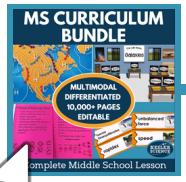
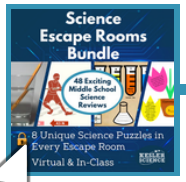
What Can Kesler Science Do for You?

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.



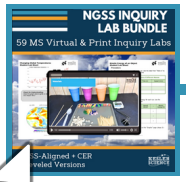
5E LESSONS

Two-week lessons with over 100 topics



ESCAPE ROOMS

Engaging activities for review



INQUIRY LABS

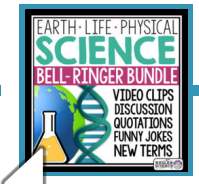
Three different levels to fit every student

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

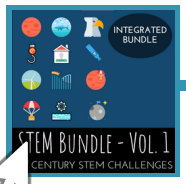
Student-led exploration

INTERACTIVE NOTEBOOKS

Bring science journals to life.

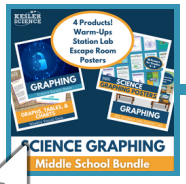
WIKI TICKETS

Quick formative assessments



STEM CHALLENGES

Real-world STEM problem-solving

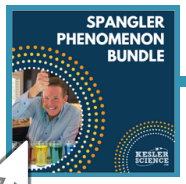


GRAPHING

Table and charts and graphs ... OH MY!

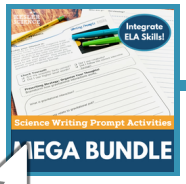
SCIENCE READING COMPREHENSION

Leveled reading passages with mini-activities



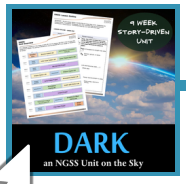
SPANGLER COLLABORATION

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!

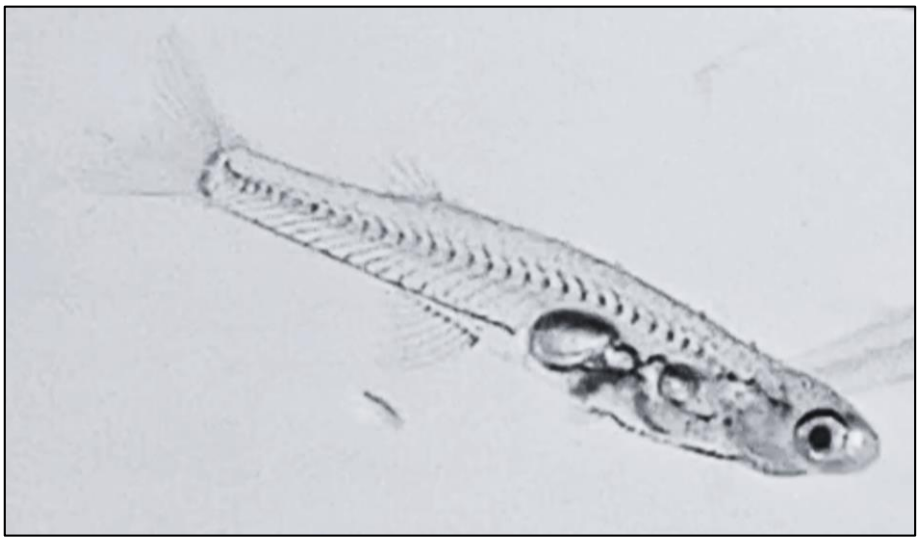
KESLER SCIENCE

Name: _____

Date: _____

World's Loudest Fish

Check out this little fish. It's barely an inch long and has the tiniest brain you'll find in any vertebrate. Not too impressive, right? If I told you this little guy had an extremely unusual and powerful adaptation, what do you think it would be?



Danionella cerebrum, commonly known as the "brain fish"

The answer? The *Danionella cerebrum* hanging out in the cloudy waters around Myanmar, can belt out sounds as loud as a jet taking off! 😳🚀 The male *D. cerebrum* fish strike their swim bladders with cartilage for volume, then they flex a few special muscles to change up the pitch. Their little bodies can create sounds at 140 dB in nearby waters!

