

# STARBUST

Newsletter of the Royal Astronomical Society of Canada  
Edmonton Centre

[http://www.edmontonrasc.com/public/stardust/stardust\\_current.pdf](http://www.edmontonrasc.com/public/stardust/stardust_current.pdf)



April 2013

Volume 59 Issue 8



*Now that Earth has no atmosphere, and the universe is collapsing, the night sky is so awesome.  
Image sent from the future by a descendant of your editor. Thank you Zaphod.*

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<b>Stardust</b>	Articles for Stardust may be submitted by email to <b>mward@interbaun.com</b> . Submission deadline is the last day of the previous month (e.g. for the May issue submit by 30 Apr). Submit in any standard document format (MSOffice, OpenOffice, AbiWord, plain text). TimesNewRoman 10pt single-spaced is preferred. Don't bother with fancy formatting, odd spacing, strange fonts, etc.; it will only be discarded. Graphics (GIF or JPG please) may be submitted as separate files, and clearly identified. Do not consider your article successfully submitted unless you receive a confirmation email from the editor.

## Upcoming Events, Meetings, and Deadlines

### MEETINGS 2013

*\* moved because of statutory holiday*

2013	Regular	Council	Observers	New Moon	Full Moon	Blackfoot
January	14	28	21	11	26	11-12
February	11	25	18	10	25	8-9
March	11	25	18	11	27	8-9
April	8	22	15	10	25	5-6
May	13	27	20	9	24	10-11
June	10	-	24	8	23	7-8
July	-	-	22	8	22	12-13
August	-	-	19	6	20	9-10
September	9	23	16	5	19	6-7
October	21*	28	23*	4	18	4-5
November	18*	25	18	3	17	1-2, 29-30
December	9	-	16	2	17	27-28

### MEETING LOCATIONS 2013

**Regular General Meetings** are at 7:30pm in Telus World of Science, 11211 – 142 St  
*follow the signs from the main entrance*

**Council Meetings** are TBA

**Observers Meetings:** *location varies*



Mar 20 spring equinox; Jun 21 summer solstice; Sep 22 fall equinox; Dec 21 winter solstice

#### Edmonton Area Astronomy Discussions:

To subscribe, send a blank email to:  
with the subject line:

[astro@mailman.srv.ualberta.ca](mailto:astro@mailman.srv.ualberta.ca)

[astro-request@mailman.srv.ualberta.ca](mailto:astro-request@mailman.srv.ualberta.ca)  
subscribe

*The above mailing list is completely independent and is not associated with RASC Edmonton Centre in any way.*

## IMPORTANT! READ THIS

### STARDUST: CHANGES TO PUBLICATION AND DISTRIBUTION

- Stardust is going green, and paperless (almost).
- It will be available as a PDF from the RASC Edmonton web site, <http://www.edmontonrasc.com>.
- As each new issue becomes available, members will be emailed a link to it.
- A limited number of paper copies will be available at meetings, first come, first served.
- This change is going to be phased in between now and June, 2013.
- **You need to provide the RASC Membership Secretary ([membership@edmontonrasc.com](mailto:membership@edmontonrasc.com)) with an email address, if there isn't already one on record.**
- Be sure to notify the Membership Secretary if you change email addresses.
- **The last full paper print edition of Stardust will be June 2013.**

**ADVANTAGES:** The on-line version is:

- in colour;
- not limited to 10 pages;
- available from anywhere in the world with an internet connection.
- money saving:
  - no printing costs;
  - no mailing costs;
- manpower saving:
  - no proofs to check;
  - no printed copies to pick up;
  - no envelope stuffing & mailing;

**IF YOU DO NOT OWN A COMPUTER,** do not panic:

- **Computer access** can be had for as little as \$1 per month: join the Edmonton Public Library (\$12/year).
- All branch libraries have printers, and workstations that can read PDFs.
- Library staff are happy to help.
- **Free email accounts** are available from several providers, e.g. Google, Yahoo, HotMail, and others.

**Friendly advice:** when you sign up for a free email account, **do not use your real name & address** etc., make up something, they'll never know; otherwise, you could soon be drowning in paper junk mail, and telemarketers will have a field day.

