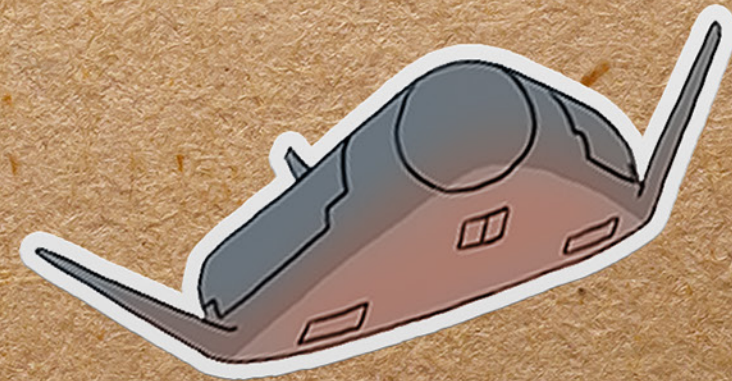
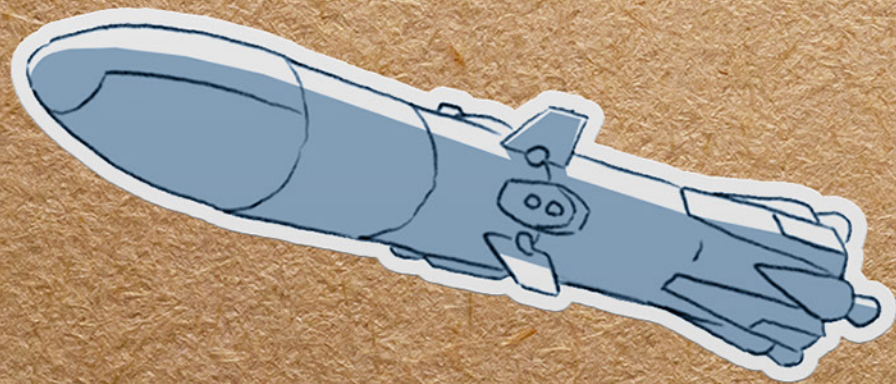
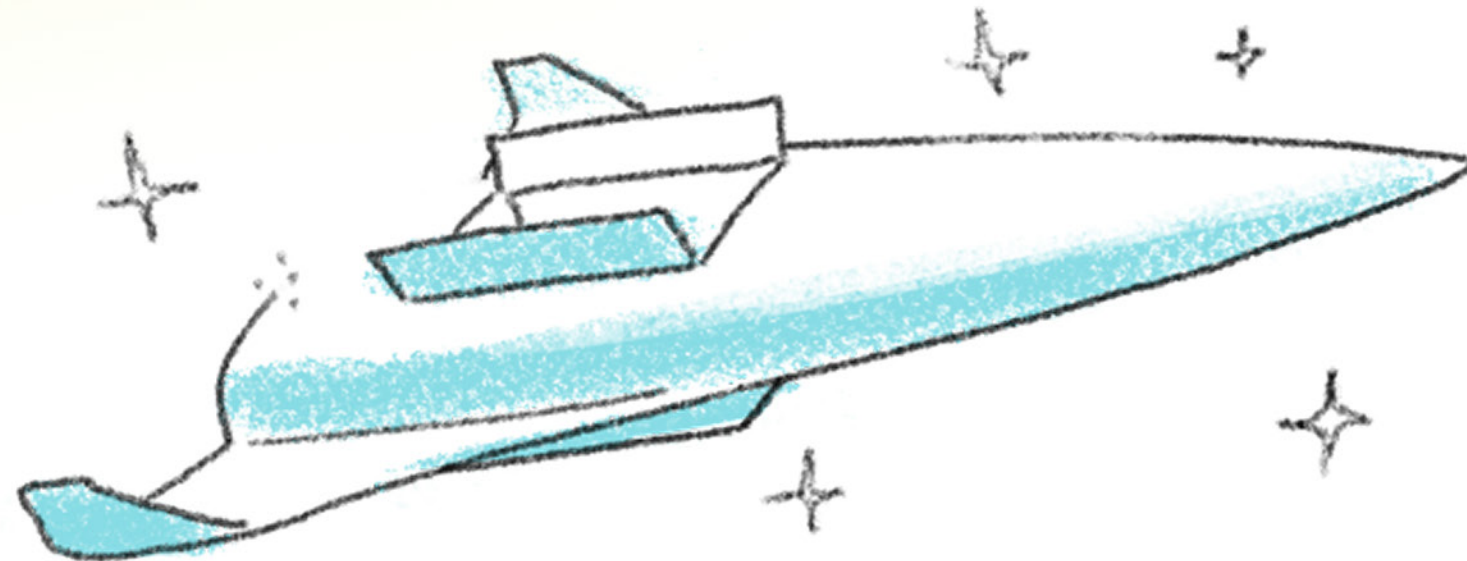


STAN DRAWS SPACESHIPS



created by
Stanley Von Medvey





Stan Draws Spaceships is an animated educational variety show that explores the dream of spaceflight through the eyes of an artist, an astronaut, and a 12 year old kid.

The artist uses the primordial power of imagination to create spaceships by drawing them into existence. Equipped with these wondrous machines he helps his friends go on learning adventures that explore the past, present and future of space exploration. A question is posed and then explored through a series of animated vignettes, that eventually arrive at an even bigger question, left for children of all ages and their parents to talk about at home.

