

August 2005

**Special points of interest:**

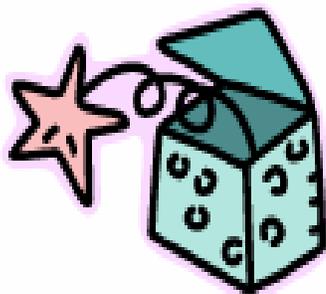
- Telescope Library
- Object Bigger than Pluto Discovered, Called 10th Planet
- NASA's Spitzer Finds Hidden, Hungry Black Holes

## August Meeting:

Wednesday, August 17

**Speaker: "To Be Announced"**

The meetings begin at 7:30 P.M., but come as early as you like since many members will be there ahead of time to share their latest activities in astronomy. We generally have a presentation on some topic of interest to amateur astronomers by club members or guest speakers, or occasionally special programs devoted to astronomical computing, members' telescope equipment, and the like. In addition, we have a number of active astrophotographers, and generally reserve time to show slides of their latest efforts.



## Meeting Information

Wednesday, August 17  
7:30 p.m.

Physics-Astronomy Building  
Room A102  
University of Washington  
Seattle

*Come early at 7 p.m. for coffee  
and snacks and to visit with  
your fellow members!*

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# Seattle Astronomical Society

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## Webfooted Astronomer

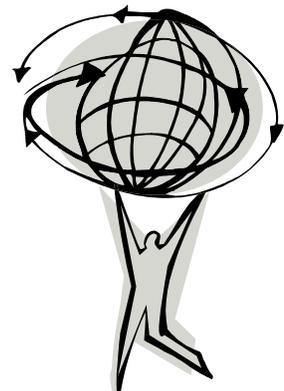
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## From the President's Desk...

### *Telescope Library*

*By Thomas Vaughan*

### *Telescope Library*

Many thanks to all who came forward with ideas and suggestions! Based on the feedback received by phone, email, and at the July meeting, people seem very positive about the prospect of revamping the Society's telescope library.

So we will go ahead with the plan to clean up and sell many of the Society's less-used scopes, and purchase a few more portable and durable scopes. The first step is to get the existing telescopes cleaned up.

To that end, I am hosting a Telescope Cleaning Party at my house on August 20th at 3pm. If you are interested in cleaning and/or fixing up some of the Society's telescopes, do come by! The Amateur Telescope Makers will also be joining us. I'll have beverages and a grill going. Feel free to bring food if you'd like but it's not required.

**Telescope Cleaning  
Party at  
President's house  
August 20<sup>th</sup>  
3 pm**

My address is 10404 Forest Ave S in Seattle. Here's a link to a good online map:

<http://maps.google.com/?q=10404+Forest+Ave+S+98178>

And feel free to email me at [president@seattleastro.org](mailto:president@seattleastro.org) if you'd like directions or have any questions.

After we've fixed up the current scopes, we'll sell off some to club members and the general public (stay tuned for announcements!), and purchase some new telescopes for the library.

### *SAS Photographs Wanted*

Do you have photographs of SAS activities? We would like to put together a photo archive for the Society. They would be helpful for promoting the SAS, and are also a

part of our history! If you have photographs you are willing to donate/share, please contact Burley Packwood (education@seattleastro.org).

## *VP Publicity Needed*

Our current VP of Publicity, Rod Ash, needs to step down in mid-July. Are you interested in helping out the Society? The VP of Publicity sends out brief press releases to promote Society activities, and fields questions and inquiries to the club. If interested, please contact me at president@seattleastro.org.

## *Dark Sky Site*

We are still fundraising for the Dark Sky Site! Have you joined as a dark sky member? If not, please visit the website at <http://www.seattleastro.org/dark-sky.html>, and fill out a membership form.

Happy Observing-  
-Thomas

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### **Award Announcement**

Let us congratulate Jim Pryal on receiving his Astronomical League Lunar Club Certificate on June 3<sup>rd</sup> and Burley Packwood on receiving his Astronomical League Globular Cluster Certificate on June 20<sup>th</sup>! Good job!



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### **Some Stellar Facts**

Pluto was discovered on February 18, 1930, by Clyde W. Tombaugh. It is about 5.5 times smaller than the Earth, or about two-thirds the diameter of the Moon.

