you helped design how ash not to stay
alive and comfortable while working on
the moon science is something you test
the experiments you get results and that
you know modifies the way we look at the
world where did all of this stuff come
from how did it form what was the
process does it happen all the time
across the universe or are we somehow
unique or at least unusual what does it
all mean I'm Katie Atkinson and this is
NASA explorers Apollo an audio series
where we tell stories about past present
and future lunar science lunar science
runs in the family for the petros in this episode of NASA explorers Apollo lunar scientists Noah Petro interviews his father Dennis who was an engineer for the Apollo program [Music] the moon is a really interesting place because we've been there there are 12 sets of boot prints on the ground and you help get them there my name is Noah Petro and I am the project scientist for the Lunar Reconnaissance Orbiter and lunar scientists my name is Dennis Petro I worked on the Apollo program as an
engineer you talk about families that

passed down a business from generation

generation we're in the moon business

petros are in the moon business and so

that's what got passed down let's walk

through July 20th 1969 and where were

you and how did it feel to have had that

experience saying I built this thing and

it's working on the moon did you watch

it with a different eye than anyone else

because of your awareness of how

dangerous the whole thing was it was an

incredible sense of accomplishment in a

certain way because this was something
that's kind of hard to do when you think

00:02:01,969 --> 00:02:07,908
about it I had been involved in what are

00:02:05,750 --> 00:02:10,429
those factors that could actually cause

00:02:07,909 --> 00:02:12,230
them not to get to the moon and I'm

00:02:10,429 --> 00:02:16,489
sitting there same damn

00:02:12,229 --> 00:02:18,139
there they are the Sydenham Dennis was

00:02:16,489 --> 00:02:20,780
involved with a crucial aspect of the

00:02:18,139 --> 00:02:22,548
moon landing the astronaut suits he was

00:02:20,780 --> 00:02:25,129
involved with testing the oxygen system

00:02:22,549 --> 00:02:27,799
for the astronauts backpacks the initial

00:02:25,129 --> 00:02:30,530
designs had all been finalized but they

00:02:27,799 --> 00:02:32,750
were in the testing phase in my part of

00:02:30,530 --> 00:02:34,939
the program it was like well how much

00:02:32,750 --> 00:02:38,180
oxygen do you need how much of these

00:02:34,939 --> 00:02:41,389
other things how many BTUs or calories
or these astronauts going to need you

helped design how astronauts to stay alive and comfortable while working on

the moon well right the object was to humanize it because you can do all the technical stuff about well they're going to be there for a day and a half and they're supposed to do this than the other thing but can they actually do that and survive

I don't know if you remember going at the cradle of aviation museum in Bethpage
and seeing your your portable life

support system a made and I think the

little story you told me at the time was

that there are the big sheets of metal

that held it all together and you got to

sign a name to them is that right right

that was a no-no because it was in a

clean room kind of concept but if you

went in there with a scribe you know

stainless steel scribe you could write

your name on something that would be

left on the moon if you look at you know

the picture of the backpack you'll see

that flat surface and that was a heat
exchanger but it was also a flat piece of stainless steel very amenable to people writing on when I look at any of the pictures of the Apollo landing sites you can see those backpacks you can see the twelve portable life support systems sitting on the surface 50 years later that you know someday we go back and we crack one of those things open there's going to be Dennis cosign on and I'm probably one of the few people that has that very personal connection when I see those landing sites that I can have that personal emotional response to
it as opposed to just a purely Wow it's

you know great exploration site is

there's something there that's very
tangible to me very close to me and very

tangible to me very close to me and very

real because I know the person who built

it and what it took to get that there

I think early on you had an interest in

curiosity about the whole universe you

know your passion for for science and

learning was clearly passed on to me and

one of the things that most influenced

me was when we would do when we go to

the Air and Space Museum or the cradle

of aviation and to me that opened up

this mindset that okay exploration of
space exploration of the Moon most importantly is a real thing not just yes that it happened but that there were people behind it and that you were behind it you and I would take road trips and a lot through the the u.s. Southwest and it's no mystery why particularly Apollo astronauts trained in the desert Southwest because it's a barren landscape much like the moon but the geology is really awesome and and and it's a great place to fall in love with studying the earth or studying planets is seeing it laid out in front
of you these environments are telling us something about how the planet works and that connection between something real tangible touching a rock on the earth or sending people to the moon and doing the same exact thing was very impactful and got me here today.

Noah has a Grail really I think a real concrete awareness about the reality of science science is something you test you do the experiments you get results and that you know modifies the way we look at the world for me I'm very proud.
of him

as far as carrying the flag and then

when you look at the Apollo program and

look what they did you know we sent 12

of the most highly programmed computers

humans to the moon they all tremendously

successful and you know within four

years we had gone from never having sent

humans the moon to having people living

on the moon for three days driving

around and doing real hardcore field

géology but it took engineering to make

it happen I hope that people when they

look at Apollo and they look at the
films the movies the pictures it's not

just ok there's Buzz Aldrin standing on

the surface of the Moon oh my goodness

that's impressive but there's also

400,000 people behind the scenes who

made that moment happen and that's

important

[Music]

fifty years after the historic moon landing Noah is continuing his father's

legacy contributing to the lunar science

they both love the petrol family's

connection to the moon is just one

example of the huge impact that the

Apollo 11 mission left behind
we asked you to help NASA tell the story of Apollo hundreds of people answered

from all over the world here's what

Jenny from Kentucky remembers hi NASA it's me

Ginny you know fifty years later I got in such trouble after the moon landing so here's what happened the morning

after my brothers Bucky and Monty and my next-door neighbor Melissa and our friend Reedy and I decided to celebrate

with a lemonade stand we used up all of my grandmother's aluminum foil to make space helmets and then we made
eliminating kool-aid using all of the grandmother's sugar and we set up our stand on the side of the road and we called it homemade moon made lemonade in kool-aid and we thought we were just the best in the smartest kids on the whole planet Earth until my grandmother got home my goodness she was not happy we had used all of her precious aluminum and Oliver precious sugar and goodness knows how many lemons and you know those little packets of kool-aid that were just stashed for special occasions I don't reckon I sat down for a week I
love this memory of the moon landing so much and every year when this comes up I think of it as that homemade mermaid lemonade and kool-aid and just a Cheers all of my little friends who helped me make it happen so happy 50th NASA love you Ginny thanks Jenny for sharing that story with us what do you remember about the moon landing or what space exploration do you hope to see in your lifetime we want to hear your Apollo story visit nasa.gov slash Apollo stories to learn more
there's still so many questions locked

215
00:09:36,958 --> 00:09:42,059
up in these rocks sex 1 in times just to

216
00:09:39,539 --> 00:09:44,399
be study in them so we have a big window

217
00:09:42,059 --> 00:09:47,099
a big gap in our understanding of the

218
00:09:44,399 --> 00:09:49,828
early Earth and the moon preserves that

219
00:09:47,100 --> 00:09:51,420
history where did all of this stuff come

220
00:09:49,828 --> 00:09:53,458
from how did it form what was the

221
00:09:51,419 --> 00:09:56,610
process does it happen all the time

222
00:09:53,458 --> 00:09:59,429
across the universe or are we somehow

223
00:09:56,610 --> 00:09:59,919
unique or at least unusual what does it

224
00:09:59,429 --> 00:10:05,598
all mean

225
00:09:59,919 --> 00:10:05,598
[Music]