Written in the spirit of S.T.E.A.M. (Science, Technology, Engineering, Art, Math), it's a dreamlike experience that will delight and inform, with something for everyone in the family, whether a novice or an expert. It will give everyone the experience of being a child gazing deep into the starry night, longing to sail the cosmic seas...

Because space TRAVEL is for everyone,
and Stan is going to prove it.



Hi, my name is Stan, and I like to draw spaceships.



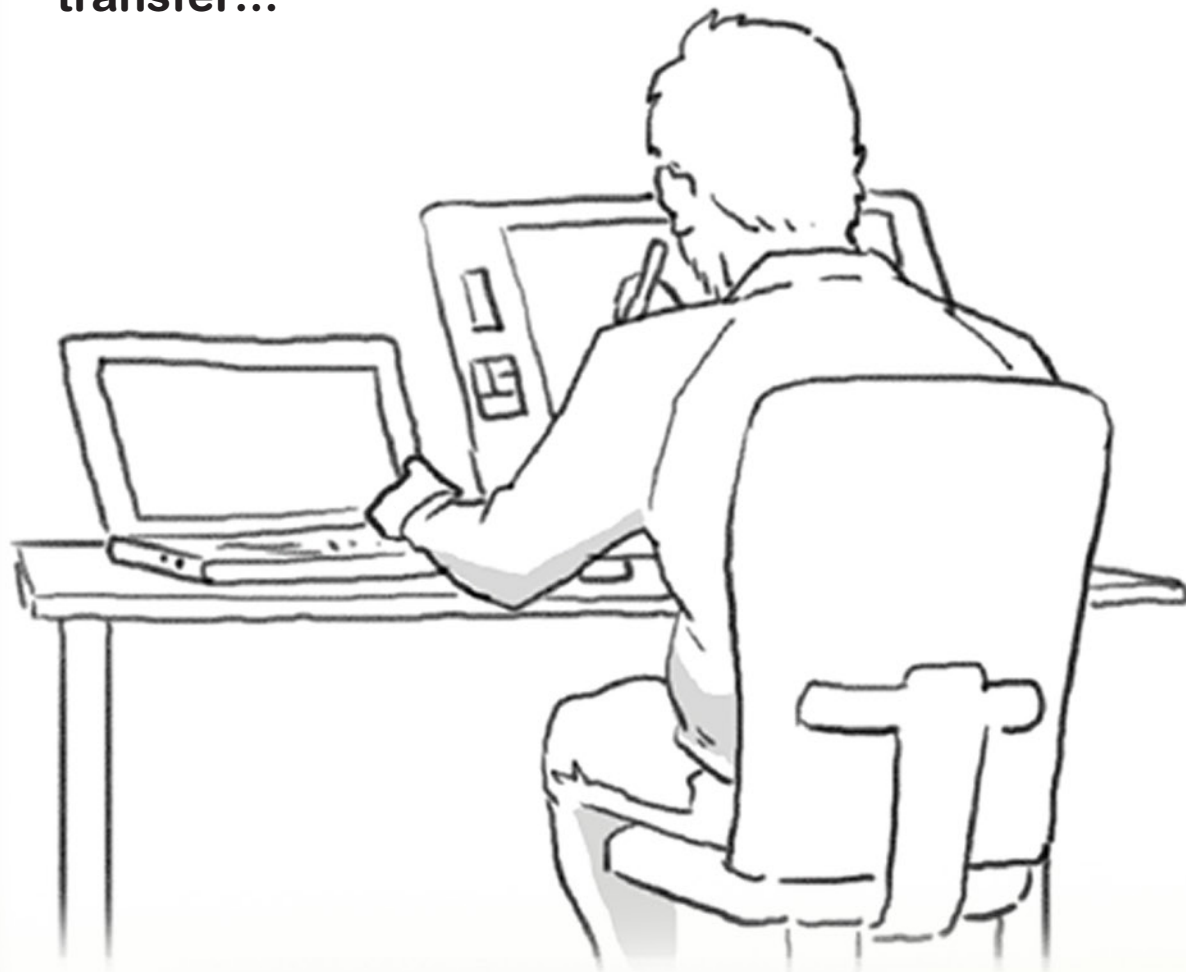
It's really a fixation, I'm utterly captivated by the whole idea of a spaceship. I find that everything I draw, one way or another, is about spaceships.

I was the kid in class that was always head down, drawing.