A galaxy 2.5 million light-years away can be seen with an unaided eyes.

The hunter's moon is the first full moon after the harvest moon, the full moon nearest the autumn equinox. In the northern hemisphere, the hunter's moon appears in October or November.

# SAS July 2005 Club Meeting Minutes



## Announcements:

Welcome to Vanessa Long as new newsletter editor.

The SAS board has discussed making the telescope library better suited to member needs. Many of the instruments in the library are in need of cleanup and repair. The library does not have many instruments with the desirable qualities of portability and ease of use. One possibility is to organize a cleanup/fix-up party to bring as many of the instruments as possible to a usable state. Equipment not well suited to the intent of the library could be sold and new, more suitable equipment purchased. A suggestion was made during the meeting to possibly take unwanted instruments to this year's Table Mountain Star Party and attempt to sell them in the TMSP swap meet.

The Dark Sky Site is approximately 25% of the way towards the initial goal. Thomas Vaughan reiterated the general qualities sought for the site: Low precipitation, reasonably high elevation, low light pollution and good accessibility. Initially, the site would only be freely available to Dark Sky Site Members with occasional access to general SAS membership for special events.

Meeting Topic: Sharing Night with images and other information from SAS members

Members Burley Packwood, Maxine Nagel, Jim Peterson, Steve Schonberger, and Bruce Kelley took turns showing some of their images, describing their techniques and experiences and answering questions. All those presenting had interesting things to share and there was plenty of participation from those in the audience. This made for an interesting, lively and enthusiastic meeting. Thanks to all who participated!

Meeting was adjourned at around 9:15PM

# Object Bigger than Pluto Discovered, Called 10th Planet

[By Robert Roy Britt]

Astronomers have discovered an object in our solar system that is larger than Pluto. They are calling it the 10th planet, but already that claim is contested.

The new world's size is not at issue. But the very definition of planethood is.

It is the first time an object so big has been found in our solar system since the discovery of Pluto 75 years ago.

The announcement, made today by Mike Brown of Caltech, came just hours after another newfound object, one slightly smaller than Pluto, was revealed in a very confusing day for astronomers and the media.

The new object, temporarily named 2003 UB313, is about three times as far from the Sun as is Pluto.

"It's definitely bigger than Pluto," said Brown, a professor of planetary astronomy. The object is round and could be up to twice as large as Pluto, Brown told reporters in a hastily called NASA-run teleconference Friday evening.

His best estimate is that it is 2,100 miles wide, about 1-1/2 times the diameter of Pluto.

## One of many?

The object is inclined by a whopping 45 degrees to the main plane of the solar system, where most of the other planets orbit. That's why it eluded discovery: nobody was looking there until now, Brown said.

Some astronomers view it as a Kuiper Belt object and not a planet. The Kuiper Belt is a region of frozen objects beyond Neptune.

Pluto is called a Kuiper Belt object by many astronomers. Brown himself has argued in



*Artist rendering of the 10th planet, announced July 29, 2005 by Mike Brown of Caltech. It is larger than Pluto. The Sun is in the background.  
Credit: NASA/JPL/Caltech*

the past for Pluto's demotion from planet status, because of its diminutive size and eccentric and inclined orbit.

But today he struck a different note.

"Pluto has been a planet for so long that the world is comfortable with that," Brown said in the teleconference. "It seems to me a logical extension that anything bigger than Pluto and farther out is a planet."

Offering additional justification, Brown said 2003 UB313 appears to be surfaced with methane ice, as is Pluto. That's not the case with other large Kuiper Belt objects, however.

"This object is in a class very much like Pluto," he said.

NASA effectively endorsed the idea in an official statement that referred to 2003 UB313 as the 10th planet.

Yet in recent years, a bevy of objects roughly half to three-fourths the size of Pluto have been found.

### **No definition for 'planet'**

Brian Marsden, who runs the Minor Planet Center where data on objects like this are collected, says that if Pluto is a planet, then other round objects nearly as large as Pluto ought to be called planets. On that logic, 2003 UB313 would perhaps be a planet, but it would have to get in line behind a handful of others that were discovered previously.

