

Introduction

Wonders of the World have been compiled from antiquity to the present day, to showcase the world's most spectacular natural wonders and human constructions.

Ryan McNaught, Australia's only LEGO® Certified Professional, has chosen his own Wonders of the World and turned them into LEGO® brick masterpieces. Together with his build team, Ryan has spent 205 days building 50 Wonders of the World, to take us on a historical, storytelling journey through time, that gives us the opportunity to discover more about each iconic attraction – both in real life and LEGO® life!

Build - Create - Play - Learn

Space Shuttle

Designed by: Will Durkacz, Clay Mellington and Ryan McNaught

Piece count: 167,891

Built by: Lauren Brown, Eamon Riley, Ry Catania, Greg Koutoumis, Liam Tullett, Darren Ballingall, Luke Cini, Adam Jones, Stephan Froden and Jordan Hocking

Build hours: 775

Wonders of the Space Shuttle

Date: The first incarnation of the Space Shuttle, The STS-1 Columbia launched in 1981

Size: On Launch with External Tank and 2 Boosters it stood approx 56.1m tall

Place: United States of America

The Space Shuttle was the first operational orbital spacecraft designed for reuse. At launch, and as we have built it from LEGO bricks, it consists of the Shuttle orbiter itself, which contained the crew and payload, the external tank (ET), and the two solid rocket boosters (SRBs). The ET provided propellant to the Space Shuttle Main Engines from lift-off until main engine cut-off. Designed to break up on re-entry to earth's atmosphere, the ET was the only major component of the Space Shuttle system that was not reused. The SRBs provided 71.4% of the Space Shuttle's thrust during lift-off and ascent, and were the largest solid-propellant motors ever flown.

designer & builder notes

This model was initially built for the fourth episode of LEGO Masters Australia series 3 as a housing for the contestant's builds. The episode's challenge was to create something that would go on the shuttle to Mars. Their builds were then slotted into a custom shelving system temporarily installed into the shuttle's payload bay and revealed by opening the payload doors by Hamish Blake and Brickman. Built during the Melbourne lockdowns of 2020, the model had to be built in multiple sections, not only due to the sheer size but to also adhere to social distancing protocols and also enable to be transported more easily. The dark orange bricks used in the external fuel tank was one of the most challenging parts to the build, primarily as we were very low on corner bricks at the time! As LEGO builds are built one layer at a time upwards, we started building the boosters at the base, then built up the orbiter itself from the engines upward, and attached the wings as separate sections. We inserted a couple of removable sections - The Australian flag and LEGO Masters logo - so we can swap them for the original US flag and NASA logo. We also built in lights at the bottom of this model, which help bring the model life!

International Space Station

Designed by: Mark Curnow, Centuri Chan

Piece count: 32,821

Built by: Mark Curnow, Centuri Chan

Build hours: 145

Wonders of the Space Station

Date: Devised in the 1980s, agreed to as an international venture in 1993, assembly began in November-December 1998 and was fully operational in May 2009

Size: 109 metres long, the wingspan of the solar array is its widest point, measuring 73 metres

Place: Earth's orbit, outer space

The International Space Station (ISS) is the largest man-made creation in space, and is considered the most complex international engineering and scientific project in history. Originally an American project in the 1980s named Freedom, the National Aeronautics and Space Administration (NASA) collaborated with Russian space agency Roscosmos State Corporation for Space Activities to merge their individual space station plans into a single facility in 1993, with contributions from the European Space Agency and Japan. Russian and American modules were launched in 1998, and were joined in orbit by American astronauts, to create the first section of the ISS. It continued to expand over the next decade, with parts shuttled to orbit from the USA, Russia, Japan, Canada, Brazil and 11 European Space Agency members. The ISS contains sleeping quarters the size of airplane toilet cubicles, a gym with exercise equipment, laboratories and scientific equipment, solar panels and thermal radiators to power the ISS, a control centre, and a tethered spacecraft which is effectively a lifeboat, in case of evacuation. An international crew work around the clock to keep the station running; conducting scientific testing, maintenance and living their lives as normally as possible in zero gravity.

Designer and Builder notes

I've always loved space exploration and the International Space Station represents some of humanity's greatest scientific and technological achievements, as well as our hopes for the future, so I was very excited to build it! The real space station doesn't have to worry about gravity, having modules, cargo platforms and huge solar sails projecting out from every angle. But our LEGO model does, so it had to be built around a steel frame that could be safely hung and not fall on anyone. On top of that the irregular shape of the station meant that it needed to be able to come apart for transport, so we ended up having to build our ISS much like the real thing – in separate modules that could be put together.

Being a symbol of international co-operation, the space station is constructed from several different modules built and designed by different nations, which posed some interesting building challenges. The Russian modules have a distinctly different design to the American and Japanese modules. The module at the base of the "T"

with the cross-shaped solar panels doesn't actually exist yet. It is the planned "Orion" space craft which may one day be the ship used to send humans to Mars! Beyond the difficulties of creating cylindrical modules from LEGO bricks, the biggest challenge building the ISS was constructing the 16 massive solar arrays that helps power the station. All together, we built more than 28 metres of solar panels for this model! – *Mark and Centuri*