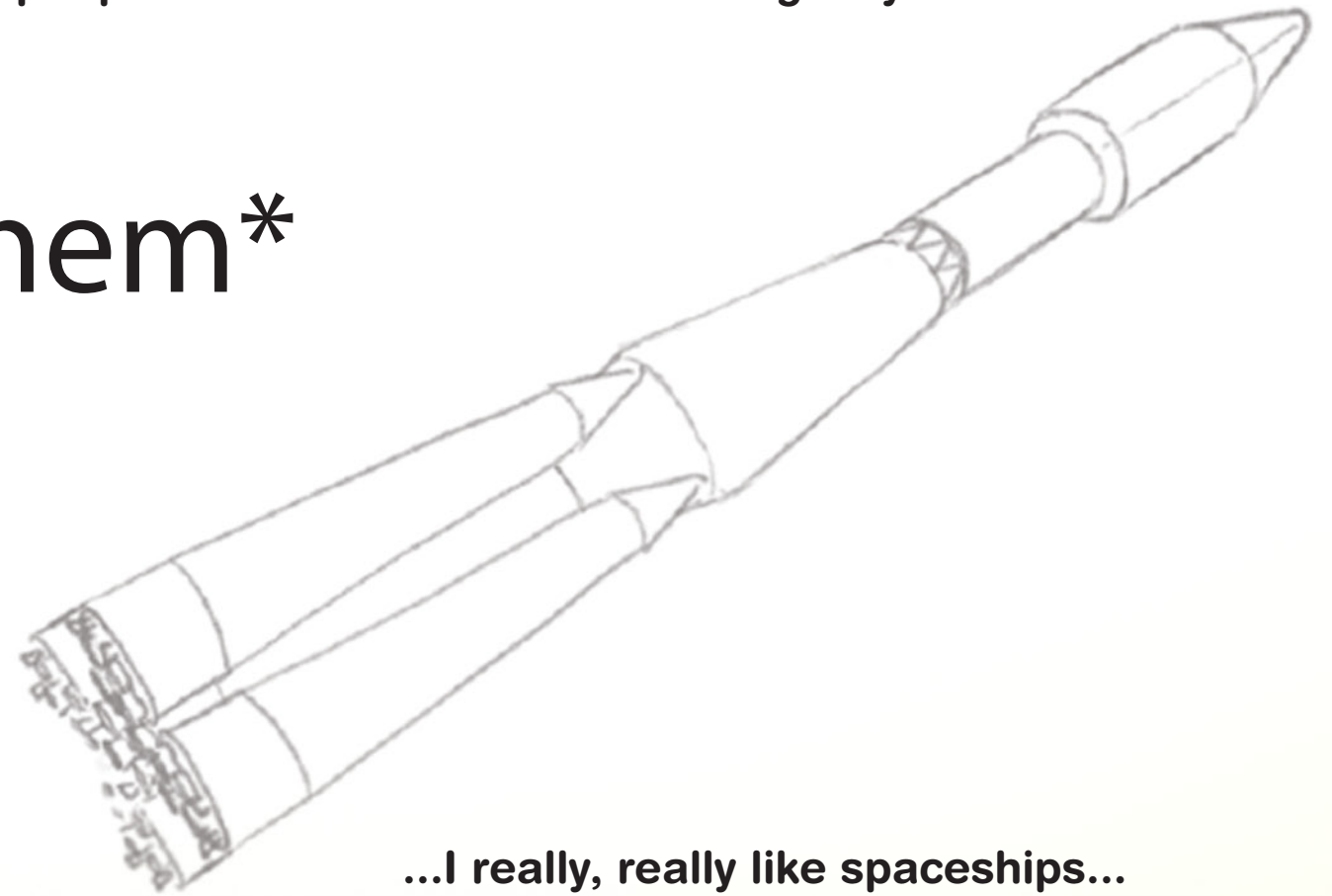
English? Drawing. Chemistry? Drawing. History? Drawing. Drawing spaceships. Every conversation began and ended with space, and by the end of that conversation, I'd be drawing it out for you.

I figured out that if I wish hard enough when I draw a spaceship, if I focus and furrow my eyebrows and get REALLY into it, I can make a REAL spaceship.

My drawings come to life! They make a real live spaceship, firing thrusters to translate forward for ullage, settling the propellant in anticipation of a burn to raise the apoapsis altitude to nail a textbook geosynchronous transfer...



ahem



...I really, really like spaceships...

This is my friend Morgan. she's an astronaut.



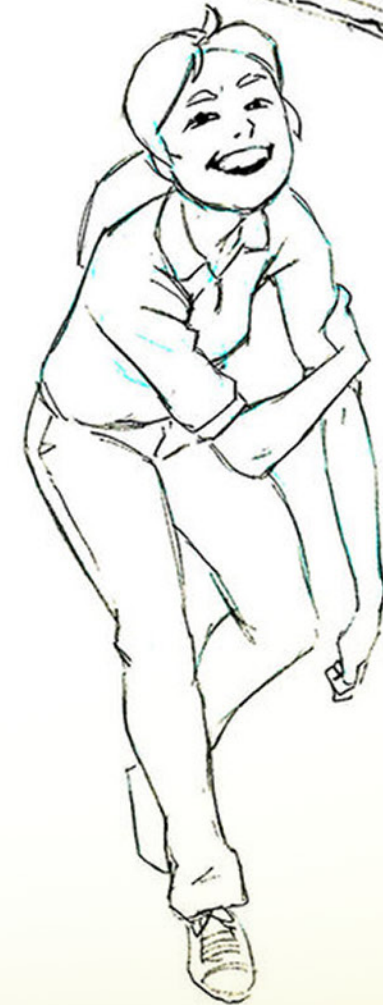
Morgan is a steely eyed missile lady, a genuine expert on spaceships who's "ready to fly" as astronauts say. Morgan is your favorite teacher and most energetic cheerleader all rolled into one supernova pumped full of can-do, NASA spirit.

Morgan's so ready to fly it can be a little intimidating, I'm always wondering "did I draw the spaceship or did she just convince me to draw her a spaceship?" She absolutely must be captain of a ship at all times.