### SLOOH Survey for RASC members

For those members that have used our Centre account or their own personal account to take pictures from the telescopes on the Canary Islands and/or Chile when it was operating, I would like to hear from you so as to assess the potential and existing uses for our broader memberships and others affiliated with us.

You can reach me, Franklin Loehde, at [franklinloehde @ yahoo dot com](mailto:franklinloehde@yahoo.com)

So that was a bust eh?? Well not really to those of us who have been around a while. However I can assure you that many of the general public I know who were waiting for a glorious cometary display were disappointed. Nothing like being able to look out your window and see clouds! Sharon and I each saw it from my rooftop a couple weeks ago. Quite a thrill albeit nothing more than a faint blur in the west. Alister, Bruce, Mike and I spent a few hours out west of the Villeneuve airport on Sunday night watching the sky. The comet was the star of course...tagging close to UGC454. I got many shots of the pair and (yet again) was gawking up a lot. It's been last fall since I was in a dark sky and it was fun to look around again and see the wonders on high. It's good to see Mike getting back into the swing of things...and apparently he's desperate too! Keep at it Mike! I have to give kudos to Alister for his lengthy explanations of weather and all its intricacies. The info he's posted over the years has made everyone's life a lot easier in know what to expect where...not to mention driving for hours on end to get around it!

I signed up for the [General Assembly in Thunder Bay](#) in June. Really looking forward to getting out to a part of Canada I've never been before. The only problem with this whole GA this is that it interferes with the Jazz festival in town at the same

time! There's a tour out to the [Slate Islands](#) which I'm really looking forward to. These islands were formed by a meteorite impact several hundred million years ago and the islands themselves are believed to be the resulting uplift. I encourage you and yours to get signed up for the event!

It's last call for the casino on April 27<sup>th</sup> and 28<sup>th</sup> at Baccarat Casino, downtown at 104 avenue and 101 street. I encourage you to volunteer as this is our bread and butter for public outreach. Without it we would not have nearly the capacity to do things at the observatory or via other public functions. Contact Peter Hall or Franklin Loehde for further information.

Speaking of casino monies, the presentation system purchase is now complete and ready for use. This consists of a projector and screen (very portable), along with a laptop, PA system, and four wireless microphones (2 handheld and 2 lavalieres). The screen and PA are stored at the locker and the balance are at my place for the moment. If you would like to use any of these please contact myself.

OK...that's it for this month...my apologies but I'm not in a joking mood too much lately...(March Madness they call it), so any funny business will have to wait for another time.

Keep Looking Up!



## Interactive Astronomy Software for Everyone (Or How To Make The Earth Really Hot or Cold)

A Windows PC Software Review by: Lance A. Taylor (Edmonton Centre)

Are you tired of First Person Shooters, or spending mind numbing hours playing Farmville on Facebook with Friends & Family? Frustrated by endless hours spent trying to connect your shiny new single-player DRM copy of [Sim City](#) to the Internet only to watch in horror as your city is destroyed by a meteor (or server crash) when you finally do get connected? Perhaps that's simply not enough destruction for you – yeah that's the ticket! Well then have I got a deal for you! How does harnessing the power of Gravity to crash the Earth into the Sun grab you? Yes, all things are possible with this Universe Simulator and you get to do it all in glorious 3D (glasses not included).

The screenshot shows the Universe Sandbox game interface. At the top, it says "All Games > Indie Games > Universe Sandbox" and "Universe Sandbox" with a "Community Hub" button. The main window displays a simulation of Jupiter and Earth. A control panel on the right shows properties for "Earth": name: Earth, radius: 1.00 earth, distance: 12742 km, color: white, texture: Earth Ads, and model: random. Below the main window are several smaller preview windows showing different simulation scenarios. To the right of the main window is a description of the game: "Create and destroy on a scale you've never imagined with the ultimate space simulator. Harness the power to create black holes, collide galaxies, and manipulate gravity with just a few clicks. Inspired by the software astronomers use to unlock the mysteries of our universe, never before has astronomy been so interactive or so much fun." Below the description, it lists "Genre: Indie, Casual, Simulation" and "Release Date: Apr 29, 2011". There are also buttons for "View all 11 screenshots" and "Watch HD video". At the bottom left, there is a "Buy Universe Sandbox" button with a "-66%" discount, showing the price as "\$3.40" (down from "\$9.99") and an "ADD TO CART" button. At the bottom right, there is a "Sign in to add this game to your wishlist" button and a "SHARE" button with social media icons for Facebook, Twitter, and YouTube.