"I would not call it the 10th planet," Marsden told *SPACE.com*.

Alan Boss, a planet-formation theorist at the Carnegie Institution of Washington, called the discovery "a major step." But Boss would not call it a planet at all. Instead, he said Pluto and other small objects beyond Neptune should be called, at best, "Kuiper Belt planets."

"To just call them planets does an injustice to the big guys in the solar system," Boss said in a telephone interview..

The very definition of what constitutes a planet is currently being debated by Boss and others in a working group of the International Astronomical Union. Boss said the group has not reached consensus after six months of discussion.

(... *Read more at:* [http://www.space.com/scienceastronomy/050729\\_new\\_planet.html](http://www.space.com/scienceastronomy/050729_new_planet.html))



# August 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3 UW Campus Observatory public viewing night	4 Table Mountain Star Party	5 ● Table Mountain Star Party Stellafane	6 Table Mountain Star Party Stellafane Tiger Moun- tain/Poo Poo Point Star Party
7	8	9	10	11	12	13 ◐ New Member Ori- entation Meeting Green Lake Star Party Paramount Park Star Party
14	15	16	17 SAS Meeting UW Campus Observatory public viewing night	18	19 ○	20 Amateur Telescope Makers SIG Meeting
21	22 SAS Board Meeting	23	24	25	26 ◑	27
28	29	30	31			

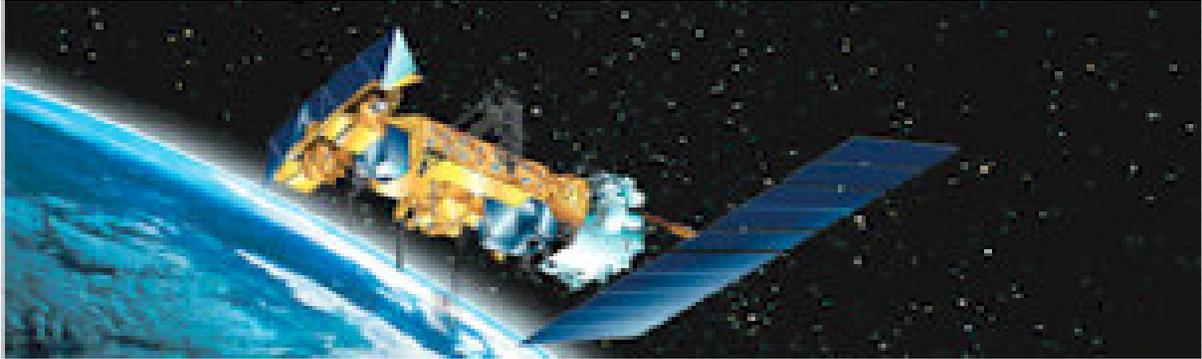


# September 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 Oregon Star Party	2 Oregon Star Party Brooks Memorial Park Star Party	3 ● Oregon Star Party Tiger Mountain/Poo Poo Point Star Party
4 Oregon Star Party	5	6	7 UW Campus Observatory public viewing night	8 Macintosh Astronomy Workshop	9 AstroFest	10 AstroFest Green Lake Star Party Paramount Park Star Party
● 11 AstroFest Astrophotography/Imaging SIG Meeting	12	13	14	15	16	17 Amateur Telescope Makers SIG Meeting
○ 18	19	20	21 SAS Meeting UW Campus Observatory public viewing night	22	23	24
● 25	26 SAS Board Meeting	27	28	29	30	

# Newest Weather Sentry Takes Up Watch

[by Patrick L. Barry]



*NOAA-18, the newest in a long line of weather and environmental satellites, launched May 20, 2005*

Today, we've become accustomed to seeing images of the Earth's swirling atmosphere from space every night on the evening news.

Before 1960, no one had ever seen such images.

The first-ever weather satellite was launched that year, kicking off a long line of weather satellites that have kept a continuous watch on our planet's fickle atmosphere—45 years and counting! The high-quality, extended weather forecasts that these satellites make possible have become an indispensable part of our modern society, helping commercial aircraft, recreational boaters, and even military operations avoid unnecessary risk from hazardous weather.