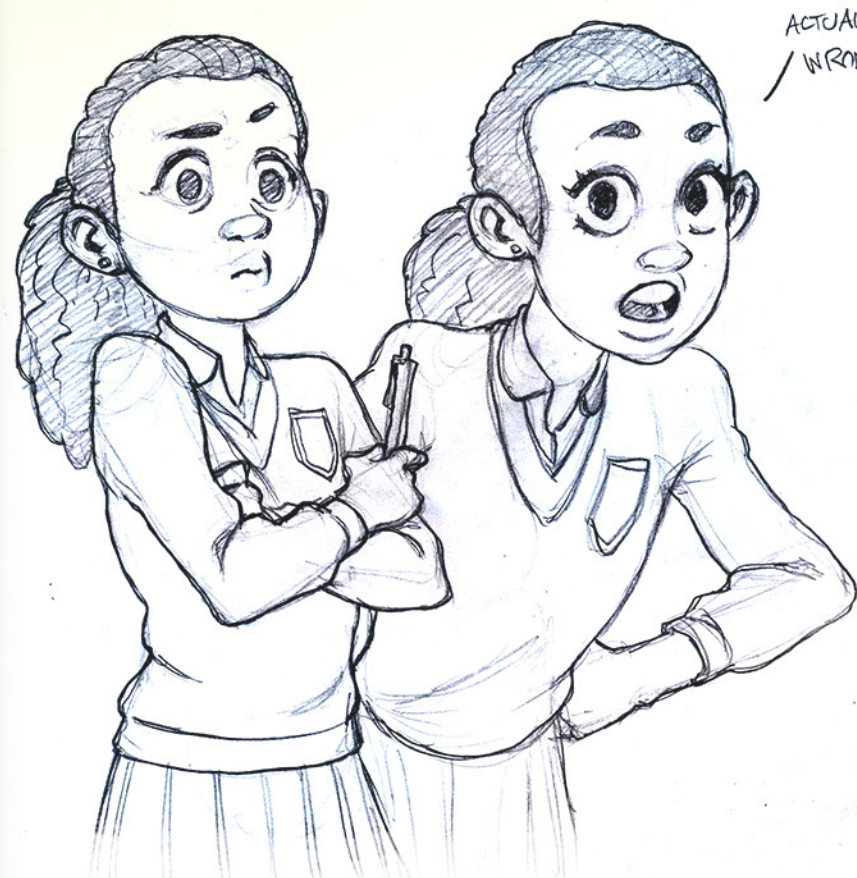
It's normal for Morgan to hop into one of my magical doodles-made-real, begin flipping switches like it was tying her shoes, and say things like:

"Jeez, Stan. Couldn't you squeeze a little more hydrazine onto this thing? Feels like my thrusters are on a tight budget here, buddy."

She likes to think she's a pragmatist, but deep down is a total dreamer...



I also know an engineer. She's 12, and her name is mae



Her full name? Mae Stephanie Higgenbotham, spell it correctly or else. Imagine Hermoine if she was headed for MIT, your niece who'll correct you even if you aren't wrong.

Mae is a pretty intense kid, a fidgety, restless tinkerer who belongs in a maker lab all day along with her legos, origami and weird puzzles... which she relates everything to.

"Yeah, a spaceship reaction wheel is EXACTLY like a fidget spinner."

And of course, she's looking EVERYTHING up, I mean it's the age of smart phones, come on. We could be an hour out from Jupiter, and suddenly she'll disappear into her phone or a book in her pack for a while and then announce:

"Turn around. It's right here, about Jupiter's magnetic field... 'an electric generator that can develop 400,000 volts across...' yeah that would totally fry my phone."

