

STAR GAZERS
SG 1508 - 5 MINUTE
FEBRUARY 23-29, 2015

"SEEING DOUBLE THIS WINTER: TWIN STARS AND PLANETS"

JAMES: HEY THERE STAR GAZERS. I'M JAMES ALBURY, DIRECTOR OF THE KIKA SILVA PLANETARIUM IN GAINESVILLE, FLORIDA.

DEAN: AND I'M DEAN REGAS, OUTREACH ASTRONOMER FOR THE CINCINNATI OBSERVATORY. WE'RE HERE TO HELP YOU FIND YOUR WAY AROUND THE SKY TONIGHT. WHEN YOU THINK OF THE WINTER SKY, YOU MIGHT THINK ABOUT SEEING ORION'S BELT OR THE SCORCHINGLY BRIGHT DOG STAR, SIRIUS.

JAMES: BUT THIS WEEK WE'LL TAKE A CLOSER LOOK AT THE GEMINI TWINS, THE EASILY RECOGNIZED WINTER CONSTELLATION WITH TWO BRIGHT STARS NAMED CASTOR AND POLLUX

DEAN: PLUS THE TWO BRIGHTEST PLANETS WILL PUT ON A DISPLAY IN THE EVENING SKY. I'M TALKING ABOUT VENUS AND JUPITER. LET'S SHOW YOU!

(STOP & DROP)

DEAN: OKAY, WE HAVE OUR SKIES SET UP FOR MONDAY MARCH 1 AT 8PM FACING WEST. WE'RE STARTING HERE BECAUSE YOU'LL ONLY HAVE A BRIEF WINDOW TO SEE THE FIRST OF TWO EXCEPTIONALLY BRIGHT PLANETS.

JAMES: AND YOU CAN'T MISS IT. THAT DAZZLINGLY BRIGHT LIGHT IS ACTUALLY THE PLANET VENUS. SOME PEOPLE CALL IT THE EVENING STAR SINCE YOU CAN SEE IT JUST AFTER SUNSET. AND THIS WEEK, IF YOU'RE A KEEN OBSERVER YOU MAY SEE MARS BELOW VENUS TOO.

DEAN: TO SEE THE OTHER BIG, BRIGHT PLANET, AND THE TWIN STARS OF CASTOR AND POLLUX WE'LL HAVE TO TURN AROUND.

(STOP)

DEAN: OKAY, NOW WE'RE FACING SOUTHEAST AND HIGH UP IN THE SKY YOU'LL SEE THE WAXING GIBBOUS MOON. ON MARCH 1ST YOU'LL FIND THE BRIGHT BEACON OF LIGHT, THE KING OF THE PLANETS, GIANT JUPITER DOWN AND TO THE LEFT OF THE MOON. AND ON THE 2ND, THE MOON WILL APPEAR RIGHT NEXT TO JUPITER.

JAMES: JUPITER IS HARDLY VENUS' TWIN, BUT RIGHT NOW BOTH PLANETS ARE JUST SO DARN BRIGHT! LET'S FLY IN FOR A SIDE-BY-SIDE COMPARISON.

(STOP) GUYS IN SPACE

JAMES: HERE IS WHAT VENUS AND JUPITER WOULD LOOK LIKE NEXT TO EACH OTHER.

DEAN: YIKES! THERE IS NO COMPARISON. JUPITER IS A GAS GIANT PLANET 88,000 MILES IN DIAMETER.

JAMES: WHILE VENUS IS A ROCKY PLANET A LITTLE LESS THAN 8,000 MILES IN DIAMETER.

DEAN: JUPITER HAS 67 MOONS.

JAMES: VENUS HAS NONE. ZIP. ZERO.

DEAN: JUPITER IS ALL CLOUDS AND FEATURES THE GREAT RED SPOT, A HUMONGOUS HURRICANE-LIKE STORM SO LARGE YOU COULD FIT A FEW VENUS' INSIDE IT.

JAMES: VENUS IS COVERED IN CLOUDS THAT TRAP IN HEAT LIKE A GREENHOUSE. IN FACT, VENUS HAS THE HOTTEST SURFACE TEMPERATURE OF ANY PLANET. IT'S 900 DEGREES FAHRENHEIT ALL DAY, EVERY DAY, ON PRETTY MUCH THE ENTIRE PLANET.

DEAN: WOW, WE'D MELT INTO A PILE OF GOOP ON VENUS!

JAMES: YEP AND VENUS IS ABOUT 128 MILLION MILES AWAY WHILE...

DEAN: JUPITER IS A WHOPPING 412 MILLION MILES AWAY. EVEN THOUGH IT'S SO MUCH FARTHER, JUPITER'S SIZE MAKES IT SO BRIGHT FOR US ON EARTH.

(STOP)

DEAN: NOW TO THE REAL TWINS - AT LEAST, MYTHOLOGICALLY SPEAKING. THE TWO BRIGHT STARS MARKING THE HEADS OF THE GEMINI TWINS ARE HIGH IN THE EASTERN SKY - ABOVE JUPITER - AND ABOVE THE MOON ON MARCH 1.

JAMES: THOSE STARS ARE CALLED POLLUX AND CASTOR AND SINCE THEY'RE SO HIGH UP, LET'S FLY IN FOR A CLOSER LOOK.

(STOP)

JAMES: THE CONSTELLATION OF GEMINI IS TOUGH TO PICTURE WITHOUT A STRONG IMAGINATION. ESPECIALLY SINCE AT THIS TIME OF YEAR THEY'RE STANDING SIDEWAYS IN THE SKY.

DEAN: BUT I REALLY LIKE THE WAY AUTHOR H.A. REY CONNECTED THE DOTS ON THESE STARS. NOW YOU CAN SEE POLLUX AND CASTOR AS THE HEAD STARS, THEIR LEGS AND FEET GO OUT TO THE RIGHT AND THEY HAVE THEIR ARMS AROUND EACH OTHER'S SHOULDERS.

JAMES: I CAN SEE THAT! NOW THE TWO MAIN STARS, POLLUX AND CASTOR MAY LOOK TO BE SIMILAR BUT THEY'RE NOT. POLLUX IS THE LARGER AND BRIGHTER OF THE TWO STARS. ITS ABOUT 9 TIMES WIDER THAN OUR SUN AND 43 TIMES BRIGHTER. AND BACK IN 2006, ASTRONOMERS FOUND A PLANET ORBITING POLLUX.

DEAN: CASTOR IS 2.3 TIMES THE DIAMETER OF OUR SUN AND ABOUT 30 TIMES BRIGHTER. IT'S WHITE IN COLOR AND WAY HOTTER THAN POLLUX. IF YOU COULD VISIT CASTOR, YOU'D BE ABLE TO SEE THAT IT'S NOT JUST ONE STAR, BUT A SYSTEM OF SIX STARS REVOLVING AROUND EACH OTHER.

(STOP) CLOSE UP FOR ENDING

JAMES: SO AFTER DARK THIS WEEK, LOOK FOR THE TWO BRIGHTEST PLANETS - VENUS IN THE WESTERN SKY, AND JUPITER IN THE EASTERN SKY...

DEAN: AND THE TWIN HEAD-STARS OF GEMINI, POLLUX AND CASTOR HIGH UP IN THE EAST. NEITHER THE TWO PLANETS, NOR THE TWO STARS ARE REALLY TWINS. BUT YOU STILL MAY SEE DOUBLE THIS WEEK IF YOU...

BOTH: KEEP LOOKING UP!