

A graphic featuring a crescent moon, several yellow stars of varying sizes, and a red rocket with a blue trail. The trail loops around the text. The background is a dark space with a few distant stars.

# Heads Up!



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## HEADS UP - 13 x 30 Episodes

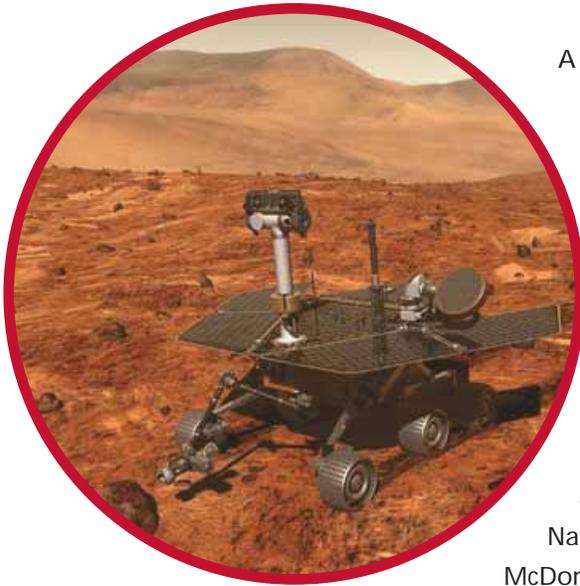
**HEADS UP! II** is a 13-part science series about astronomy and astronautics for 'tweens' - kids aged 8 to 12. A series that takes kids beyond the basics of the Big Dipper and the Moon and introduces them to the magical content and practical context of the night sky. In each episode we take kids on an entertaining and informative tour of the heavens through several featured segments that everyone can look forward to each week. We have enough planets and moons in the solar system that each week we'd feature one in a five minute PLANETS segment. One week it'll be Mercury, the next we'll look at Mars, or the moons of Jupiter. The sky's the limit! CONSTELLATIONS will be a mixture of ancient mythology and contemporary navigation. What is Orion? How do you find the three stars of his 'belt?' How did Cassiopeia get her name? We look at the main stars, plus maybe a target that can be seen with simple binoculars. In EYE SPY we check out a different small telescope or spotting scope each week. There are many, many small scopes to choose from these days, so coming up with thirteen examples is no problem at all. Kids are always being given trashy telescopes for Christmas, and today there's no excuse for it - high quality product is out there. **HEADS UP! II** will use this segment to show one or two aspects of telescope operation, and go in search of that elusive 'heavenly body.' 'On-location we visit different SPACE PLACES each week. We could go to an observatory, such as the Dominion Astronomical Observatory in Victoria that is opening a new, larger visitor centre that will be strongly slanted toward school visitors. Or we could drop in at one of the many mission control centres like Cape Canaveral, or a 'Space Camp' that kids can go to like Laval's Cosmodome ("... become an astronaut for a week!"). We can visit some of the better planetariums, space centres, and science pavilions or visit various companies across Canada that are providing technical expertise and equipment to the International Space Station(ISS).

VIRTUAL SPACE is the segment where we log onto the Internet and go to different space science websites each week. We can find a dozen decent sites to show what goodies are on-line for space-minded kids. Most children have a strong interest in both astronomy and astronautics, so the series will have a segment each week in which the emphasis is on spaceships, astronauts and unmanned missions.

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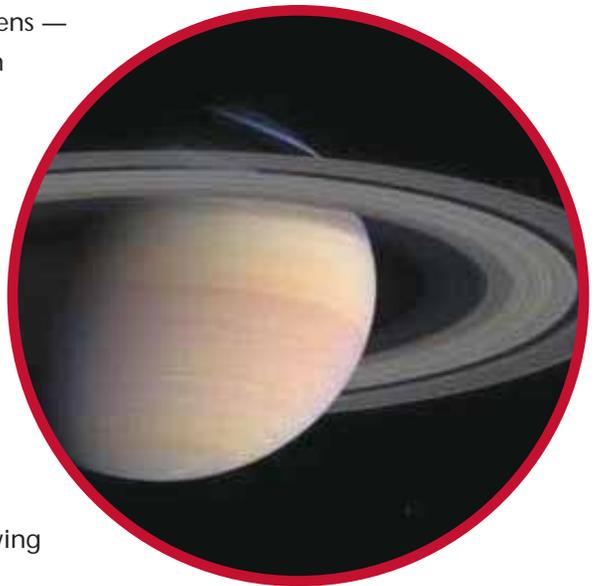


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A futuristic space update segment could review what is now on the DRAWING BOARD for the space missions of the near future including probes to the planets, the ISS, the big plans for orbiting telescopes, etc. We will feature one far-out project each week, drawing on the very latest information available. This series is devised and co-written by astronomer Ken Hewitt-White, former director of the Pacific Space Centre and author of the Canadian book, "Night Sky Navigator". It is hosted and co-written by Bob McDonald, award-winning host of CBC's "Quirks and Quarks" and YTV's "Wonderstruck". It is produced

by Soapbox Productions who created the award-winning "Cosmic Highway" and the recent Discovery series, "Cosmic Odyssey". **HEADS UP! II** is not unlike Soapbox's original production of "Cosmic Highway" for adults. It's not a magazine program, but a "documentary-style" half-hour with a series of elements "feeding" the single focus of each episode. Although there are segments throughout they compliment the central theme of the individual episode. This is necessary, we believe, because of the difficulty inherent in attracting and holding the interest of the intended audience — tweens and teens — over a thirty-minute time frame. For instance, in an episode about the planet Mars we could start in a tent in someone's backyard looking up at the night sky. Questions about the "red planet" dovetail naturally into its placement in the grand scheme that is our Solar System which in turn leads to Constellations and other "like" planets. Curiosity leads to exploration. So, wanting a closer look leads our host to Space Places (an observatory for instance) so that we can gain a greater understanding by seeing Mars "up close and personal" through a gigantic telescope. Eye Spy, then, becomes our way of allowing the audience to participate at home.