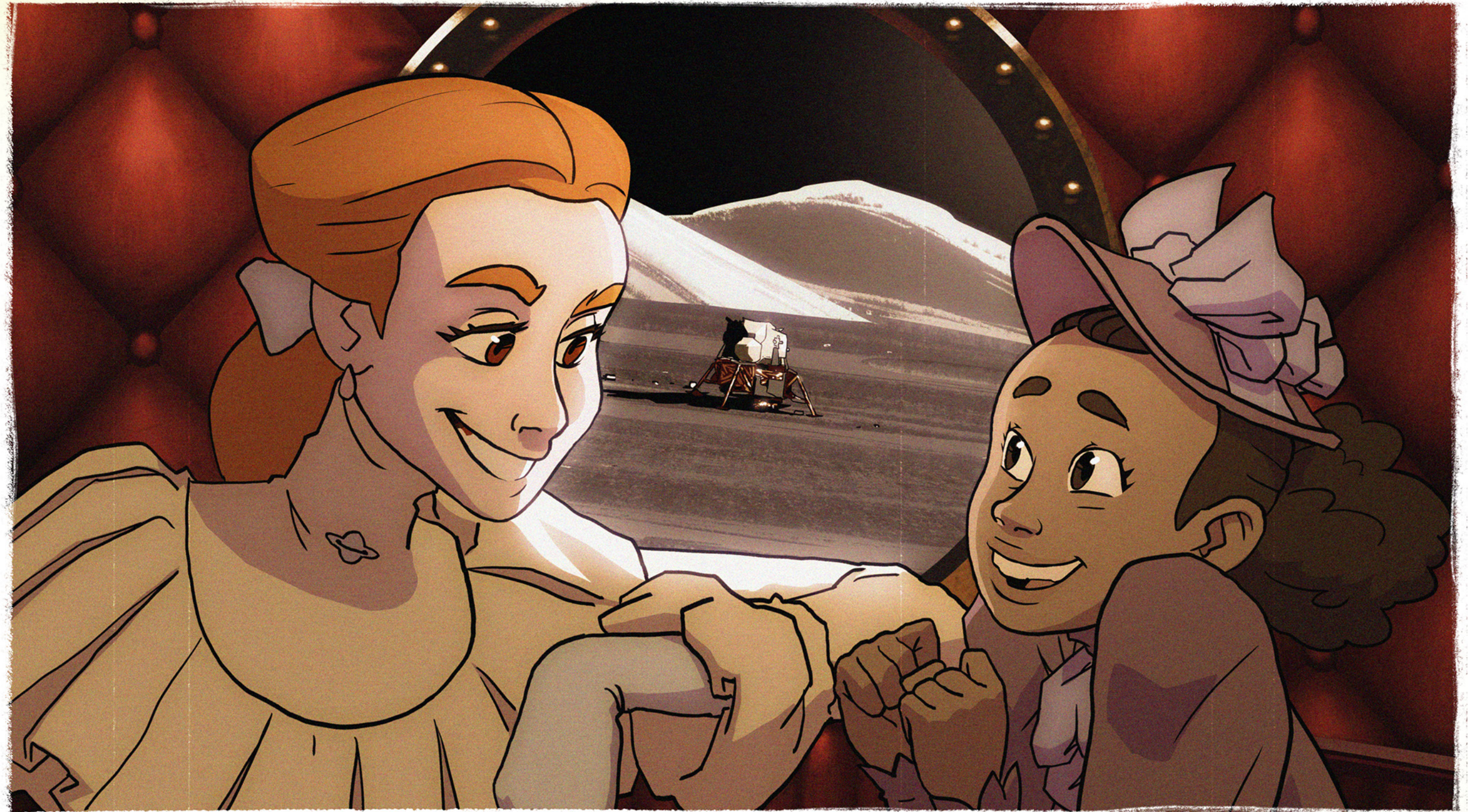




Sometimes Morgan is already on a space adventure of her own, she's an astronaut after all, she's got work to do! She's a pretty great teacher in her own right, and a real fish-in-water when on a spacewalk tour of the International Space Station.

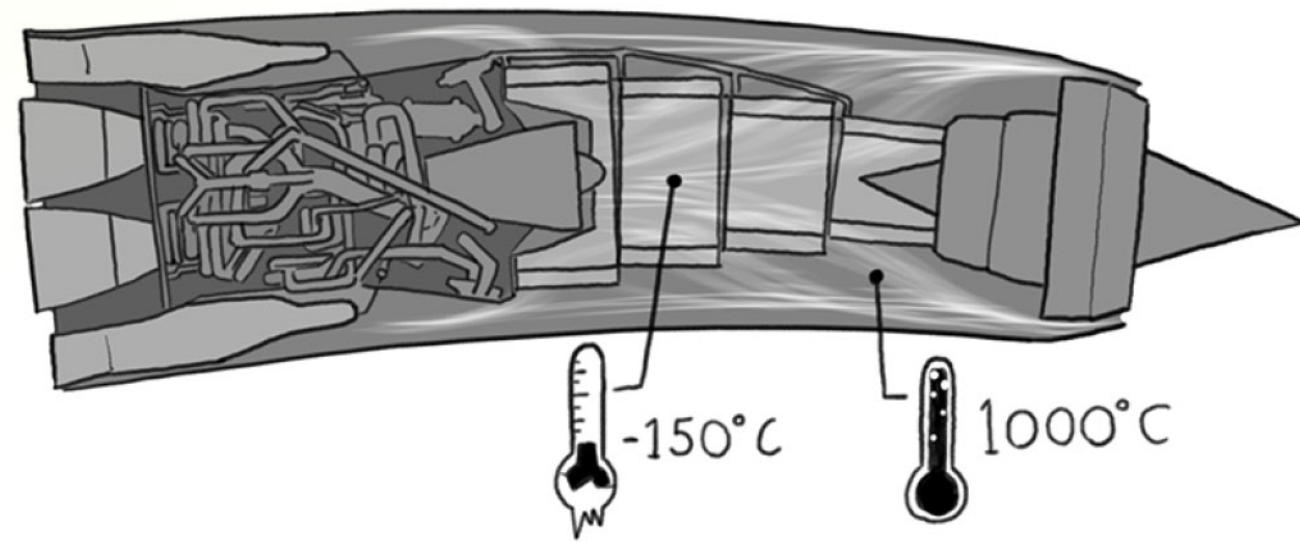


Sometimes Morgan and Mae go off on their own together, while I'm dreaming up their next spaceship. They might use their own imagination to see the ghosts of Giovanni Cassini and Christian Huygens witness the arrival of Cassini-Huygens at Saturn.



