

What Can Kesler Science Do for You?

4th - 8th grade science teachers love our Life, Earth, and Physical Science materials! With these easy and engaging materials, teachers can save planning time and put their focus back on the teaching that really matters.



5E LESSONS

Two-week lessons with over 100 topics



ESCAPE ROOMS

Engaging activities for review



INQUIRY LABS

Three different levels to fit every student



AMAZING ANCHORS

Anchoring phenomenon to book-end your lessons



SUB PLANS

Never worry about planning for a sub again.



WARM-UPS

Bellringers for the entire year



STATION LABS

Student-led exploration



INTERACTIVE NOTEBOOKS

Bring science journals to life.



WIKI TICKETS

Quick formative assessments



STEM CHALLENGES

Real-world STEM problem-solving



GRAPHING

Table and charts and graphs ... OH MY!



SCIENCE READING COMPREHENSION

Leveled reading passages with mini-activities



SPANGLER COLLABORATION

Exclusive Steve Spangler lessons and videos



WRITING PROMPTS

Writing activities covering 100+ topics

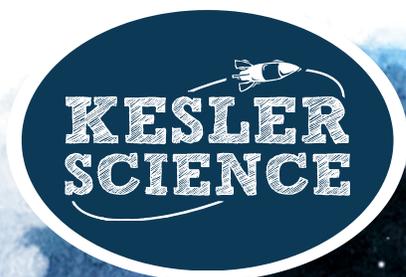


EXPLORIES

Story-driven units with integrated activities



The Kesler Science Professional Learning Network (PLN) group on Facebook has a huge community of engaged and supportive science teachers - come join us!



Black Holes that Can Swallow a Galaxy!



Jets and lobes powered by the central black hole from Centaurus A.

I once read that if you took our Sun and squeezed it down to have the density of a black hole, it would be about the size of a dime. Considering 1.3 million Earths can fit inside of the Sun, the mass compressed inside of a modest black hole is hard to imagine!

What's even more unbelievable is that scientists have recently teamed up to spy on an astounding black hole that's left a permanent mark in space. The evidence of this black hole is what's known as a black hole jet.

When matter in space gets sucked into the "tractor beam" of a black hole, it can throw off light and energy that streak off through

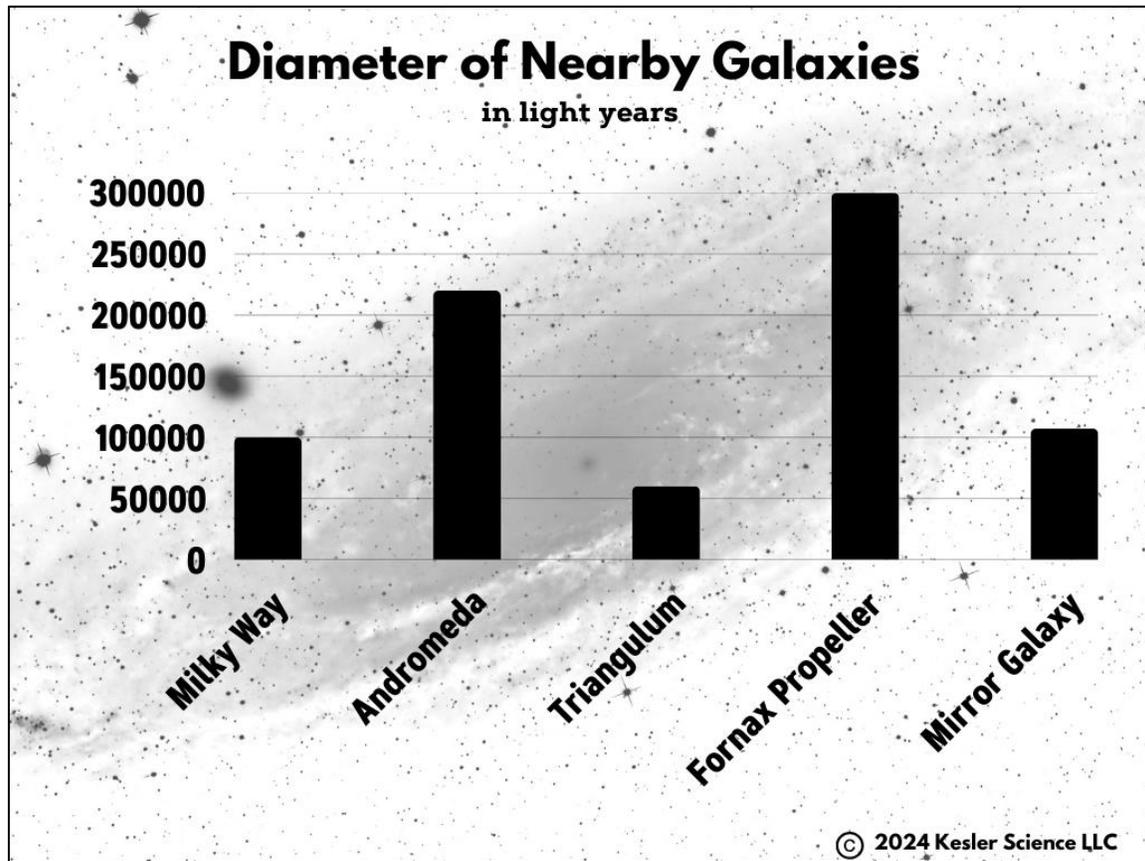
space. This is called a black hole jet and can resemble a double-sided light saber carried by a Sith Lord.