But satellites don't last forever. Parts wear out, radiation takes its toll, and atmospheric drag slowly pulls the satellite out of orbit. Many weather satellites have a design life of only 2 years, though often they can last 5 or 10 years, or more. A steady schedule of new satellite launches is needed to keep the weather report on the news each night.

In May 2005, NASA successfully launched the latest in this long line of weather satellites. Dubbed NOAA-N at launch and renamed NOAA-18 once it reached orbit, this satellite will take over for the older satellite NOAA-16, which was launched in September 2000.

"NOAA always keeps at least two satellites in low-Earth orbit, circling the poles 14 times each day," explains Wilfred E. Mazur, Polar Satellite Acquisition Manager,

NOAA/NESDIS. "As Earth rotates, these satellites end up covering Earth's entire surface each day. In fact, with two satellites in orbit, NOAA covers each spot on the Earth four times each day, twice during the day and twice at night," Mazur says.

By orbiting close to Earth (NOAA-18 is only 870 km above the ground), these "low-Earth orbit" satellites provide a detailed view of the weather. The other type of weather satellite, "geosynchronous," orbits much farther out at 35,786 km. At that altitude, geosynchronous satellites can keep a constant watch on whole continents, but without the kind of detail that NOAA-18 can provide.

In particular, low-Earth orbiting satellites have the ability to use microwave radiometers to measure temperature and moisture in the atmosphere—two key measurements used for weather prediction that, for technical reasons, cannot be sensed by distant geosynchronous satellites.

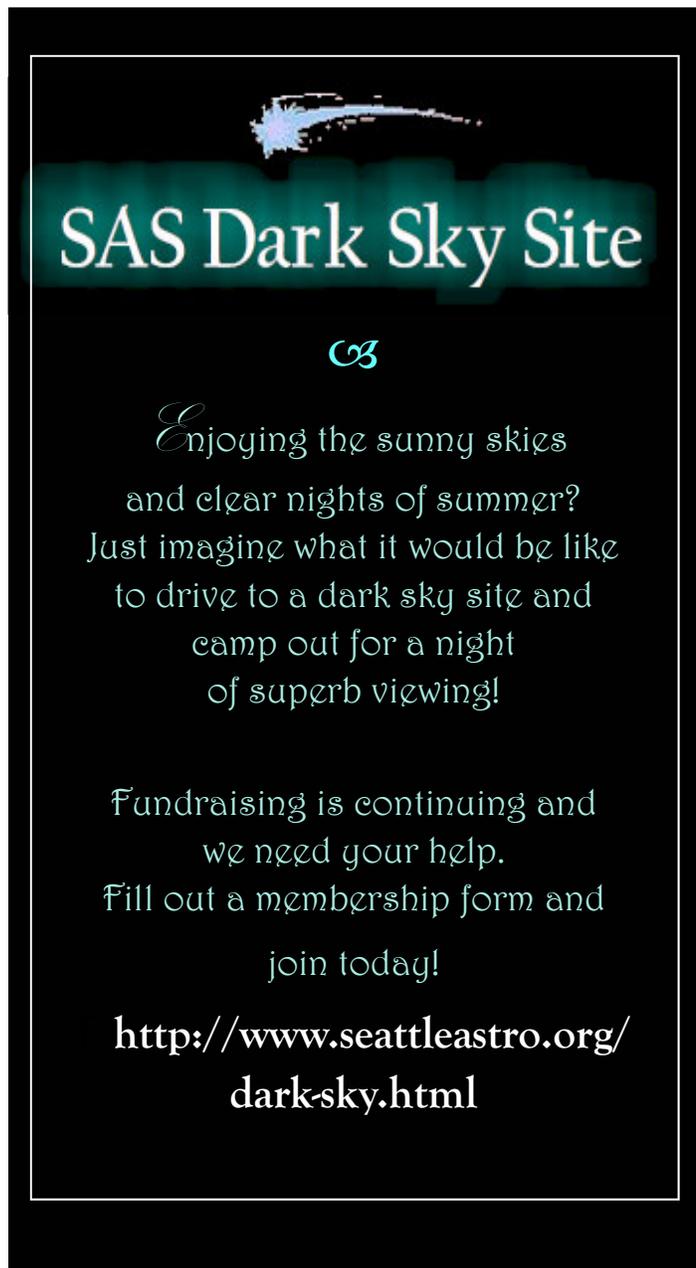
With NOAA-18 successfully placed in orbit, the 45-year legacy of high-tech weather forecasts that we're accustomed to will go on.