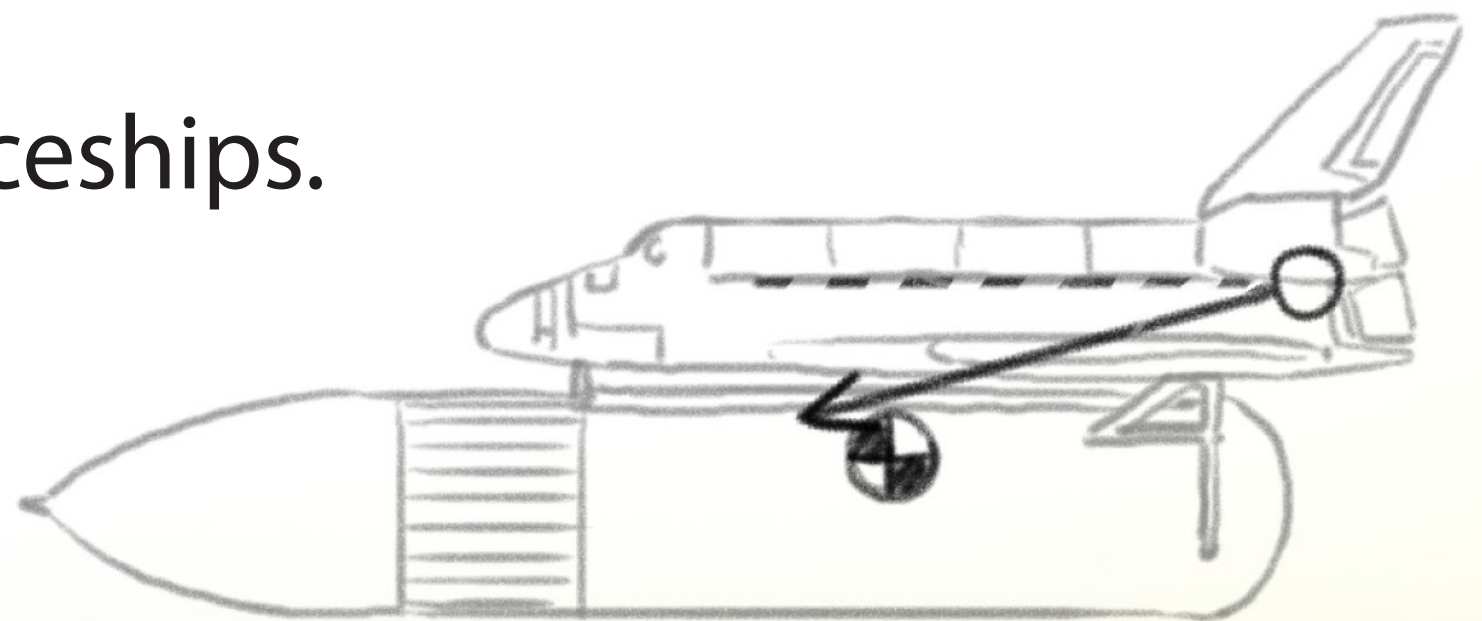
Or I might draw up the fictional space-cannon Columbiad of Jules Verne's writing, so that Morgan and Mae could visit the moon and witness the ascent of Apollo 17 from Hadley Rille!

Sometimes I like to just get in my own head with all this stuff about spaceships, and wrap my head around it out loud, so anyone listening can learn along with me.



And we all get to just dream together, about spaceships, and how absolutely, fantastically, earnestly and sincerely great they are. Everyone can dream of spaceships and draw them with me.

With Stan, who draws spaceships.



EPISODE IDEAS!

GIVE YOURSELF A BOOST

Mae is reading Jules Verne's *De La Terre a La Lune*, in which a giant cannon sends a projectile full of explorers to the moon. We don't use giant cannons in real life, but Mae wants to know why moon rockets are so huge - why do all these space travel machines have to be so huge? They watch a modern rocket being built and Mae realizes that most of the machine is fuel tank! She wonders if it would take so much fuel to get into orbit from a smaller planet. Morgan suggests going to the moon to find out! Meanwhile Stan stretches the bands of a huge slingshot, wearing a stunt helmet, aiming for the moon...

They convince him to hold off a moment. Morgan suggests Stan draw them a huge cannon, amidst palm trees, beneath a full moon...

The great fictional cannon Columbiad in the marshes of Florida, ready to fire a projectile train and passengers at the moon. In 1890s period attire, Mae and Morgan ride first class atop a column of flame as they are shot into the sky towards the moon! When they arrive, Morgan points out Apollo 17 departing the surface. Indeed, a much smaller rocket can reach lunar orbit!

Stan Draws: What is delta V? Change in velocity. Mae and Morgan demonstrate using fire extinguishers to launch themselves around the Asteroid 325, home of the Little Prince! They discover the relationship between the elliptical shape of your orbit, and what happens when you squeeze the extinguisher handle for another blast of thrust!

Mae sees now why payloads are so small and rockets so big on Earth. But what if you want to send something big to another planet? Stan draws a Chesley Bonestell vintage style Mars-bound spacecraft, stranded in Earth orbit. Problem is, this ship doesn't have the fuel to get to Mars! Mae thinks... someone could send up another "fire extinguisher"! She radios mission control. Soon, a rocket arrives with fuel for the trip to Mars, and they are underway.

Stan Draws: A quick look at the history of this idea, beginning with the first practical demonstration when a Gemini spacecraft docked to an Agena upper stage, and later when the Space Shuttle was used to boost the orbit of the Space Station. Using one ship to boost another!

Mae still thinks that this is too clunky, too... what's the word? Inelegant! She wishes you could start over on a smaller planet. Then, spaceships could carry much more stuff with much less fuel! Morgan thinks that's a great idea, and takes Mae to see a friend of hers working on an amazing idea - making rocket fuel out of moon dust! Mae and Morgan go to the lab to recreate the chemical reaction that turns moon dust into rocket fuel!

Armed with the knowledge of "In-Situ Resource Utilization" (and some practice saying that phrase), Mae begins drawing up her grand plan on a huge piece of paper. When she gets to Mars, she'll start over - build a rocket factory where the gravity is lower and the dirt is even better for making rocket fuel than the moon!

EPISODE IDEAS!

A VERY SPECIFIC PROBLEM

Morgan and Mae launch a model rocket, but the parachute fails to open! Smash! Around them, student teams launch much bigger rockets for extreme altitude and speed. Mae is super frustrated by her rocket, even as Stan's rocket disintegrates spectacularly behind them. Morgan says chin up, it just means you're a real rocket scientist! Mae isn't sure...