### Episode 1: "Journey to the Stars"

A journey to another star system using today's rockets would take hundreds of years, longer than a human lifetime. Solar sails, fusion drives, generation starships...what will it take to really go where no one has gone before?

### Episode 2: "Measuring the Earth With a Stick"

Imagine a guy figuring out the size of the Earth using a stick. His name was Eratosthenes and the simple experiment he performed outside the great library of Alexandria two thousand years ago can still be done today with meter sticks and cell phones! Since then, we've gone to a lot of trouble trying to see what the Earth looks like. We've sailed around it, flew around it, mapped it and eventually saw it rise as a beautiful blue ball in the black sky of the moon.



### Episode 3: "Ice Worlds"

Move over planets! Most of the worlds in our solar system are made entirely of ice. Some have huge oceans under their white covers, others have ice volcanoes, ice mountains and valleys. And the ice comes in different flavours! Many scientists believe ice worlds are the best place to look for Alien life. What might that look like?

### Episode 4: "Gravity Gone Berzerk"

If you think gravity is a drag, try visiting a neutron star or black hole. These ultra dense places make you so heavy that stepping up a curb takes as much energy as climbing Mt. Everest. What makes them so weird and what happens when things fall into them?

### Episode 5: "The Missing Universe"

Most of the universe is missing...well, at least we can't see it. It turns out that the stars and galaxies we do see are only a small part of what's really out there. The rest is made of dark matter and dark energy. What is this stuff, and how do we know it's there if we can't see it?

### Episode 6: "Southern Skies"

The beautiful Milky Way we see in the summer Skies of Canada is nothing compared to the sights below the equator. Major telescopes in Chile are exploring the richest part of the sky, the centre of our galaxy!

### **Episode 7: "Extreme Life"**

Life on other worlds may live in extreme environments, super hot or frozen solid. Scientists explore deep caves, hot springs and frozen landscapes to find life thriving in extreme places on this planet that may be similar to what we'd find out there in space.

### **Episode 8: "UFO's and Little Green Men"**

People flock to Roswell New Mexico to hear about a mysterious spaceship that crash landed there, complete with alien pilots. Most scientists believe in the possibility of alien life on other worlds but don't believe in UFO's. Why not, what's going on that captures the imagination?

### **Episode 9: "Weird World Solar Systems"**

About 150 planets have been found orbiting other stars and none of them are like our solar system. Giant planets bigger than Jupiter whizz around their stars in a matter of days. Others go around strange pulsars, stars that spin like lighthouses. Will we ever find another Earth-like planet?

### **Episode 10: "Back to the Moon"**

The US wants to go back to the moon and then on To Mars. What will the journey be like this time. What will we do there? How do we get to Mars?

### **Episode 11: "Bang!"**

How did the universe begin? We visit the world's largest particle accelerators where scientists try to create the extreme conditions that existed in the first moments of the big bang. What happens now, a big crunch? Or will the universe expand forever towards the big rip?

### **Episode 12: "We Are Stardust"**

The atoms that make up our bodies were formed inside stars that exploded long ago. How do stars live and die? What will happen to our star and our atoms in the future?

### **Episode 13: "It's All Relative"**

Time slows down, your mass increases and you get shorter when traveling close to the speed of light. Sounds weird but it's true, thanks to Professor Einstein. How did this guy who didn't have a formal education and wasn't even good at math turn science on its head? And what is relativity anyway?



### **Randolph Eustace-Walden – Executive Producer**

See company personnel for bio

### **Nick Orchard – Producer / Director**

See company personnel for bio

### **Ken Hewitt-White – Co-writer**

Ken Hewitt-White has been observing the night sky for over 35 years, and popularizing astronomy for almost as long. Born in Ottawa in 1951, Ken moved to Vancouver, BC in 1993 to join the staff of the HR MacMillan Planetarium from 1988 to 1991. Since 1991, Ken has pursued a career in freelance astronomy writing for magazines, science centres and television.

The author of hundreds of articles and scripts, Ken is also a popular teacher and public speaker who has presented live astronomy programs in every major community in BC. He is currently a columnist for several science magazines, including Sky News, Sky Telescope and YesMag. He is the author of the recently published “Holographic Night Sky book” – a guide to stargazing for children (Somerville House).

In recent years, Ken wrote and co-hosted 26 episodes of Discovery Channel’s “Cosmic Highway”. Currently, ken is co-writing a proposed new astronomy television series for Discovery. Ken Hewitt-White lives in BC’s Fraser Valley, not far from the alpine observing sites he frequents with his 18-inch reflecting telescope.

### **Bob McDonald – Host & Co-writer**

See bio attached.