Find out more about NOAA-18 and the history of polar-orbiting weather satellites at:

<http://goespoes.gsfc.nasa.gov/poes>

For kids and anyone else curious about the concept, the difference between polar and geosynchronous orbits is explained at

[http://spaceplace.nasa.gov/en/kids/goes/goes\\_poes\\_orbits.shtml](http://spaceplace.nasa.gov/en/kids/goes/goes_poes_orbits.shtml)

A promotional graphic for the SAS Dark Sky Site. It features a dark background with a green and white aurora-like streak at the top. The text "SAS Dark Sky Site" is written in a white serif font on a dark green horizontal band. Below this is a decorative flourish. The main text is in a white cursive font, reading: "Enjoying the sunny skies and clear nights of summer? Just imagine what it would be like to drive to a dark sky site and camp out for a night of superb viewing! Fundraising is continuing and we need your help. Fill out a membership form and join today!" At the bottom, the website URL "http://www.seattleastro.org/dark-sky.html" is displayed in a white serif font.

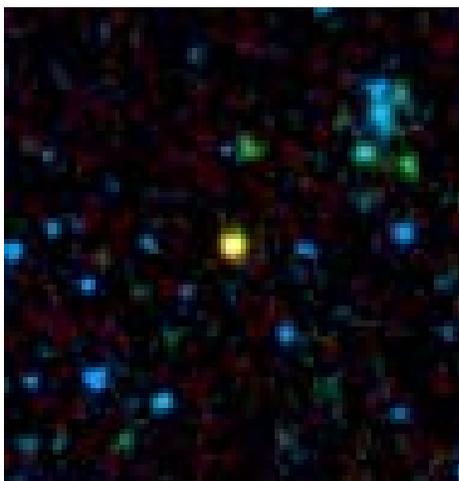
*SAS Dark Sky Site*

*Enjoying the sunny skies  
and clear nights of summer?  
Just imagine what it would be like  
to drive to a dark sky site and  
camp out for a night  
of superb viewing!*

*Fundraising is continuing and  
we need your help.  
Fill out a membership form and  
join today!*

*[http://www.seattleastro.org/  
dark-sky.html](http://www.seattleastro.org/dark-sky.html)*

## Space Bits



*Image of an obscured data from combined data sources. The object has been named AMS08.  
Credit: NASA/JPL-Caltech/A. Martinez-Sansigre (University of Oxford)/NRAO*

### **NASA's Spitzer Finds Hidden, Hungry Black Holes**

Most of the biggest black holes in the universe have been eating cosmic meals behind closed doors -- until now. With its sharp infrared eyes, NASA's Spitzer Space Telescope peered through walls of galactic dust to uncover what may be the long-sought missing population of hungry black holes known as quasars.

Link: <http://www.spitzer.caltech.edu/Media/releases/ssc2005-17/release.shtml>



*Artist's impression of MARSIS deployment complete.  
Image credit: ESA*

### **Mars Express Preparing to Look Underground**

The MARSIS radar instrument on board Mars Express is now extended and fully operational, and ESA scientists have begun using it to probe beneath the surface of Mars in search of water and ice. During this initial commissioning phase, operators have used the instrument to examine Mars' topography to compare its reading against previous readings of the Red Planet to make sure its calibrated correctly. Within a few weeks they'll start isolating areas where the radar is penetrating beneath the surface to start mapping out underground layers.