They go to Stan. He draws what looks like a jungle-gym crossed with a July 4th bottle rocket, and a mustached man in a winter coat...

They enter the drawing and it's the roaring 20s, and professor Robert Goddard is beset by reporters that insist he's building a secret moon rocket. "Who will pilot it? How will you greet the moon people?" This supposed moon rocket? A primitive clunker of tubes and tanks, his first rocket just explodes in the frosty winter air of Auburn, Massachusetts. Mae and Morgan decide to help him out by digging through the wreck for clues!

Stan Draws: An explanation of one of the most important ideas in rocket engine design - Specific Impulse! Mae and Morgan demonstrate with balloons and straw nozzles. The important idea? The hard part is maximizing the amount of thrust force you get out of every gallon of fuel.

Back to Goddard - sustained thrust with the right fuel is achieved as his first contraption rises into the sky. His fuel? Liquid oxygen and gasoline! His rocket flies!

Stan draws a window into 1930's Germany. Willy Ley, Werner Von Braun and their rag-tag team are angering neighbors and damaging hangars with several explosions. But they don't seem to have their spirits dimmed! Mae and Morgan recreate an alcohol and hydrogen peroxide rocket in the lab together, burning the same fuels as Von Braun's rockets!

Stan Draws: A look at just what makes a liquid fueled rocket love exploding. Mae and Morgan learn all the different ways it can go wrong - hot gas leaks into the turbo pump shafts, failure of the nozzle cooling system, cavitation due to bad fuel mixing!

...Huntsville, Alabama, witnessing the post war American rocket experiments, there's Werner again, and president Kennedy! Big problem though, the rockets keep exploding! But now, Mae notices something about the wreckage... that must be the weak spot! The splayed out bloom of metal that was once the turbo-pump... that's where the leak was! Werner thanks her for having such a keen eye.

The episode closes with Morgan and Mae at Mojave Spaceport, launching a freshly designed rocket that... explodes again! But this time, Mae isn't discouraged. She gleefully declares "the solution is in the wreckage!"

EPISODE IDEAS!

A GARDEN IN THE SKY

Mae and Morgan are in the maker lab! Mae is using a kids 3D printing tool to make planters for succulents. Morgan is engineering something much more complicated and esoteric, but they are both having a blast. Mae notices that her 3D printer seems to depend on gravity to draw the plastic down. She wonders if you could use a 3D printer in space? Morgan smiles...

Stan knows just what they need. He scribbles up the legendary Soyuz launcher. They all hop in.

They dock to the International Space Station, where they meet other astronauts, one of whom uses a plastic tool that looks printed! And there between experiment racks is a 3D printer! Mae notices that the astronauts have also printed her planter! Oh no, a screw got stuck in a tiny crack... Mae designs and prints a tool lickety split for fetching screws out of tiny spaces!

Stan Draws - The value of having a 3D printer aboard a space station is incalculable. In dire situations astronauts have improvised with manual covers (Apollo 13) and toothbrushes (International Space Station) to save the day. Having bespoke solutions is a game changer!

In space suits standing on the moon, Mae and Morgan look on as a contraption very much like a brontosaurus-crab on wheels prints a large dome made of melted moon dust. 3D printers can be so big! Mae wonders... If you can print moon domes, can you print a space station? Morgan takes Mae to a strange futuristic orbiting facility, and watch in time-lapse as it “prints” a magnificent space colony.

Stan Draws - In space, you have 24 hours of solar energy, twice as intense as on Earth! Laser sintering can create complex and large forms freed from gravity and built to last! Enormous metal spheres, precision electronics... the cis-lunar industrial complex to come!

The 3D printed space station has grown into an entire industrial society living and working in space! Mae looks around notices how tiny and precious Earth is among the infinite black void. The girls find themselves outside a factory on Earth, a vast toxic stinking lake full of poisonous chemicals. Bucket-wheel excavators, sheared mountain tops, cleared forests, factory farms. Mae insists on getting a good look at all of these things. What’s she thinking?

Mae is deeply troubled by this contrast, why is the garden spaceship Earth also a casualty of industrial pollution? Mae, Morgan and Stan return to their maker space. Mae gloomily finishes her planter, but her mood changes when she puts an appropriately tiny plant inside. Mae tells everyone that Earth is tiny and precious and green, and space is huge and empty and already hazardous to life. Maybe we can do all of our making out there? And as she regards the tiny succulent, she wonders... maybe even all of our farming too.

MORE EPISODE IDEAS!

TO JUPITER AND BEYOND

Mae and Morgan piece together the unbelievable mathematics and history of the n-body problem, and how they lead to the legendary Voyager mission!

How to nail the Landing

Mae gets to do some interplanetary target practice - and help some important figures in spaceflight history stick the landing! Not without a few craters...

Going up?

Morgan is testing new nanomaterials for a space elevator! There are a lot of really weird and lovely ideas for getting to space that don't involve rockets. Mae has a few of her own...

EMERGENCY

Morgan is in trouble! By going through the history of spaceflight emergencies, Mae figures out how to rescue her friend and save the mission!

Sailing Alien Seas

Mae and Morgan sail the high seas... of Titan! Take a submarine ride beneath the ice of Europa and Enceladus! Mae discovers that Earth's oceans are just as alien.



Stan Draws Spaceships is ON YOUTUBE

You've just seen what a 22 minute show might look like. But there is already a 5 minute version you can watch right now!