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*“Interactive Astronomy Software for Everyone. Create and destroy on a scale you’ve never imagined with the ultimate space simulator. Harness the power to create black holes, collide galaxies, and manipulate gravity with just a few clicks. Inspired by the software astronomers use to unlock the mysteries of our universe, never before has astronomy been so interactive or so much fun.”*

**Fun, fun, fun with The Sun all for the astronomically low price of \$9.99 on Steam! Often seen on Sale for up to 66% - 75% for an unbelievably low price of \$2.49. Destroying & Building Solar Systems – Priceless!! And for Schools absolutely FREE!**

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### **Educational Pricing ([More Info](#))**

Universe Sandbox is **free** for schools anywhere in the world.

Schools can sign up for Valve's Steam for Schools / Teach With Portals program which includes Portal 2 and Universe Sandbox.

### **Will this work on a Mac?**

Universe Sandbox will run on Macs in a virtual environment (like [Parallels Desktop](#)).

Back in my early High School days during the 80’s, a fellow classmate and RASC Member **Scott Henderson** coded an [N-Body Gravity simulation](#) into his Radio Shack [TRS-80 Model-100](#) LCD portable computer. This was quite a feat for a machine that only featured a 240 x 64 pixel addressable graphics array. We both spent many hours during Physics 101 class not paying attention to the teacher while attempting to make objects go into orbit around one another, but often after many iterations ending in disastrous results (i.e. the objects impacting into oblivion). Scott even later ported his code to an Amiga 1000 and implemented 3D support for Anaglyph glasses. We were blown away that such things were possible with such limited computing power, but somehow we always wanted to add even more objects to the simulator to tinker with. However, adding more objects and doing the things we might have envisioned would have required a Cray Supercomputer – not within our student minded budgets – the stuff of dreams.

So, here it is now some 30-ish years later and a few short months passed when I happened to stumble across a rather interesting looking software title on the [Steam Library](#). It instantly reminded me of those early days and I couldn’t believe the claims this software was making. How could it support all of these functions it purports to and still have a reasonably decent simulation speed. I mean, I wanted to be able to crash planets instantly and not have to wait hours for a simulation to unfold – but I most definitely did want to see the debris from those planets impacting into one another. Who wouldn’t? Well, for \$2.49 I felt I didn’t have much to lose – oh how wrong I was.

In fact, I lost much sleep over the coming days running blindly fast simulations and racking up many “[Steam Achievements](#)” such as lowering (and freezing) the temperature of the Earth by “nudging” it’s orbit closer and further away from The Sun. The simulation was unbelievably fast on my modest Gateway Laptop aged at least five years, with super ultra-realistic graphics, and wait for it.. glorious 3D! Yes, donning the nerdy red and blue anaglyph glasses certainly brings on a whole new dimension to the game (no pun intended).

