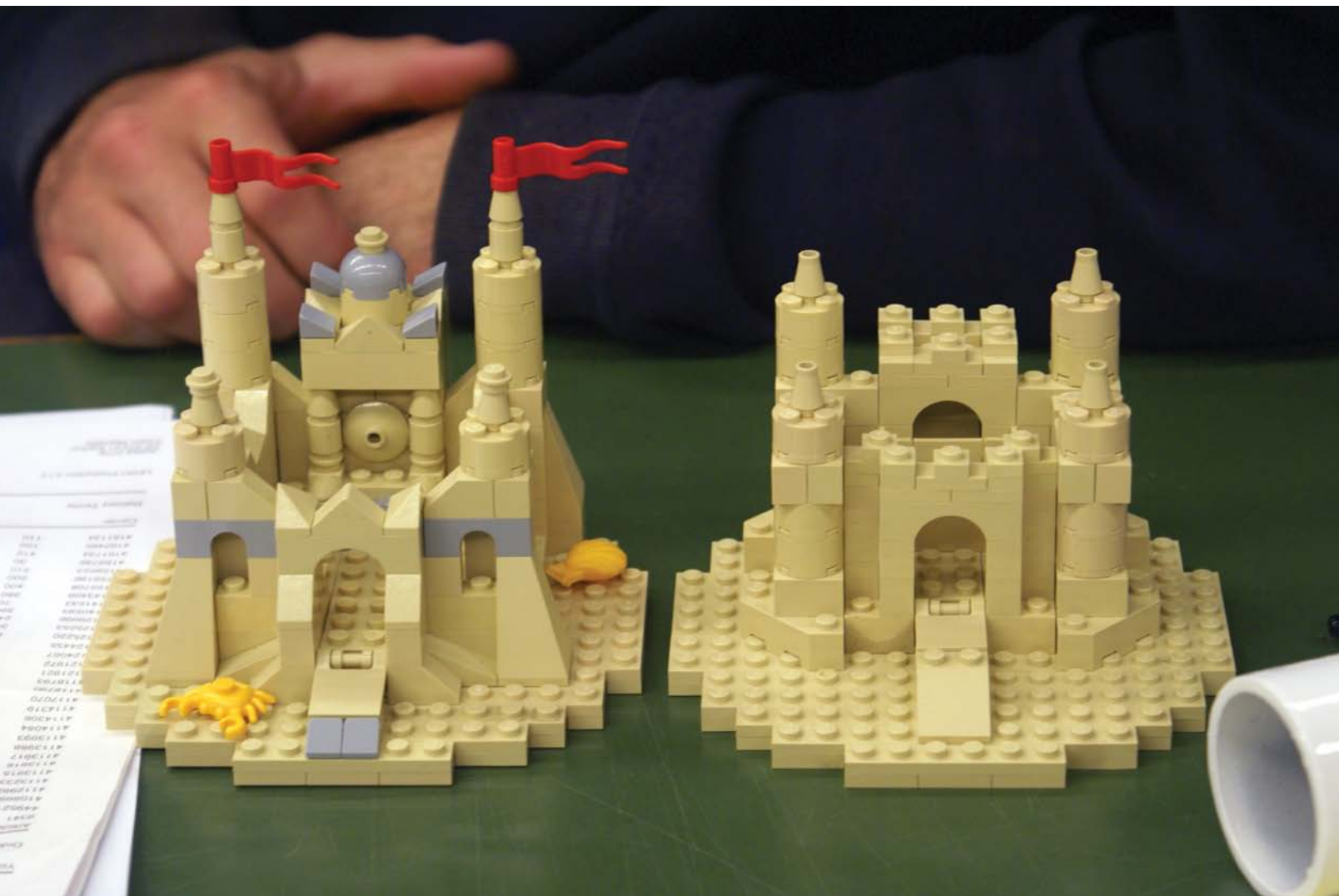
it down into steps. Originally, he was like, "You know, this should probably be about, like twenty pages of instructions" I was like, "well, we need to fit it on four," so he begrudgingly cut a lot of corners and was like, "Okay, well I'm gonna have to rely on the fact that you are going to be there to help them build this. These instructions are not going to be the easiest to follow."

But I think he did a great job. The instructions are very easy to follow. They look like something that LEGO would produce. We definitely went back and forth many, many times. He would send me over a recent file, and we would have a conference call and look at it and talk about how it should change. We went through several revisions before we got to the final model. When we got it where we thought it was perfect, I would print it out and give it to some other people in the shop or the office, like regular LEGO builders and have them try and build it. That was a really good test of exactly how good the instructions are. It's not an easy model to build, but the instructions do everything that they can to make it easier.

It was great talking to you, Gary. I can't wait to see what is designed next year!

Thanks, it was great talking to you! 

Final prototype of the second model, with placeholder slopes in gray, as tan slopes were unavailable during prototyping. A previous prototype is to the right.



Building Castle Instructions

I first met Gary McIntire in February 2009, when I was with some friends who were in town for their first visit to LEGOLAND California. During the meet, he turned to me and asked what I'd produced in LEGO. Not having a model to discuss, I handed him what looked like official LEGO building instructions (BI). I made them using digital tools to create instructions for small models in the Pick-A-Brick shop at LEGOLAND.

Impressed, Gary tried to get me lined up to do the BI for the 2009 Ambassador Passholder Class, but it turned out the work had already begun in-house. However, when 2010 came around, he didn't forget me. We submitted my previous work, and worked out a timeline and "ground rules" for the BI.

As I recall, the models arrived on a Saturday with a note attached: "Don't start until we can talk next week." Well, as I was doing this job for the enjoyment as much as anything else, by the time we were to talk, I already had the first model completed, and was well into producing instructions. With a parts list, title page space, and sub-assemblies, my initial estimate for doing the first sand castle properly was around 20 pages.

