

# 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

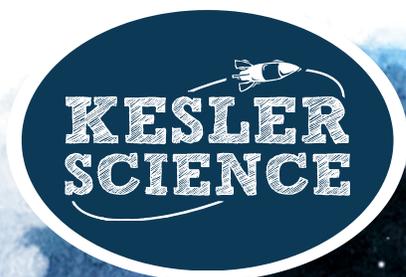


## EXPLORIES

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!



## Biggest (and Oldest) Forms of Life



Aerial image of the Pando Tree in Utah with approximate boundary outlined.

There are a lot of good candidates for the largest and oldest living thing on Earth. Giant tortoises, blue whales, and sequoia trees are all logical choices. But what actually holds the crown for the biggest living organism? A 100-acre patch of aspen trees found in Utah!

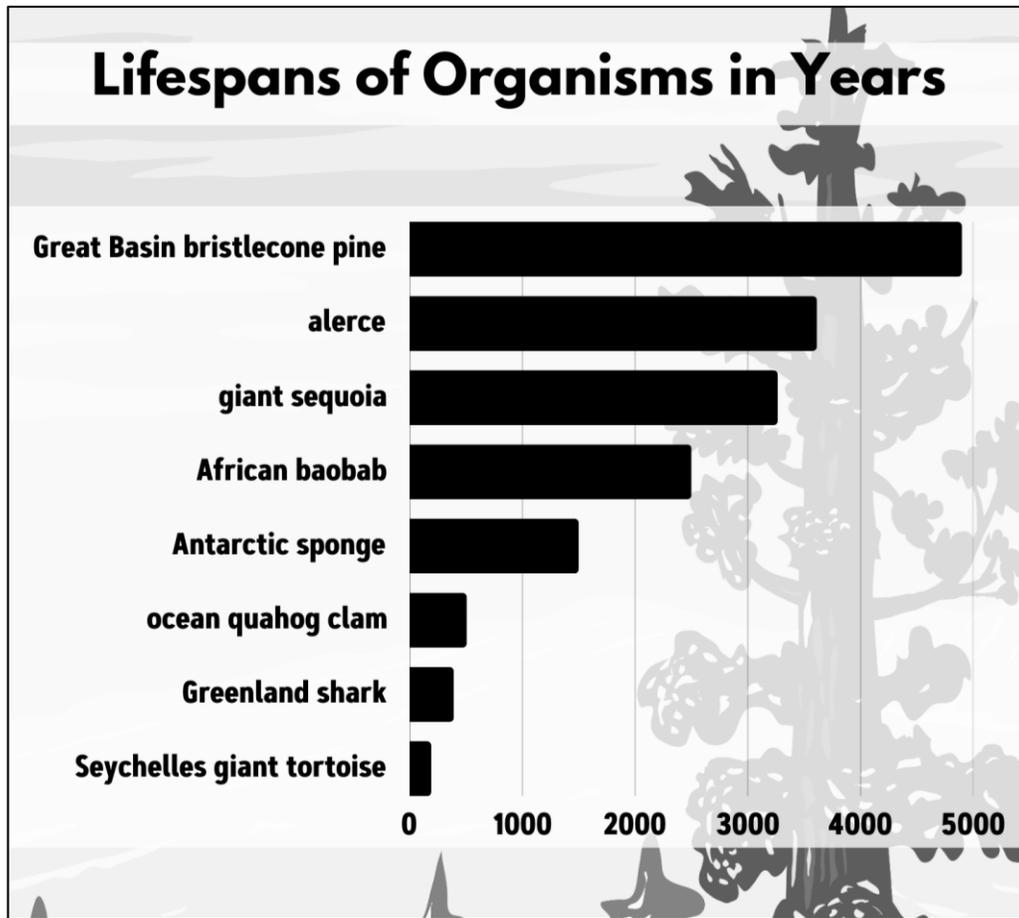
Here's the wild part. Scientists are pretty sure Pando is also **really** old. Signs point to this aspen system being more than 10,000 years old!

All this talk about ancient life forms got me thinking about average life spans for various organisms. While there are some animals that can stick around for an impressively long time, it seems like the big trees are the clear winners. Take a look at the graph on the next page for more comparisons.

Another group that wins out are ocean-dwelling creatures. The Seychelles giant tortoise, for example, is the longest-lived land animal at about 192 years, while specimens of the longest-lived ocean creature, the Antarctic sponge, are at least 1,500 years old. That's not even half the age of the oldest single trees, though, and a drop in the bucket compared to Pando.