Why do these tiny fish need to make such a huge racket? In the murky waters where *D. cerebrum* hang out, visibility is poor. Scientists believe the loud sounds might impress female fish or keep other males away.

The amazing thing is, there are aquatic creatures even louder than that!

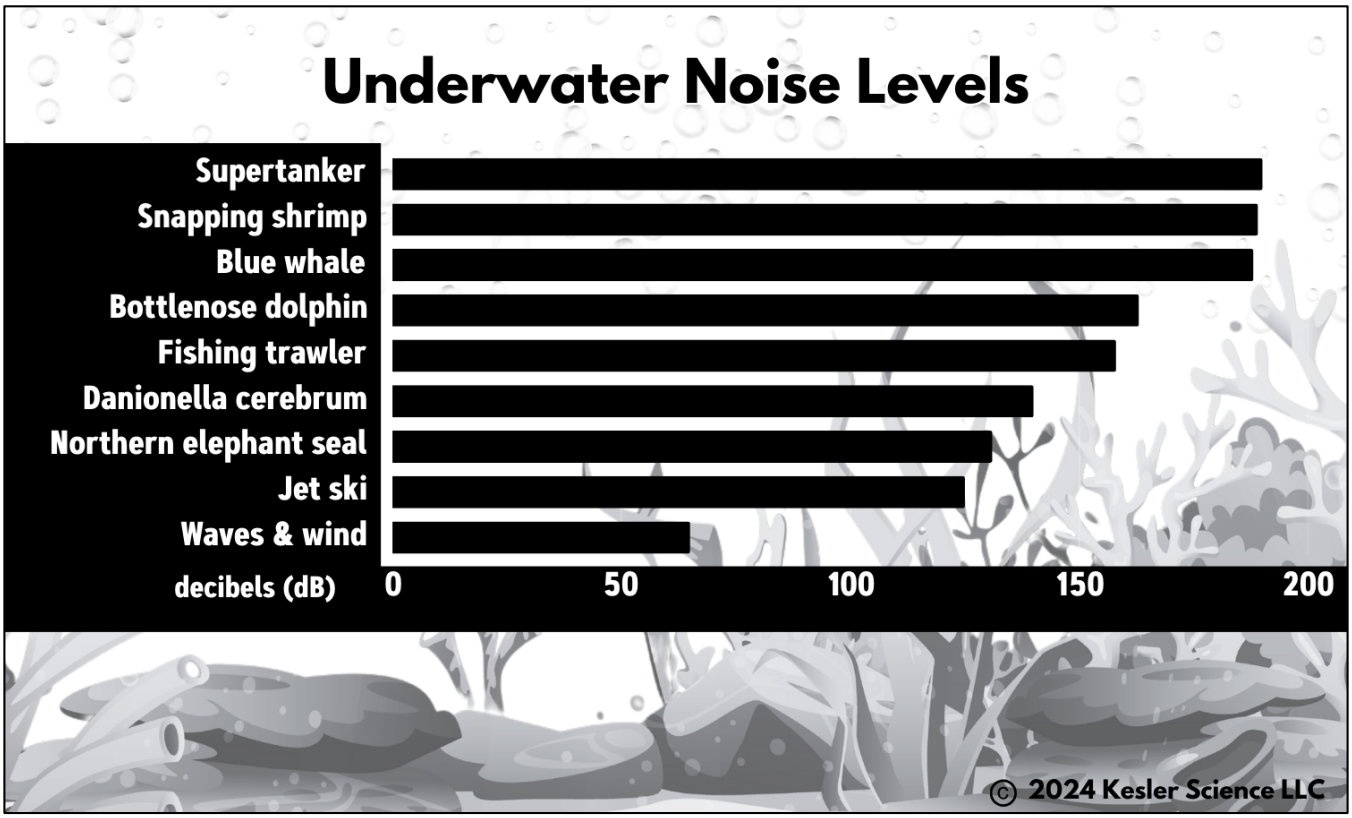
Sound is a wave that moves through air, or in the case of our fish friends, water. Scientists use decibels to measure the pressure of that wave. The decibel scale is logarithmic, so if you crank up your music by 10 dB, it's 10 times louder.