My first review with Gary was a bit of a shock. First, the attached note was referring to the fact that the models sent had some grey parts which should have been tan, like the rest of the model. The model was pretty much *all* tan. This is very unusual for an official model, where colors are used for aesthetics and sometimes to ease building. Second, Ambassador Class models typically take up 2 sides of a large format sheet, with model 1 on the front, and model 2 on the back! Twenty pages was NOT going to fit the bill.

I now had two problems: condense BI for a 230+ part model down into 4 pages, and figure out how to effectively communicate the steps using no contrasting colors. For the first problem, I had to "bend the rules" on some BI-creation edicts I had learned on my previous projects. Gary was of great help here. He was either a sounding board or an instigator for changing small details until we could make every move as clear as possible. Not only is Gary a master builder, but he's got the stuff when it comes to BI design as well.

For the second problem, I had to be inventive. Gary suggested that we fade out the previous parts in each step to set them in contrast to the current step's additions. I tried to talk him out of it: it had a decidedly non-LEGO feel, and seemed impossible, given the tools I was using. Luckily, an answer came to me during my commute home from work one evening that fit into my workflow perfectly and didn't need modifications made to the image generation application (LDView) to have it work.

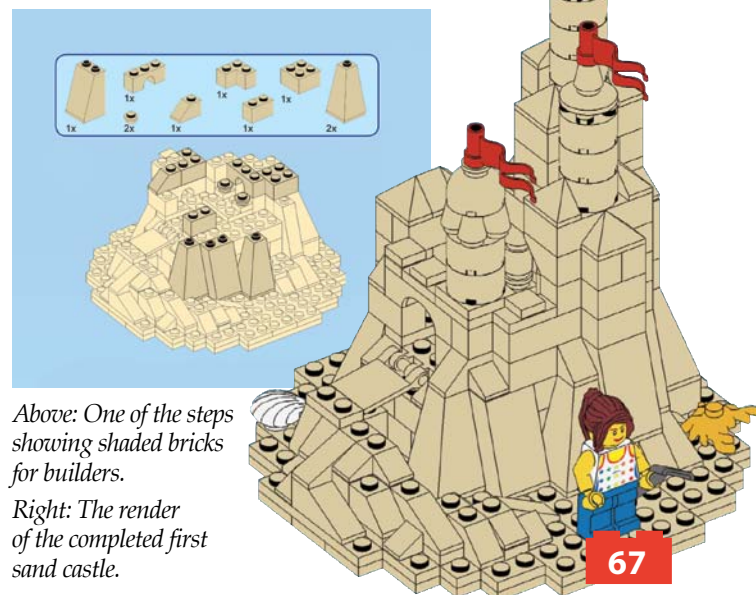
Working with Gary made this job tremendous fun and we were able to work very effectively and quickly to meet a balance of needs: I needed the product to shine as an example of third-party BI tools, and be as close to actual LEGO instructions as possible. Gary had requirements on space and effectiveness (we "juniorized" the model 2 BI so it was easier for the younger builder to tackle). While the back-and-forth ran through a few more iterations than I expected, Gary was extremely supportive and helped me to hit (or beat) every target.

The end product was something I'm very proud of and is the result of numerous individuals who I hope are as proud of the results as I am. From the work of James Jessiman, through all the LDRAW authors, to Travis Cobbs and Leonardo Zide (authors of LDView, and LeoCAD, respectively) and the help I had from the LEGOLAND crew, I could not have accomplished this without them.



Joshua Delahunty, a LEGO enthusiast, is known in the LEGO building community for his work in creating instructions and working with digital building. He was tapped to create the instructions for the Ambassador Passholder Model and talks briefly about the experience with BrickJournal!

*Article by Joshua Delahunty
Art courtesy of LEGOLAND
California*



Above: One of the steps showing shaded bricks for builders.

Right: The render of the completed first sand castle.

The LEGO Group



Above: The LEGO System is announced as "A new and interesting hobby for the entire family" in the launch brochure for the Scale Model line.

Ever wonder why the LEGO Group took the step from bricks to plates? You might not be aware that long before the release of the 16 + LEGO Shop at Home Sets came on the scene, the LEGO Group had older builders (hobbyists) in mind.

The LEGO® System: Endless Possibilities

Article Written by Inge Aaen

Article Concept by Megan Rothrock

Images Provided by the LEGO Idea House

Concentrating on the LEGO System

In 1955, Godtfred Kirk Christiansen (GKC), owner of the LEGO Company, had invited Danish toy retailers to "take on board the idea of the LEGO System and help to give play another dimension". This was followed by a gradual buildup of the company's international sales organization. The buildup started during the 1950s in many European countries, including the 1959 licensing agreement with a British partner (to include the Commonwealth countries). This was followed with a licensing agreement in 1961 with the luggage manufacturer Samsonite in the USA and Canada and setting up of agencies in several other overseas countries.

Godtfred Kirk Christiansen demanded the best of his developers and designers in 1960 after it was finally decided to concentrate all efforts on the continued development and marketing of the LEGO System. He stated, "We must be so good at this that nobody can do it better!"

The idea took hold, and through intensive marketing, the LEGO System became a household concept throughout most of the Western world.

Important Basic Principles:

Less is more.

Create as much as possible with as few components as possible.

The spotlight was on product identity. GKC was determined to concentrate on the main concept of the system – and to prevent it from being developed arbitrarily and too hastily.

His approach was not to add too many new products before the concept of the basic system had penetrated a market: “The LEGO System has more combination possibilities with fewer components.” The aim was to develop creativity using a given and limited number of bricks, and for the consumer to discover “the amazing potential of simplicity”.