It would be fascinating to study what adaptations these organism exhibit that produce their impressive lifespans. Are they uniquely adapted to their environments? Do they have defenses from predators or diseases? What keeps an organism living for thousands of years?

When you find out, let me know! 😊



1. What is the lifespan of the ocean quahog clam according to the graph? How does this compare to the lifespan of the Antarctic sponge?

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2. Look at the animals with the longest lifespans shown on the graph. Do you notice any patterns? Predict why this pattern might help animals live longer.

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3. About how many generations of Antarctic sponge could pass during the lifespan of one Great Basin bristlecone pine tree?

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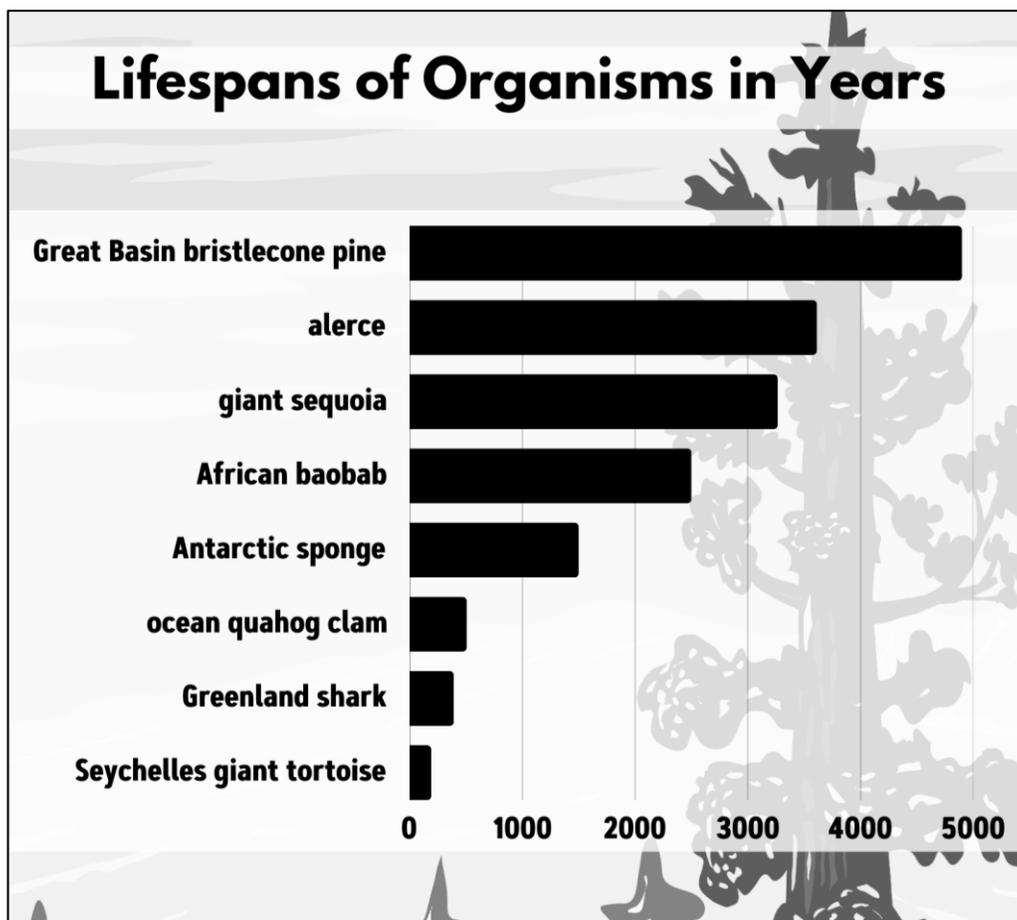
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1. What is the lifespan of the ocean quahog clam according to the graph? How does this compare to the lifespan of the Antarctic sponge?

*The ocean quahog clam can live to about 500 years according to the graph. This is about 1/3 the lifespan of the Antarctic sponge.*

2. Look at the animals with the longest lifespans shown on the graph. Do you notice any patterns? Predict why this pattern might help animals live longer.

*The animals with the longest lifespans on the graph are ocean organisms. Student predictions can vary.*

3. About how many generations of Antarctic sponge could pass during the lifespan of one Great Basin bristlecone pine tree?

*The lifespan of the pine tree is about 4,900 years. The lifespan of the sponge is about 1,500 years. About 3 sponge generations could pass in the span of 4,900 years.*