Noise levels in water matter because many marine creatures rely on sound for their survival. Check out the graph on the next page to compare some natural and artificial underwater sound sources.

Did you notice? One of nature's loudest creatures is the little snapping shrimp. The shrimp make a loud noise with their claw that stuns or kills their prey. When many of these shrimp snap at the same time, it can even disrupt sonar!

With shipping noise, scientists have discovered that just slowing down the ship will drastically decrease the decibels created by propellers. Ships can also be designed to make less sound, like having their engines mounted off the hull so the engine noise does not transfer to water as easily. I wonder what you could research and design about reducing ship noise?

World's Loudest Fish



1. Which ocean animals can produce noises louder than the *Danionella cerebrum*?

_____

_____

2. Other than the supertanker, which objects made by humans create the most ocean noise according to the graph? How many dB of sound do they produce?

_____

_____

3. How would the sounds of the ocean would be different without objects made by humans? Predict how human-made objects might impact other living things.

_____

_____

_____

_____

Weekly Phenomenon Graphing Activity Teacher Key

Blog Link: https://blog.keslerscience.com/phenomenon-and-graphing/worlds_loudest_fish

World's Loudest Fish

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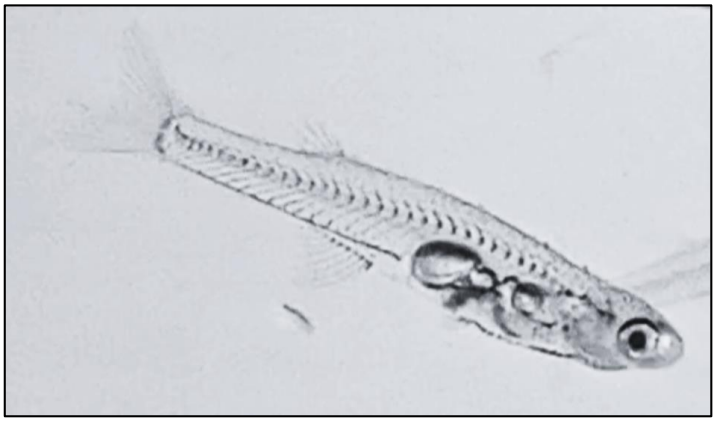

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The answer? The *Danionella cerebrum* hanging out in the cloudy waters around Myanmar, can belt out sounds as loud as a jet taking off! 😳🚀 The male *D. cerebrum* fish strike their swim bladders with cartilage for volume, then they flex a few special muscles to change up the pitch. Their little bodies can create sounds at 140 dB in nearby waters!

Why do these tiny fish need to make such a huge racket? In the murky waters where *D. cerebrum* hang out, visibility is poor. Scientists believe the loud sounds might impress female fish or keep other males away.

This phenomenon could kick off a great class project where students dig into other weird and awesome animal abilities. How fun would that be?

The amazing thing is, there are aquatic creatures even louder than that!