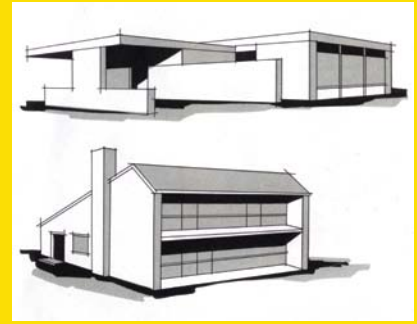
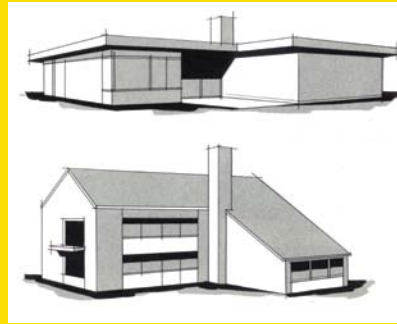
Product Policy and New Products in 1962

GKC wanted to “systematize play”, and drew up a list of 10 features he wanted for the product :

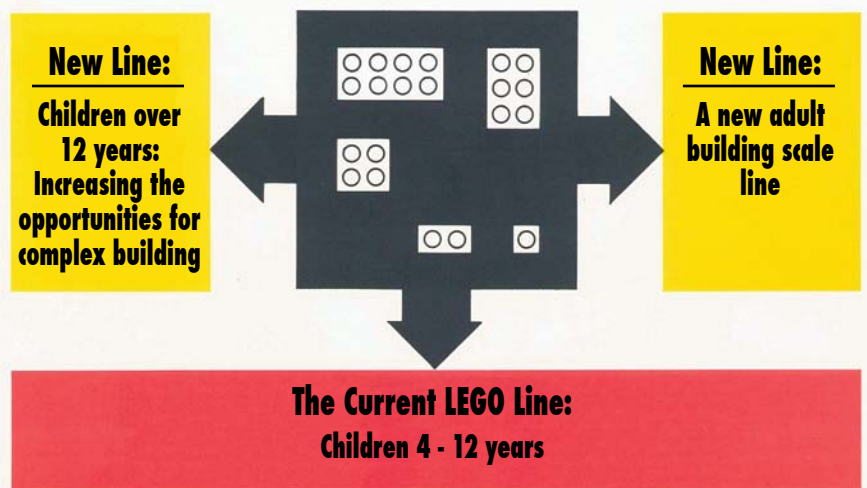
1. Unlimited play possibilities
2. For girls, for boys
3. Enthusiasm to all ages
4. Play all year round
5. Healthy and quiet play
6. Endless hours of play
7. Imagination, creativity, development
8. More LEGO - multiplied play value
9. Always topical
10. Safety and quality

The year – 1962 – was unusual in its launch of new products. A unique LEGO wheel was presented at the Nuremberg International Toy Fair in Germany – importantly adding a turning component to the LEGO System.

Below: Examples of “The Modernist House” — a completely new and untraditional type of house, began appearing in Denmark at this time. Bauhaus architect Mies van der Rohe was designing houses with completely flat roofs, less defined transit zones between rooms, large windows from floor to ceiling and new, open layouts, and was becoming a significant influence on Danish architects.



The New LEGO Line Speaks to Several New Consumer Groups



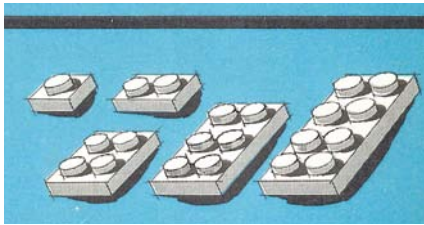
Den ny linie taler til flere nye forbrugerkredse



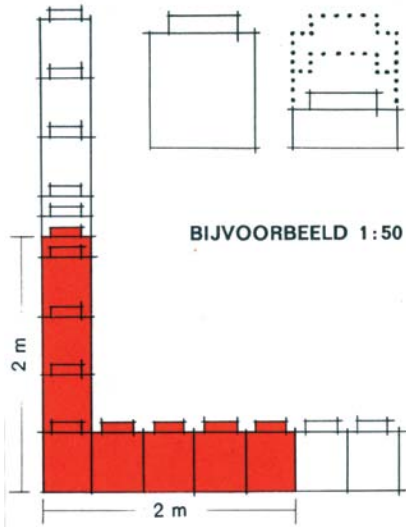
At the same time, the “Scale Model line” was presented as a sensation that would open up new, wider-ranging perspectives for modern model building. This launch was aimed at a different group of consumers: older children and adults interested in building.

Above: Translation of a Danish graphic explaining the new LEGO line, and how they could incorporate new consumer groups with the new LEGO System.

After almost 10 years the LEGO System had thoroughly penetrated the original group of LEGO countries; the product was well-established but market surveys showed that older children were becoming less interested. To counter this development it made sense to launch the Scale Model line.



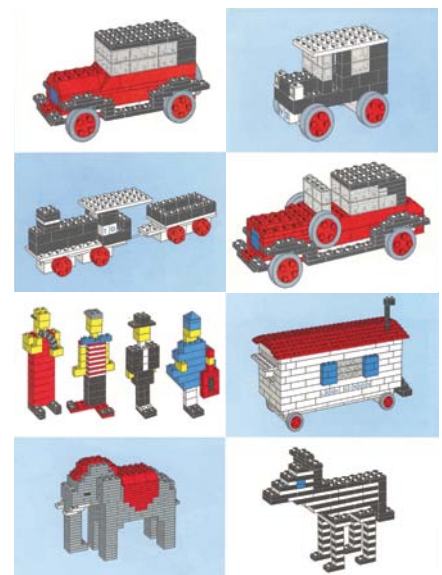
Above: The Fabulous 5! These new building elements (plates) revolutionized the LEGO Building System.



Playing With Real-Life Proportions

With the introduction of five new elements in the LEGO System it became possible for older children to build more detailed models than before – for example, cars, figures, mosaics and houses.

The flat components were actually building plates – but were not called such until some time later. They had studs and tubes and were scaled to ordinary LEGO components – except for the fact that they were only one third the height.



Above: A collection of ad material showcasing some inspiration models showing what is possible with the new wheels and plates in the LEGO Building System!

Left: A young Kjeld Kirk Kristiansen (now owner of the LEGO Group) building his famous cars in more detail using the new plates in the LEGO System.