<https://www.youtube.com/watch?v=v9CWnV7aqqU&>

**The latest video uploaded - 34,000 views in the first 2 weeks.
38,700 views on facebook during that time.**

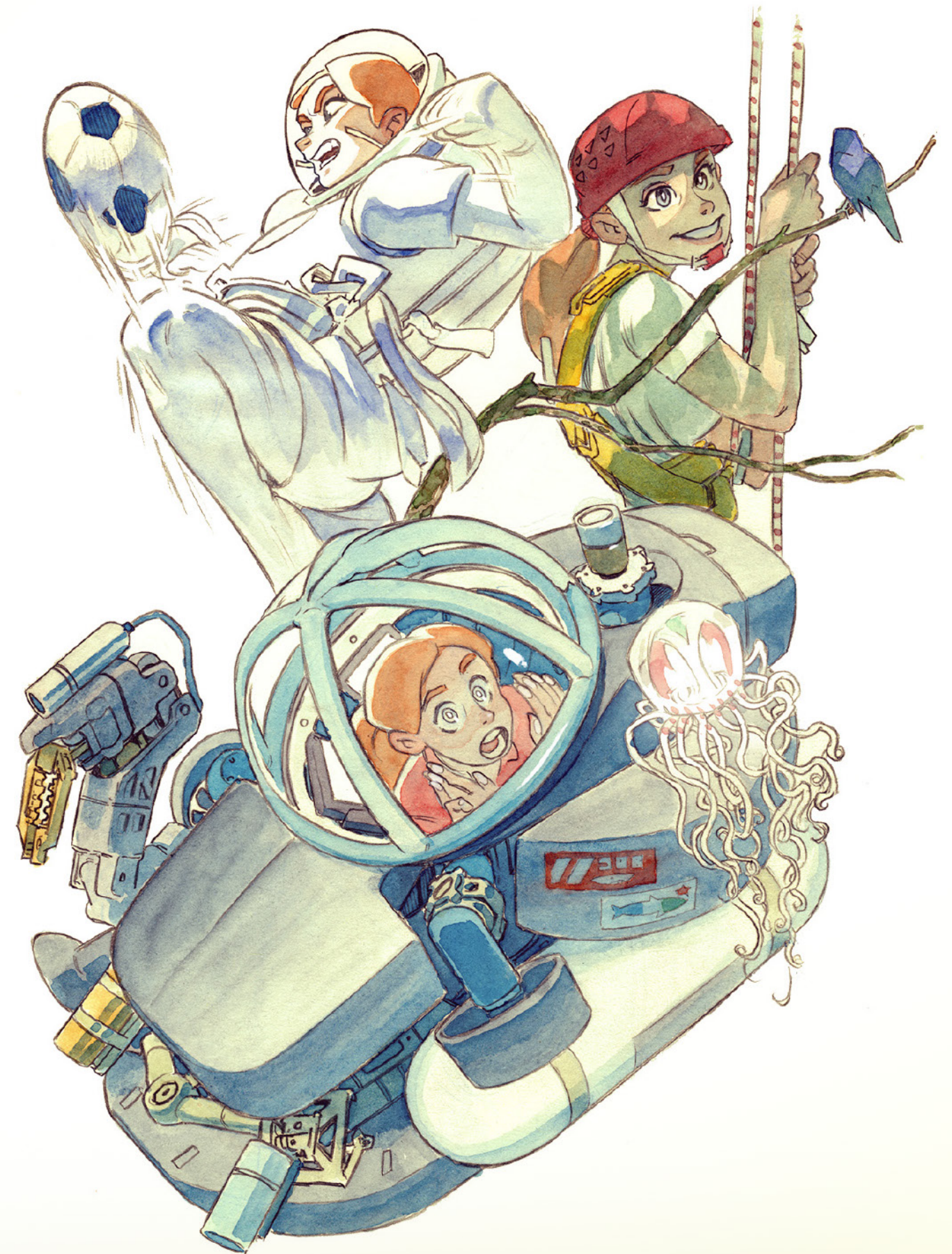
The channel grew by 2000 subscribers during that time.

99% super enthusiastic comments! Go read them for yourself!

ONE MORE THING...

Some see spaceflight as a narrow topic, but to me, it's a nearly inexhaustible telescope through which to see every species of philosophy, policy, science, art, and human drama writ large. Ideas connect across eons, bridging the gulf between renaissance dreamers of Florence and 3D printed thrusters at SpaceX.

Children born today will live to see a colony on Mars, the space between the Earth and Moon industrialized into mining and manufacturing operations, and the solar system familiarized to them via AR and VR from an advanced generation of AI powered space probes. We all need to understand and participate in this adventure! It's a time as momentous as the birth of the internet - the era in which we become multi-planetary. It's coming, and everyone should be ready.





I'm a storyboard artist and animator in LA. I grew up in Chicago, and I've had a lifelong fascination with all things space that began with my first sighting of Saturn through a telescope when I was 6 years old, continued through high school when I was invited to design small autonomous payloads that flew aboard the space shuttle Atlantis and Endeavour, and continued deep into adulthood with my active participation in the National Space Society and Space Development Steering Committee.

I've been making artwork for space initiatives and education for years, including drawings for a Mars mission pitch by Buzz Aldrin given aboard Air Force One to President Obama. I work with educators, engineers, and other hardcore enthusiasts to preach the space gospel. As a result, I've been lucky to see spaceflight from a unique perspective, and I want to share this with everyone. I really believe animation is the best way to do it.

Inquiries?

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