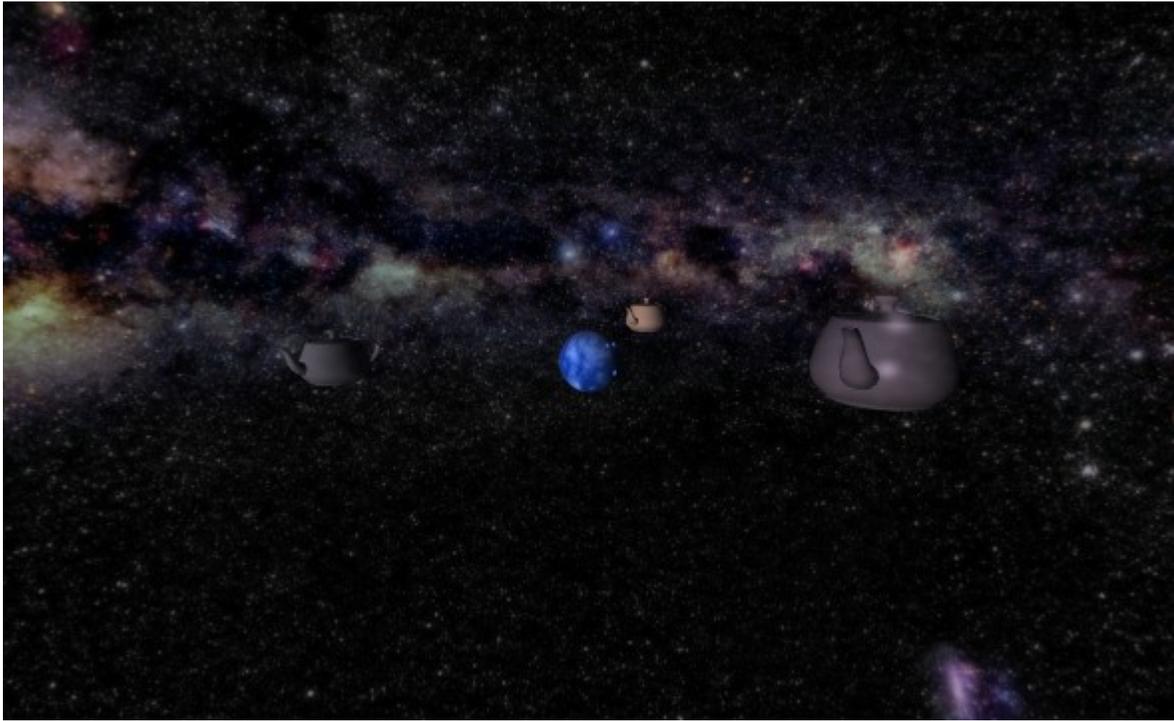
Here are some of the more interesting and entertaining Achievements you can strive for in the game against other players of the gaming community, and a list of my currently unlocked ones: [http://steamcommunity.com/id/ranger\\_bob/stats/UniverseSandbox](http://steamcommunity.com/id/ranger_bob/stats/UniverseSandbox) (feel free to add me if you are on Steam). OBTW, I just now see that I am listed among only 2.9% of all players in the world to unlock “**The Code**” achievement. So, if you are stumped on how to do this one, come up and see me sometime after a meeting and I will help you unlock the secrets of the Universe. Just [look for this dude wearing the 3D glasses](#).

Total achievements: 16  
 You must be logged in to compare these stats to your own

% of all players

	<b>Startup the Universe</b> Start Universe Sandbox at least once	98.0%
	<b>One Minute</b> Rule over your universe for 60 seconds	97.2%
	<b>Snowball Earth</b> Freeze the Earth by moving it farther from the Sun	60.8%
	<b>One Hour</b> Rule over your universe for 60 minutes	35.3%
	<b>Heat Wave</b> Crash the Earth into the Sun	30.0%
	<b>Learner</b> Finish five tutorials	23.8%
	<b>Startup Deka</b> Start Universe Sandbox $10^4 = 10$ times	14.9%
	<b>The Code</b> Some will know from their childhood; some were not born yet	2.9%