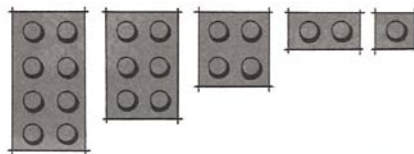
**“Our strength
comes from
concentrating
on the LEGO idea.
Dig deep.
Range wide.
And the ideas
will come.”**

—Godtfred Kirk Christiansen

GKC and a boy playing with a train.



NYE LEGO ELEMENTER



De nye elementer er $\frac{1}{3}$ af de normale. Længde og bredde er uændret. Disse flade elementer skaber et væld af muligheder for mere detaljeret byggeri, modelbyggeri i målestok og boligplanlægning. Kun højden er ændret. De nye elementer passer nøjagtigt til det øvrige LEGO SYSTEM. Kombinationen af flade og normale LEGO-elementer rummer helt nye muligheder for større børn og hobbyfolk.

Left and below: Promotional materials and displays used showing the new elements and possibilities with more scale.



More Than Child's Play

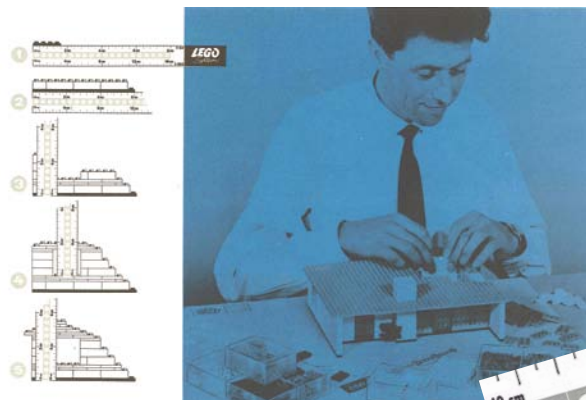
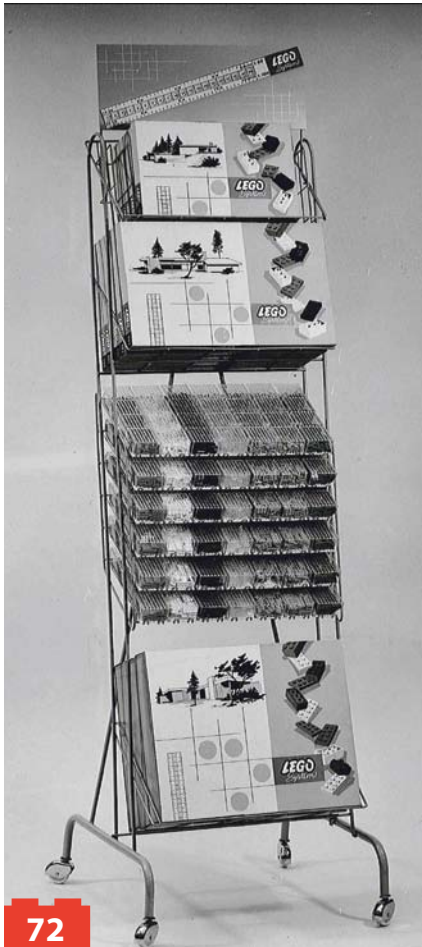
The new, thin plates were launched in three new, special sets: Model and Hobby Boxes, sets #750, 751 and 752 - together with the basic LEGO elements. The sets contain the pieces necessary to build the models displayed on the individual box.

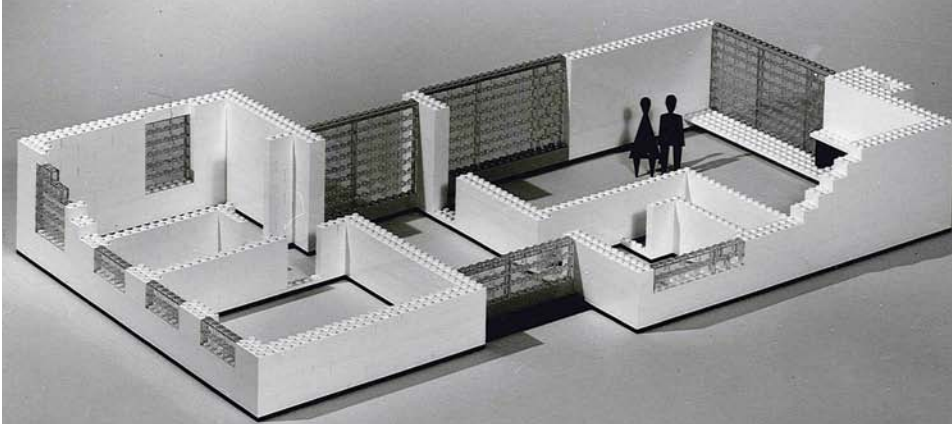
These sets were designed to be visually different from the normal bright colored LEGO boxes. They were printed in gray scale, showing Architectural drawings to help inspire the builder. The boxes themselves were made of a more sturdy cardboard, sending the message to the consumer that this was not your 'kids' LEGO set. "An Architectural Book" was enclosed with model ideas based on basic architecture. The boxes clearly illustrate the new target group.

Left: Promotional art of the new sets.

Bottom left: An in-store display of LEGO Model and Hobby Sets.

Below and next page: Images used to show the different ways to build with the new scales and plates. Included with the sets were rulers using the studs and scales (bottom)





Det nya sortimentet levereras i specialaskar. Med den största av dessa, nr 750, kan Ni bygga modeller av hus upp till ca 130 m² i skala 1:50 samt modeller av heminredning. Kompletteringsaskarna till de nya 1/5-deis elementen är gjorda i klar plast. De kan ingå som byggelement i systemet och är mycket användbara. Locket kan t.ex. användas som byggplatta. Flera boxar kan byggas samman till en förvaringslåda, som är praktisk att förvara de olika elementen i under tiden, Ni bygger.

