

Observing Using Kitanomaru Internet Telescope

- Collaboration between Oak Park and River Forest High School and Tokyo Science Museum

Observing Using Kitanomaru Internet Telescope

- Oak Park and River Forest High School
 - ☆ Near Chicago
 - ☆ Astronomy - one semester
 - ☆ 15-30 students per semester

**If these letters
are blue, you
are going way
too fast!**

Observing Using Kitanomaru Internet Telescope

- [Kitanomaru Internet Telescope](#)
 - ☆ Tokyo Science Museum



Observing Using Kitanomaru Internet Telescope

- [Kitanomaru Internet Telescope](#)
- Yerkes Rooftop Telescopes



Observing Using Kitanomaru Internet Telescope

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- Yerkes Rooftop Telescopes
- Exchange Time



Observing Using Kitanomaru Internet Telescope

- Kitanomaru Internet Telescope
 - ☆ Scheduled once per week
 - ☆ Average 4- 12 times per semester
 - ☹ Weather
 - ☹ Network “improvements”
 - ☹ “Special” school schedule



**My boss calls me
Astronomical
Unit: Aaay You!**

Observing Using Kitanomaru Internet Telescope

- Impact?

Observing Using Kitanomaru Internet Telescope

- Impact?
- Measurement?

Observing Using Kitanomaru Internet Telescope

- Impact?
- Measurement?
 - ☆ It just so happens...

**I don't believe
in gravity. The
Earth sucks!**

Observing Using Kitanomaru Internet Telescope

- Every year pre and post survey

Observing Using Kitanomaru Internet Telescope

- Questions:
 - ✦ Can we see the stars in the daytime? -- Yes or No. Write your reason.

Observing Using Kitanomaru Internet Telescope

- Questions:
 - ✧ Can we see the stars in the daytime? -- Yes or No. Write your reason.
 - ✧ Where do the stars go in the daytime?

Observing Using Kitanomaru Internet Telescope

- Questions:
 - ✧ Can we see the stars in the daytime? -- Yes or No. Write your reason.
 - ✧ Where do the stars go in the daytime?
 - ✧ Why do Day and Night change everyday?

Observing Using Kitanomaru Internet Telescope

- Questions:
 - ✧ Can we see the stars in the daytime? -- Yes or No. Write your reason.
 - ✧ Where do the stars go in the daytime?
 - ✧ Why do Day and Night change everyday?
 - ✧ How many hours of time difference do we have between Chicago and Tokyo.

Friction: Ahhh,
that's the rub...

Observing Using Kitanomaru Internet Telescope

- Questions:
 - ✧ Can we see the stars in the daytime? -- Yes or No. Write your reason.
 - ✧ Where do the stars go in the daytime?
 - ✧ Why do Day and Night change everyday?
 - ✧ How many hours of time difference do we have between Chicago and Tokyo.
 - ✧ If you could use telescopes that are everywhere in the world, what do you want to observe?

Observing Using Kitanomaru Internet Telescope

- Questions:
 - ✧ Scored: 0, +1, +2
 - ✧ Or recorded comments.

**There are 10 kinds
of people in the
world: Those who
understand binary
and those who
don't.**

Observing Using Kitanomaru Internet Telescope

- Interesting Questions:
 - ✦ If you could use telescopes that are everywhere in the world, what do you want to observe?

Observing Using Kitanomaru Internet Telescope

- Questions:
 - ✦ Very little difference between using and not using KIT for factual questions.

**Stop flirting, I'm
an Astronomer.**

Observing Using Kitanomaru Internet Telescope

- Big difference:
 - ★ The free form questions at end.

Observing Using Kitanomaru Internet Telescope

- Big difference:
 - ✧ The free form questions at end.
 - ✧ Not using KIT:
 - ✧ Solar System Objects (Saturn, Jupiter, etc.)
 - ✧ Constellations

If you had a bathtub big enough, Saturn would float in it. Of course, it would leave a ring.

Observing Using Kitanomaru Internet Telescope

- Big difference:
 - ✧ The free form questions at end.
 - ✧ Using KIT:
 - ✧ Specific Solar System Projects (Track Jupiter's moons, See if Saturn's rings change, Look for new craters on Moon.)

Observing Using Kitanomaru Internet Telescope

- Big difference:
 - ✧ The free form questions at end.
 - ✧ Using KIT:
 - ✧ Specific Solar System Projects (Track Jupiter's moons, See if Saturn's rings change, Look for new craters on Moon.)
 - ✧ Nebulae (which were visible at the time.)

**I'm so bright, my
mother calls me
sun.**

Observing Using Kitanomaru Internet Telescope

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 - ✧ Specific Solar System Projects (Track Jupiter's moons, See if Saturn's rings change, Look for new craters on Moon.)
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 - ✧ Galaxies (which were visible at the time.)

Observing Using Kitanomaru Internet Telescope

- Big difference:
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 - ✦ Nebulae (which were visible at the time.)
 - ✦ Galaxies (which were visible at the time.)
 - ✦ Specific projects (look for supernovae, asteroids)

Observing Using Kitanomaru Internet Telescope

- Students Who Were Not Able to Use Remote Telescope:
 - ✦ Used robotic telescope to gather images for Active Galactic Nuclei Research (Perth Telescope).

**Neutrons never
pay for drinks.
For them, it's "no
charge."**

Observing Using Kitanomaru Internet Telescope

- Students Not Able to Use Remote Telescope:
 - ✦ Used robotic telescope to gather images for Active Galactic Nuclei Research (Perth Telescope).
 - ✦ Knew advantages to using electronic (charged coupled device - CCD) camera.

Observing Using Kitanomaru Internet Telescope

- Students Not Able to Use Remote Telescope:
 - ✧ Used robotic telescope to gather images for Active Galactic Nuclei Research (Perth Telescope).
 - ✧ Knew advantages to using electronic (charged coupled device - CCD) camera.
 - ✧ Had less insight and imagination for using a telescope and CCD.

Observing Using Kitanomaru Internet Telescope

- Those Using Kitanomaru Internet Telescope:
 - ✦ More imagination for using a telescope.

**Gravity is increasing.
I check my bathroom
scale each morning.**

Observing Using Kitanomaru Internet Telescope

- Those Using Kitanomaru Internet Telescope:
 - ✦ More imagination for using a telescope.
 - ✦ Better understanding of field of view and magnification.

Observing Using Kitanomaru Internet Telescope

- Those Using Kitanomaru Internet Telescope:
 - ✦ More imagination for using a telescope.
 - ✦ Better understanding of field of view and magnification.
 - ✦ Better ideas for the future.

Observing Using Kitanomaru Internet Telescope

- Conclusion:
 - ✦ Will it change test scores?

Observing Using Kitanomaru Internet Telescope

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 - ✦ Robotic telescopes are very important.

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 - ✦ Remote or personal observing gives insight into what to observe and why.

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- Conclusion:
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 - ✦ Robotic telescopes are very important.
 - ✦ Not answer for all astronomy
 - ✦ Remote or personal observing gives insight into what to observe and why.
 - ✦ Remote telescopes give more understanding of process.