Link: [http://www.universetoday.com/am/publish/marsis\\_collects\\_1st\\_surface\\_data.html?582005](http://www.universetoday.com/am/publish/marsis_collects_1st_surface_data.html?582005)



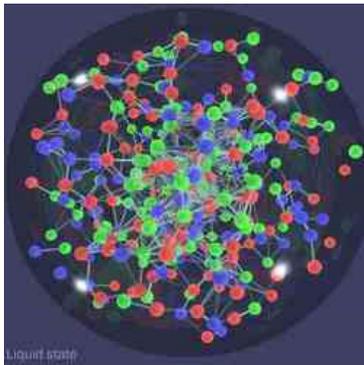
*Artist's conception represents complex organic molecules. Image credit: NASA*

## Ingredients of Life 10 Billion Light-Years Away

Using the Spitzer Space Telescope, astronomers have discovered organic molecules in galaxies more than 10 billion years light-years away. This means these organic molecules - considered the building

blocks of life - were present when the Universe was only a few billion years old. Spitzer found the molecules in starburst galaxies which are going through intense star formation. This means that life has had a long opportunity to gain a foothold in the Universe.

Link: [http://www.universetoday.com/am/publish/spitzer\\_finds\\_polycyclic\\_aromatic\\_hydrocarbons.html?2972005](http://www.universetoday.com/am/publish/spitzer_finds_polycyclic_aromatic_hydrocarbons.html?2972005)



*Degree of interaction among quarks in liquid gold-gold collisions. Image credit: RHIC*

## Quark-Gluon Plasma Created

Physicists have used the Brookhaven National Laboratory's Relativistic Heavy Ion Collider to create quark-gluon plasma; a mysterious form of matter that was probably present in the first moments after the Big Bang. The team created it

by smashing the nuclei of gold atoms together at relativistic speeds. The resulting explosion of particles lasted just  $10^{-20}$  seconds. Astronomers think that large neutron stars might go into a quark-gluon phase before they collapse into black holes.

Link: [http://www.universetoday.com/am/publish/rhic\\_detect\\_traces\\_of\\_mystery\\_matter.html?182005](http://www.universetoday.com/am/publish/rhic_detect_traces_of_mystery_matter.html?182005)



## Is Mars closest this August?

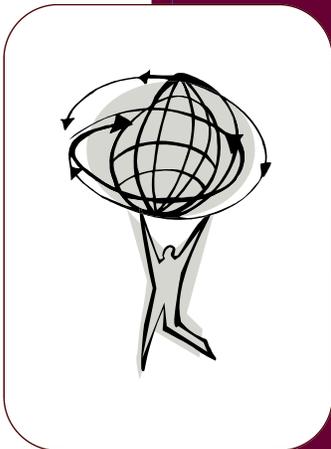
*If you received a forwarded email that goes like this: "On August 27, Earth will catch up with Mars. The next time Mars may come this close is in 2287....Mars will look as large as the full moon to the naked eye...etc."*

*It was somewhat misleading... Mars is close to Earth every two years. It'll be close this year in November.*

*Read more at: <http://www.earthsky.org/skywatching/marsbrightest.php>*

## We promise you the sun, moon and stars and we deliver...

The Seattle Astronomical Society is an organization created and sustained by people who share a common interest in the observational, educational, and social aspects of amateur astronomy. Established in 1948, the SAS is a diverse collection of over 200 individuals. A variety of programs and activities is presented by the SAS throughout the year. Monthly meetings feature speakers on a wide range of topics, from the Hubble Space Telescope to electronic imaging to personal observing experiences. The club holds public observing "star parties" at Green Lake every month, dark sky observing parties outside Seattle, plus such activities as meteor watches, public telescope and astronomy displays, National Astronomy Day, and an annual Awards Banquet.



We're on the Web!  
[www.seattleastro.org](http://www.seattleastro.org)



### The Seattle Astronomical Society

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### The Seattle Astronomical Society

PO Box 31746

Seattle, WA 98103

- Full-Time Student Membership (copy of student ID required) \$10.00
- Individual/Family Membership(s), no print newsletter via mail \$25.00
- Individual/Family Membership(s), print newsletter via mail \$30.00
- 1 year of Sky and Telescope Magazine (optional) \$33.00
- 1 year of Astronomy Magazine (optional) \$30.00
- Donation (optional) \$\_\_\_\_\_

**Total amount enclosed:** \$\_\_\_\_\_

- New SAS Member       SAS Member Renewal       Gift Membership

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Phone \_\_\_\_\_

E-mail address (optional) \_\_\_\_\_

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Please print above information clearly.

**Important:** If you move, please send a change of address card to the above address.

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