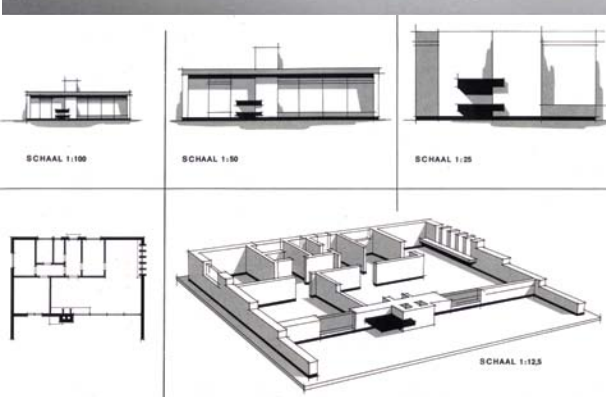
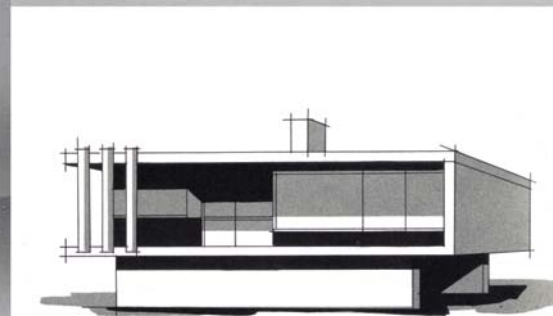
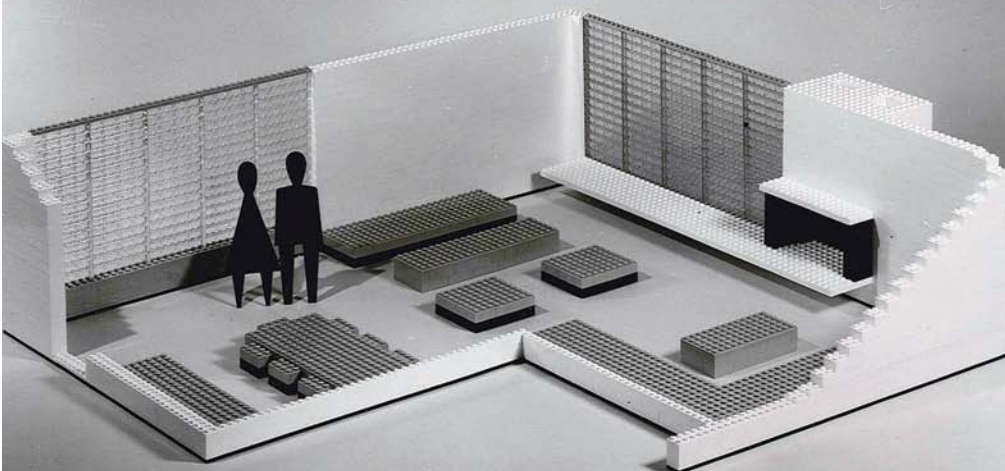
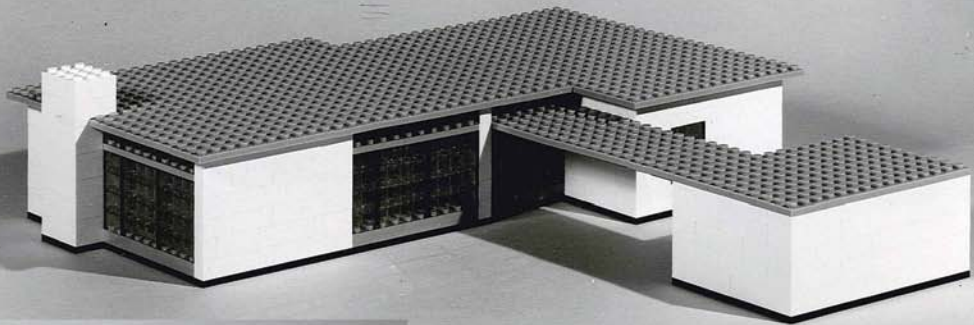
LEGO
System

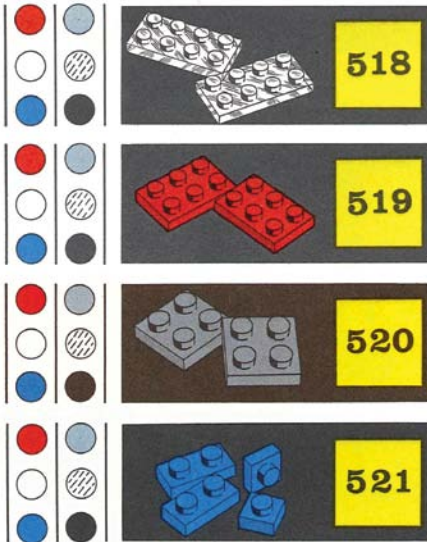
De nya Lego-elementen demonstreras här.



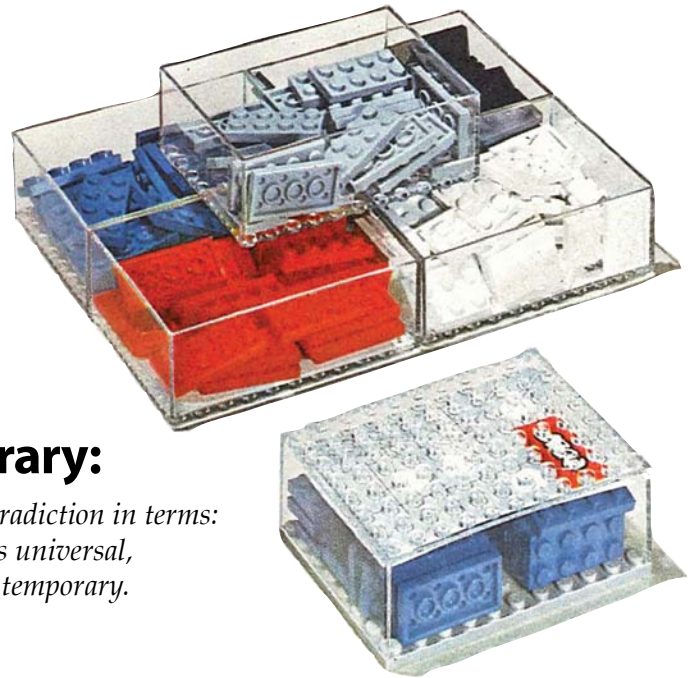
Building Your Dream Home

Adults could plan the layout of their own home and build their dream house to scale. The LEGO bricks could be a valuable and relevant tool for many people in the "decade of house building".