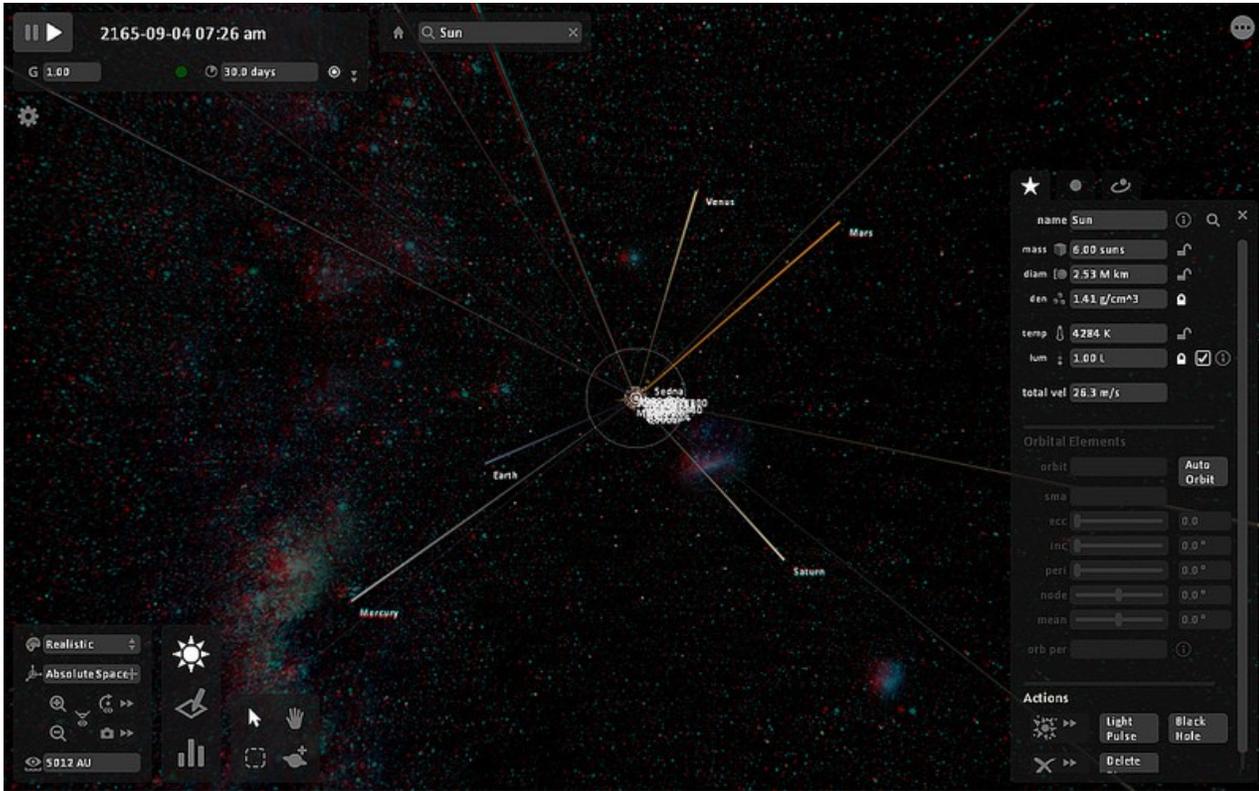
One of the neatest things about “playing” the game is to often ask yourself “What if..” questions. Like say, “What if.. The Sun was no longer at the centre of our Solar System?” Well, to find out the answer simply click on The Sun, and hit your DELETE key. Don’t feel too bad about it, you can always add another one or hit the reset button. Or say how about, “What if... Earth had Two Moons, or perhaps Three?” But I really, truly might secretly want to know.. “What if... a Tea Pot was placed in orbit around a Black Hole? How about two Black Holes and a Bowling Ball? Say.. a Bowling Ball with the mass and diameter of three suns?” Sure, no problem.



**I’m a Little Tea Pot – Short & Stout! Tip my Gravity, Pour Me Out!**

The only thing that saddens me most about the software is that there is no Whale or a bowl of Petunias anywhere to be found in the game. Bowling pins, and Billiard Balls? Indeed have yourself a little game of Cosmic Bowling or Shoot some Cosmic Pool with real planets. In this game, there are no rules, except Gravity, and I think we’ve established you can mess with those too.

So, for the ridiculously low price and enjoyment and satisfaction I know you will receive from this game, I simply cannot recommend it enough to at least check it out. There is even a [free 60 minute Trial version here](#) so check it out! You have nothing to lose save possibly a few planets.