Astronomers have known about black hole jets for a few years, but they were shrugged off as unusual and rare anomalies of deep space. A team of scientists recently pooled equipment from Arizona, Hawaii, Europe and India to get a closer look at these structures of heated matter.

What they found was that the jets are way more common than they once believed. They also stumbled on a black hole jet that is ridiculously big. Officially dubbed Porphyrion after a Greek giant, the jet stretches the length of 140 Milky Way galaxies! 🤖

Besides probably being the biggest known structure in outer space, is Porphyrion special in any way? Scientists have discovered that black hole jets spew out heat, charged particles, and magnetic fields. The implications could be huge, as scientists aren't exactly sure where magnetism came from. Could the magnetic field that protects our home planet have come from a black hole jet? It's an interesting question to ponder. 🤔

Here's a graphic on the size of the Milky Way compared to some of our closest galaxies. This helps give good perspective on how Porphyrion stacks up against other deep space structures.

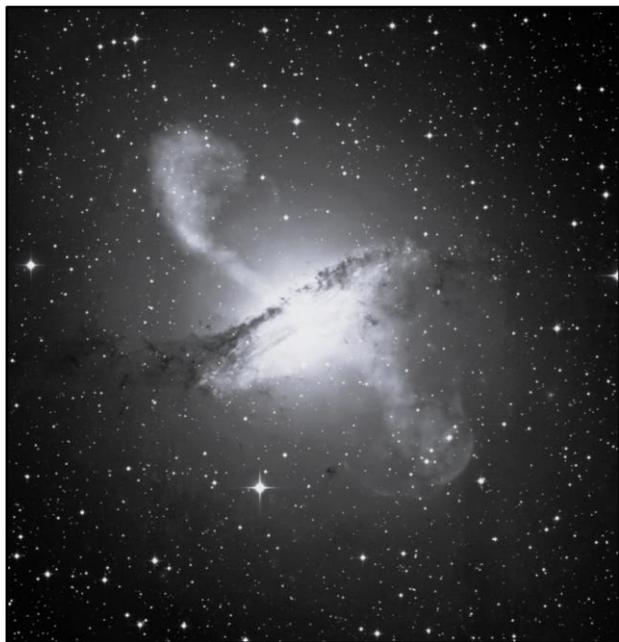


1. Distances across galaxies are measured in light years, or the distance light can travel in one year. Why do scientists use this unit of measurement instead of miles or kilometers?