The plates/elements were also sold as supplementary sets, in transparent boxes. The lid of the boxes was studded, and the base of each box was a 1/3-high building plate, allowing the box to be built into the LEGO System.



Timeless & Contemporary:

A characteristic contradiction in terms: The LEGO concept is universal, timeless, yet also contemporary.

The LEGO Building System and Contemporary Trends

The potential for the LEGO System was increasing. GKC was taken with the general trend towards increased systematization and standardization at the time.

In 1960, at a meeting in System House, he said: “... every country has been moving towards standardization, i.e. attempting to achieve the best results with the fewest components.

“The OEEC (Organization for European Economic Co-operation) has a special body which collects evidence and works to promote the importance and necessity of standardization. None of them achieves its objective but the LEGO System – in this respect, too – has a special mission.”

Standardization in the building sector was a much-discussed subject in the 1960s – with a boom in the building of single-family houses. A growing affluence and the fact that car ownership was becoming more common meant that more and more families were opting for their own house. The single-family house – often in kit form – was the preferred option. Precast concrete panels became the norm, replacing the old brick-on-brick method.

Industrial standardized production, reproduction, modules and systems brought about the democratization not only of dwellings but also of furniture and everyday objects. Well-designed, functional, mass-produced products were popular.

The Scale Model line was designed on the basis of the LEGO System concept: Teaching users a simple, rational and planned building method.

And Scale Model was an obvious choice of name: “Architects, engineers and hobbyists use the word ‘scale’ on a daily basis – it’s a common expression used everywhere – even among laypeople.”

The 1963 LEGO column

At the January 1963 company conference the company's long-term objectives and on-going development were presented on the basis of a LEGO column:



Phase I

The LEGO System for children and adults, play and hobby



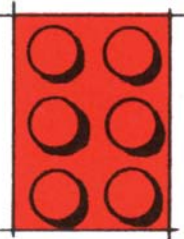
Phase II

M-20, materials for architects, industry, planning and technical model building in the international module, scale 1:20.



Phase III

M-5 and M-10, materials for architects, industry, at scales of 1:5 and 1:10 compatible with the international module



Phase IV


M-1, real bricks in the international module, scale 1:1

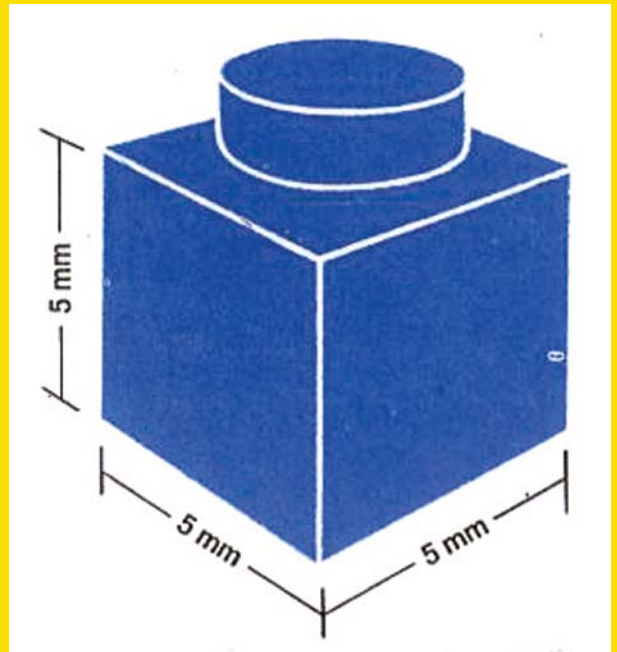
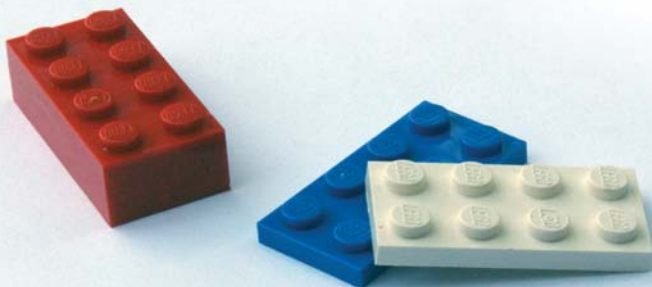
"This expresses a clear objective for the LEGO System.

As the LEGO System passes from Phase I to Phase IV – from play to the real, 1:1 scale brick – it moves ever closer to reality. The path leads to reality. It begins with the playing child and ends in real life, real building work."



Changing Times

In spite of vigorous marketing the Scale Model line did not sell well – the market was not ready to accept the product. In 1965 the line was discontinued but the small LEGO building plates had come to stay and are still part of the LEGO product range, adding value to the LEGO Building System. 