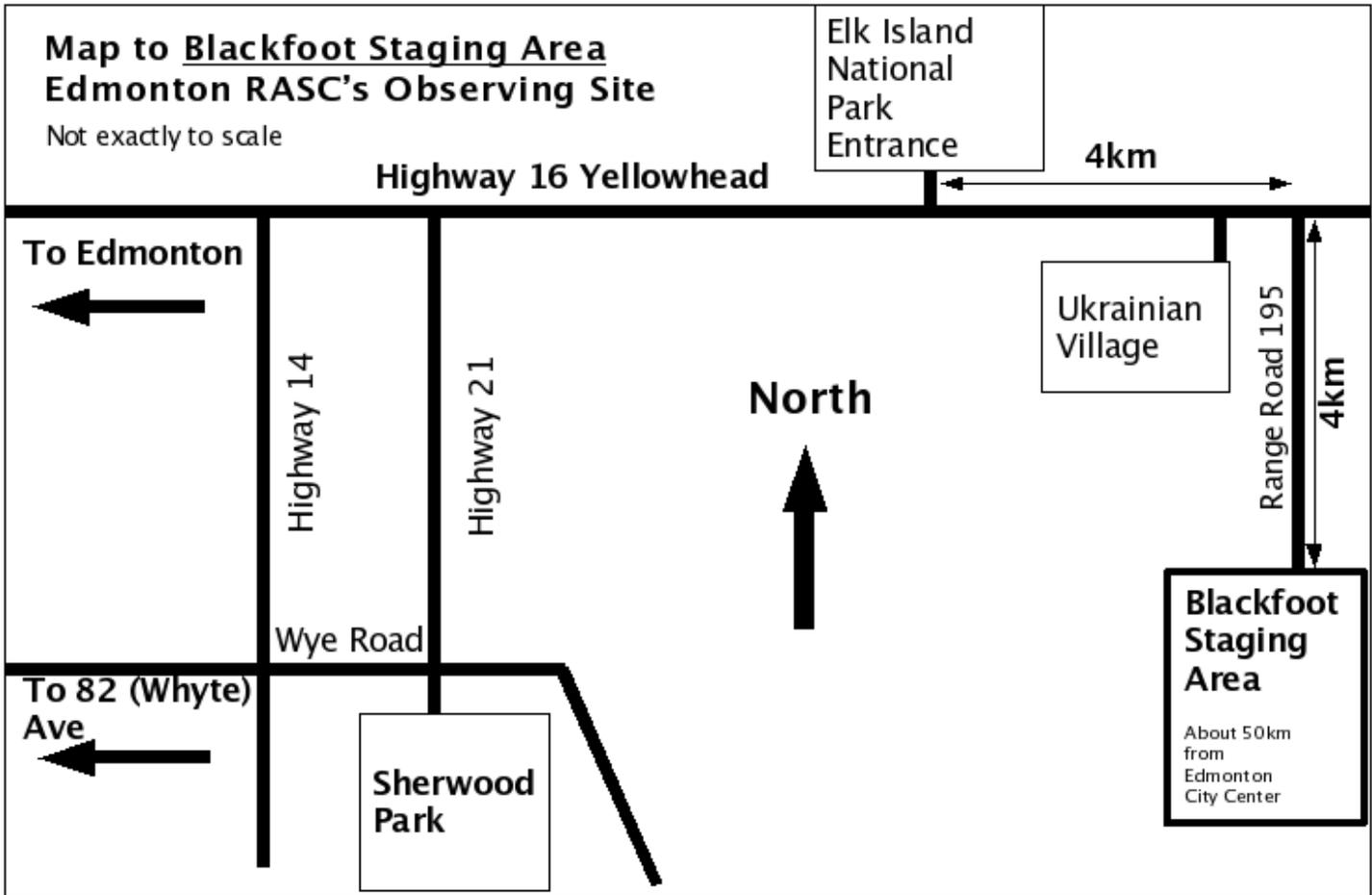
**Don't Panic – All Your Planets Belongs To Us!** Uhm, it's kind of hard to explain to you how I got all of the planets in our Solar System to instantly want to leave at once, and rapidly. But then again I am often fond of saying that.. “All things are possible with enough time, money, code, and/or beer.” This one might have involved sampling a few Molson products. Just saying.

### Related Links:

More Information: <http://universesandbox.com> and [also available here on Steam](#).

Amazing Video Demo: [YouTube](#)

**MetaCritic Score ( 83 / 100 ):** Harness the power to create black holes, collide galaxies, and manipulate gravity with just a few clicks. Inspired by the software astronomers use to unlock the mysteries of our universe, never before has astronomy been so interactive or so much fun. Spawn a massive moon to tear apart Saturn's rings or launch a rogue star to rip the planets from their orbits around our sun. After unleashing catastrophic destruction, create your own solar system and share it with friends. Key Features: - Interactive, real-time, n-body gravity simulator - Change any property of any object at any time - Real physics, real data, real units, real science - Compare the objects in any simulation with chart mode - Supports anaglyphic 3D glasses and 3D DLP televisions - Built in tutorials and step-by-step activities - Includes 70+ simulations both real and fantastical - Extensive editing and creation tools make it easy to build your own simulations - Latest version of Universe Sandbox 2.x with Steam Achievements



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