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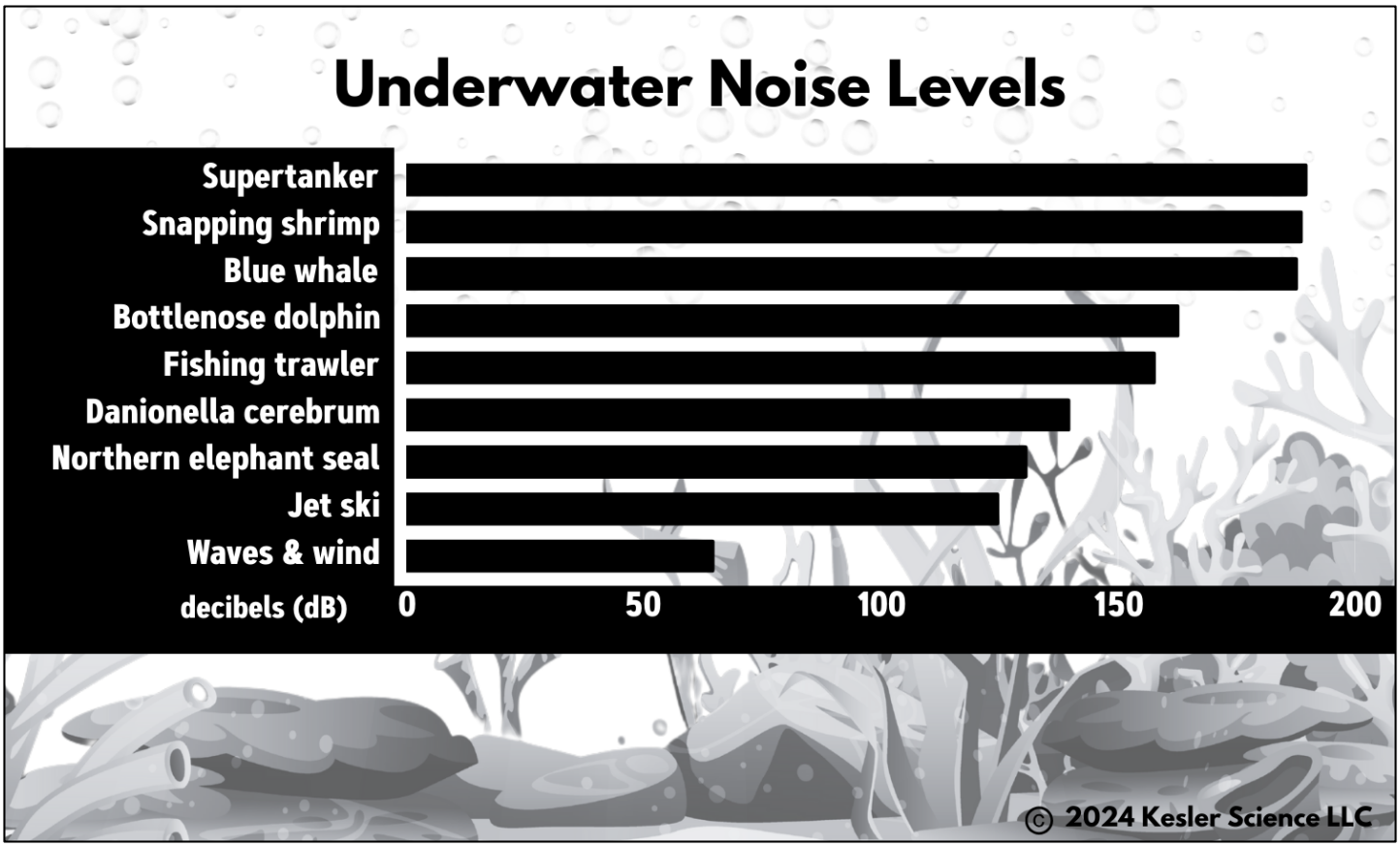
Weekly Phenomenon
Graphing Activity
Teacher Key

World's Loudest Fish



1. Which ocean animals can produce noises louder than the Danionella cerebrum?

   The bottlenose dolphin, blue whale, and snapping shrimp can all make noises louder than 140 dB.

2. Other than the supertanker, which objects made by humans create the most ocean noise according to the graph? How many dB of sound do they produce?

   A fishing trawler produces about 160 dB of noise and a jet ski produces about 130 dB of sound.

3. How would the sounds of the ocean would be different without objects made by humans? Predict how human-made objects might impact other living things.

   The loudest sound in the ocean besides animals and human-made objects is made by wind and waves, at 60 dB. Human-made objects might disrupt the ability of ocean animals to communicate with each other.