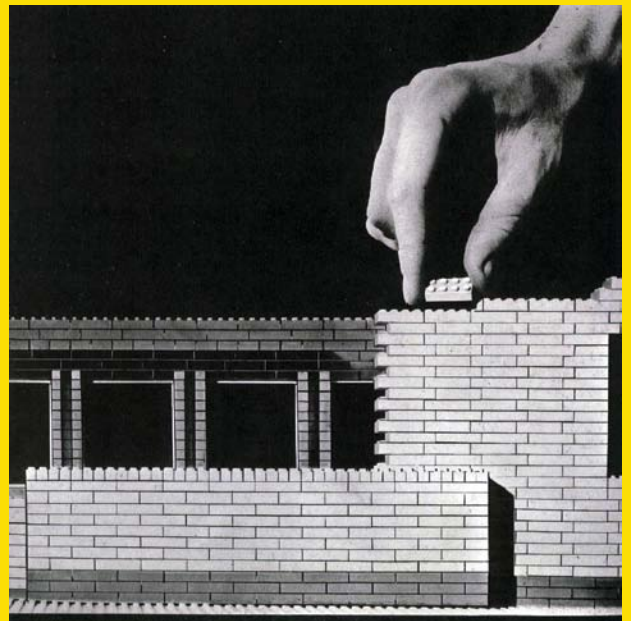
Phase II - Shrinking the LEGO Brick

MODULEX M-20 – A New System for 3D Planning and Detailed Design Work

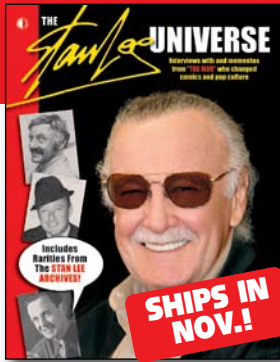
A separate company, Modulex A/S, was set up in 1963 with the task of marketing Phase II. Market analysis indicated that there was a huge potential.

The Modulex M-20 system is based on a cube measuring 5 x 5 x 5 mm (one single stud), and on a scale of 1:20 it corresponds exactly to the then-new international modular unit of 10 cm – thereby complying with the requirements of the modern building industry. Modulex M-20 becomes a new three-dimensional tool for use among all professionals engaged in design and planning.

There is a lot of history to this micro brick and we will be taking a look at that in future issues of *BrickJournal*.



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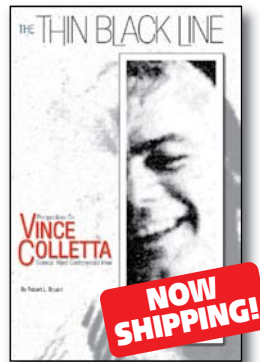


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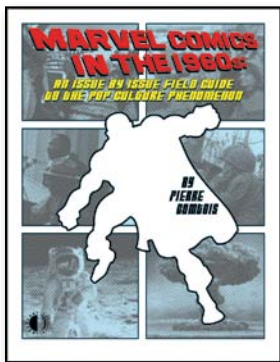
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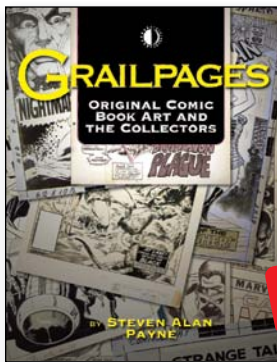
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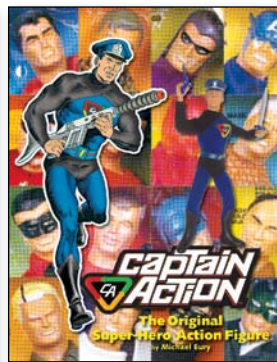
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The LEGO® Group



Above is a prototype space model approximately built between 1987 and 1990. It's in M-tron LEGO Space theme colors and is a space-forklift vehicle that transforms into a forklift-mecha. No-one has been able to shed light on which Designer built it or even if it was intended to be part of the M-Tron theme or was a sketch model for another space theme.

Below are just four of around 20 prototype fish warrior figures produced in 2008/9 for the planned Atlantis theme. These were tested with several groups of children between the ages of 6 and 10 to help choose the ones that were most iconic and had the most appeal. 



From the Designer's Desk

An exclusive look at past ideas and present models on desks in Billund!

Article by Mark Stafford

Photos courtesy of the LEGO® Group and Mark Stafford



This 3x scale Squid Warrior is one of ten made in September 2009 for the first introduction of the Atlantis theme to LEGO staff from outside the Design Studio!

Community Ads

As a service to the LEGO Fan community, we are now providing advertising to community-specific vendors. Those interested in advertising here can contact Joe Meno for rates at admin@brickjournal.com, title: BrickJournal Advertising,



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Hey Kids! Comics!

by **Greg (AFOLs) Hyland**

Lethargic Lad: Topics of Unclear Importance is a complete collection of seven years of Lethargic Lad comics! Presenting over 350 strips from the lethargiclad.com website and all the Lethargic Lad three-page comics that originally appeared in the pages of *Dork Tower* comics.

"Greg just gets it right: the situations, the ongoing storylines, the characterizations, the understated but gut-busting payoffs..."

Fans of the Lad are fans for life!"

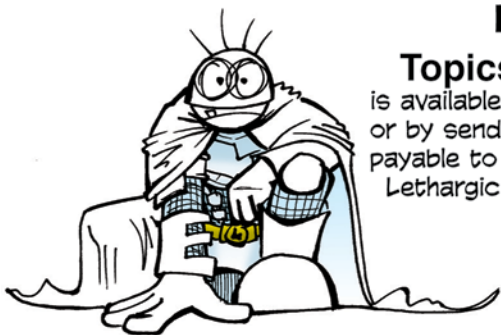
-John Kovalic
Dork Tower

Lethargic Lad:

Topics of Unclear Importance

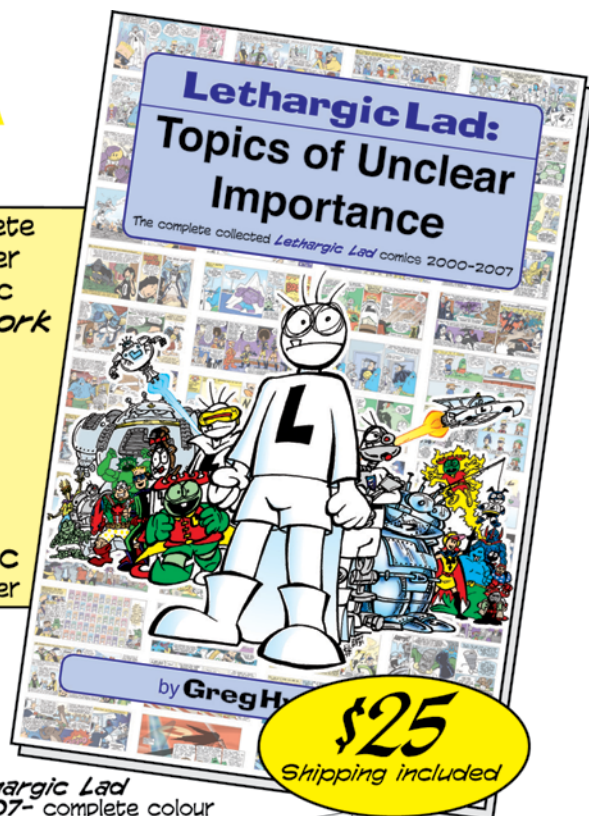
is available exclusively at www.lethargiclad.com or by sending check or money order made payable to "Greg Hyland" to:

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Well, this was a fun issue!

This one became a really interesting compilation of building guidelines. Not instructions, mind you, but thoughts on how to build as a group effort. We've not done anything like this before, but we should have.

Part of *BrickJournal's* mission is to introduce the readers to the LEGO fan community and to inspire them to join. The standards listed here are a good first step for beginning builders to participate at events and displays.

Or one could be like Cindy English and Aaron Westbrook here and just start building....

Either way, the community is waiting for you! What are *you* going to build?

'Til next issue, later!

Joe Meno
Editor

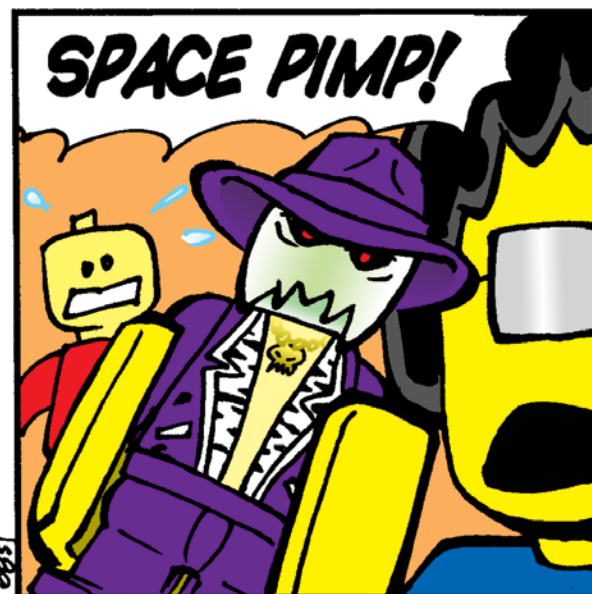
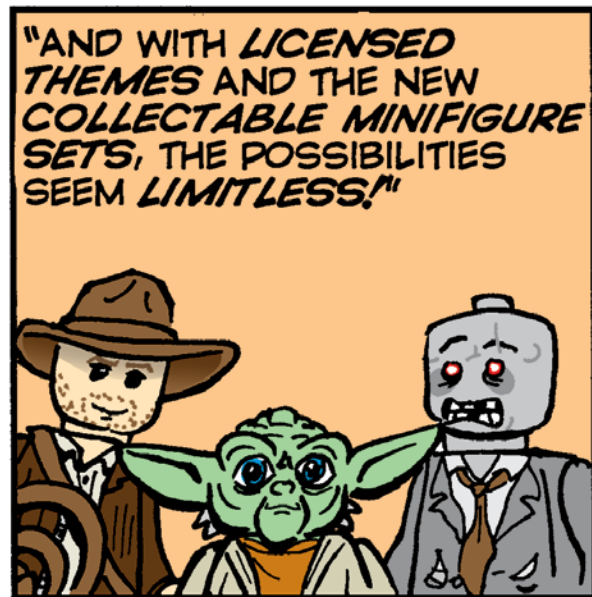
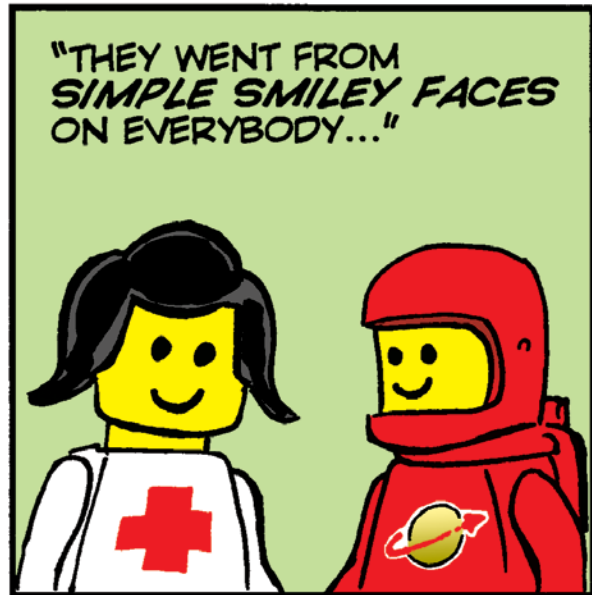


Last Word

KAMINOAN'S www.fineclonier.com
FINE CLONIER DECALS

A row of five LEGO minifigures, each with custom decals. From left to right: a red minifigure with a white decal, a purple minifigure with a white decal, a tan minifigure with a white decal, a red minifigure with a white decal, and a grey minifigure with a white decal. They are standing on a blue and white background that looks like a snowy or icy landscape.

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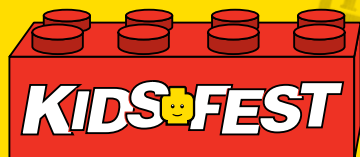
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