

STAR GAZERS
SG 1701 - 5M
JAN. 2-8, 2017

(REPEAT OF 1507)

"MARS AND VENUS MEET AGAIN!"

DEAN: HAPPY 2017 EVERYONE AND WELCOME TO STAR GAZERS! I'M DEAN REGAS, ASTRONOMER FROM THE CINCINNATI OBSERVATORY.

JAMES: AND I'M JAMES ALBURY, DIRECTOR OF THE KIKI SILVA PLA PLANETARIUM IN GAINESVILLE, FLORIDA. WE ALWAYS HEAR ABOUT THE PLANETS ALIGNING, BUT WE HAVE SOMETHING REALLY SPECIAL HAPPENING LATER THIS MONTH THAT WE GET TO SHARE WITH THE RED PLANET MARS.

DEAN: THAT'S RIGHT, JAMES. MARS, VENUS AND EARTH WILL BE IN JUST THE RIGHT POSITION THAT WE'LL GET TO SEE A MARS-VENUS SCOOCHE AND IF YOU WERE ON MARS, YOU WOULD SEE A VENUS-EARTH SCOOCHE.

JAMES: WHAT ARE WE TALKING ABOUT? LET'S SHOW YOU!

----(STOP - JAMES AND DEAN IN SPACE ON SKYBOARDS)

JAMES: AS MANY OF YOU KNOW, THE PLANETS ORBIT THE SUN IN NESTED ELLIPSES. MERCURY BEING THE CLOSEST PLANET TO THE SUN; THEN VENUS, THEN EARTH AND THEN MARS.

DEAN: AS WE TRAVEL AROUND THE SUN, WE'RE ALL TRAVELING AT DIFFERENT SPEEDS. THE ASTRONOMER JOHANNES KEPLER NOTICED THAT PLANETS CLOSER TO THE SUN TRAVEL FASTER THAN THOSE FURTHER AWAY. IT TAKES MERCURY ONLY 88 EARTH DAYS TO ORBIT THE SUN, AND VENUS TAKES 225 DAYS TO ORBIT THE SUN.

JAMES: EARTH TAKES APPROXIMATELY 365 DAYS (OR ONE YEAR) TO ORBIT THE SUN, MEANWHILE MARS TAKES ALMOST TWO YEARS TO ORBIT THE SUN. WHEN WE VIEW THE SOLAR SYSTEM FROM ABOVE, THE PLANETS LOOK LIKE RUNNERS ON A RACE TRACK, WITH EACH PLANET IN A DIFFERENT LANE.

----(STOP)

DEAN: ON JANUARY 31ST, VENUS, EARTH AND MARS WILL BE ARRANGED IN SUCH A WAY THAT WE ON EARTH WILL SEE WHAT ASTRONOMERS CALL A CONJUNCTION OR WHAT WE STAR GAZERS CALL A SCOOCHE. VENUS AND MARS WILL BE NEXT TO EACH OTHER IN THE SKY JUST AFTER SUNSET.

JAMES: AND IF WE HAD AN OBSERVER ON MARS, LIKE THE CURIOSITY MARS ROVER FOR EXAMPLE, IT WOULD SEE VENUS AND EARTH NEXT TO EACH OTHER IN THE SKY JUST BEFORE SUNRISE.

DEAN: HEY JAMES! LET'S VIEW THE SKY FROM EARTH, THEN TAKE OUR VIEWERS TO MARS AND VIEW THE SAME CONJUNCTION FROM THERE!

JAMES: SOUNDS LIKE A SPLENDIFEROUS IDEA, DEAN! LET'S GO!

---(STOP)

DEAN: OK, WE HAVE OUR SKIES SET UP FOR ANY NIGHT THIS WEEK, JUST AFTER SUNSET, FACING SOUTHWEST. YOUR ATTENTION WILL BE IMMEDIATELY DRAWN TO TWO BRIGHT, NON-TWINKLING LIGHTS. THE BRIGHTER OF THE TWO IS OUR SISTER PLANET VENUS, NAMED AFTER THE ROMAN GODDESS OF BEAUTY AND LOVE.

JAMES: THE DIMMER AND REDDER OF THE TWO IS THE RED PLANET MARS, NAMED AFTER THE ROMAN GOD OF WAR. MARS WILL BE UP AND TO THE LEFT OF VENUS. AS THE WEEKS PASS, YOU'LL SEE VENUS GETTING CLOSER AND CLOSER TO MARS. THEN, ON JANUARY 31ST, THEY REACH THEIR CLOSEST TO EACH OTHER AND A SLENDER WAXING CRESCENT MOON JOINS VENUS AND MARS FOR AN EXQUISITE PARTNERING IN THE EVENING TWILIGHT.

DEAN: JANUARY 31ST, IS ALSO THE DAY WHEN MARTIANS WILL BE ABLE TO SEE AN EQUALLY CLOSE CONJUNCTION OF VENUS AND EARTH.

JAMES: SINCE THERE ARE NO MARTIANS...

DEAN: SO YOU SAY.

JAMES: AND NO HUMANS ON MARS EITHER...

DEAN: YET.

JAMES: WE DO HAVE ROBOT EXPLORERS ON THE SURFACE OF MARS! ONE OF THE MOST RECENT VISITORS TO THE RED PLANET IS THE CURIOSITY ROVER, ALSO KNOWN AS THE MARS SCIENCE LABORATORY.

DEAN: SO, GET YOUR SKYBOARDS READY AS WE GO WHERE ONLY A FEW STAR GAZERS EPISODES HAVE GONE BEFORE. WE'LL TAKE A TRIP TO MARS AND CHECK OUT THIS SAME CONJUNCTION FROM THE CURIOSITY ROVER'S PERSPECTIVE!

---(STOP & FLY)

JAMES: OK, WE'VE GOT OUR SKIES SET UP FOR JUST BEFORE SUNRISE, HERE AT CURIOSITY'S LANDING SITE, NEAR GALE CRATER ON MARS. WE'RE ABOUT 4 AND A HALF DEGREES SOUTH OF THE MARTIAN EQUATOR AND ABOUT 137 DEGREES EAST LONGITUDE. WE HAVE OUR TIME SET TO JUST BEFORE THE MARTIAN SUNRISE.

DEAN: SO IF WE AIMED THE CURIOSITY ROVER'S CAMERA TO JUST SOUTH OF EAST, WE WOULD SEE OUR HOME PLANET EARTH SNUGGLING UP WITH OUR SISTER PLANET VENUS. AND JUST BELOW THAT PAIR, YOU WOULD SEE THE GIANT PLANET JUPITER.

JAMES: AND IF YOU WERE LUCKY ENOUGH TO HAVE YOUR TELESCOPE WITH YOU, YOU'D SEE A GIBBOUS EARTH WITH A TINY GIBBOUS PINPOINT OF LIGHT NEXT TO IT. THAT'S NONE OTHER THAN OUR MOON. NOW HOW NEAT IS THAT?!

DEAN: AND IF YOU STAYED ON MARS LONG ENOUGH, ON FEBRUARY 26TH, YOU'D SEE A BEAUTIFUL TRIPLE CONJUNCTION OF VENUS, EARTH AND JUPITER.

JAMES: MAN, THAT WOULD BE BEAUTIFUL TO SEE. IT MAKES ME WANT TO DANCE!

DEAN: SUCH WONDERFUL THINGS TO SEE, ON OUR WORLD AND THROUGHOUT THE SOLAR SYSTEM. YOU JUST HAVE TO REMEMBER TO...

BOTH: KEEP LOOKING UP!