2. A "parsec" is about 3.26 light years. What is the diameter of our Milky Way in parsecs?

3. The length of the black hole jet Porphyryon is 140 Milky Way galaxies side by side. How many parsecs would that be?

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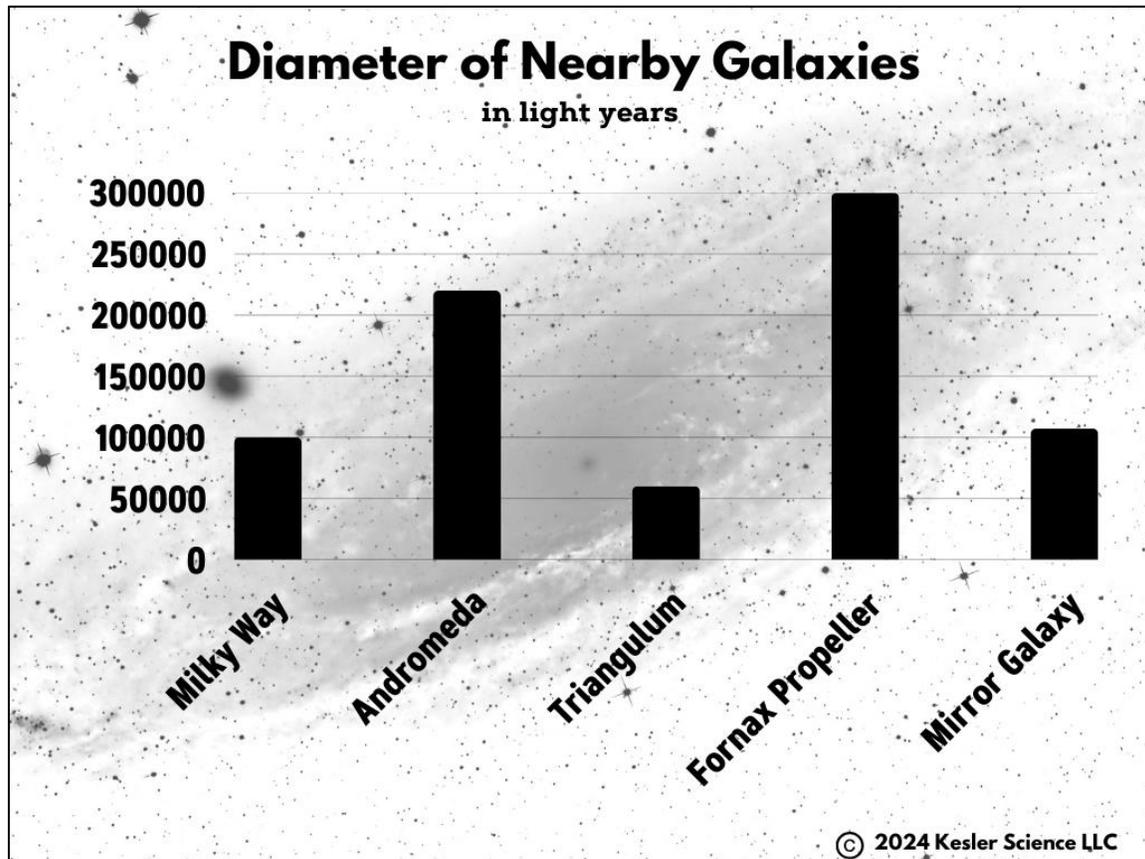
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1. Distances across galaxies are measured in light years, or the distance light can travel in one year. Why do scientists use this unit of measurement instead of miles or kilometers?

Miles and kilometers are appropriate for measuring smaller distances, like the circumference of Earth. Galaxies are so big, we need to use a larger unit of measurement that is appropriate for these sizes.

2. A "parsec" is about 3.26 light years. What is the diameter of our Milky Way in parsecs?

The Milky Way is 100,000 light years across. If you divide that number by 3.26, this tells us that our galaxy should be about 30,675 (rounded) parsecs in circumference.

3. The length of the black hole jet Porphyriion is 140 Milky Way galaxies side by side. How many parsecs would that be?

30,675 times 140 = 4,294,479 parsecs (rounded)