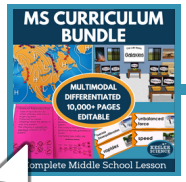
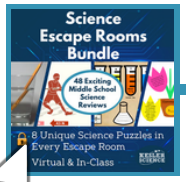
What Can Kesler Science Do for You?

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.



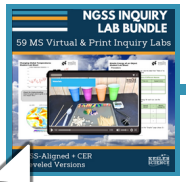
5E LESSONS

Two-week lessons with over 100 topics



ESCAPE ROOMS

Engaging activities for review



INQUIRY LABS

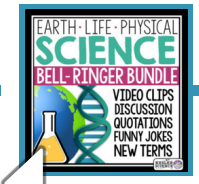
Three different levels to fit every student

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

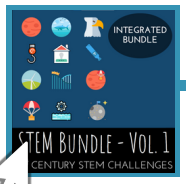
Student-led exploration

INTERACTIVE NOTEBOOKS

Bring science journals to life.

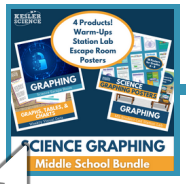
WIKI TICKETS

Quick formative assessments



STEM CHALLENGES

Real-world STEM problem-solving

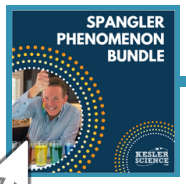


GRAPHING

Table and charts and graphs ... OH MY!

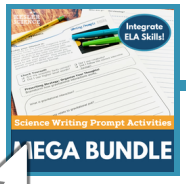
SCIENCE READING COMPREHENSION

Leveled reading passages with mini-activities



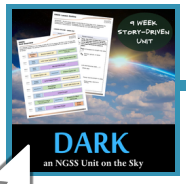
SPANGLER COLLABORATION

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: _____

Nature's Balancing Act

Devils Marbles in Australia, antique photo

If you've ever seen a pile of rocks that left you saying, "Wait...what?", chances are good that you were looking at what geologists call precariously balanced rocks, or PBRs. PBRs seem to defy physics - they look like they were stacked by someone with a huge crane and a lot of patience. Surprisingly, these impressive formations are totally natural!

You might be lucky enough to have a PBR in your area. Maine's Acadia National Park, Big Bend in Texas, D.L. Bliss State Park in California, and Westchester County in New York all boast impressive balanced rocks. There are some jaw-dropping examples in Zimbabwe and Australia, too.

There are a few ways PBRs can form. One of the most common causes is glacier action. The balanced rock might be what scientists call a "glacial erratic." This means that the huge rock got lifted up and carried away by a glacier sliding over it.

When the ice melted away, the rock was left balancing on top of rocks in a new location. This action explains landforms like the Kummakivi Balancing Rock in Finland.

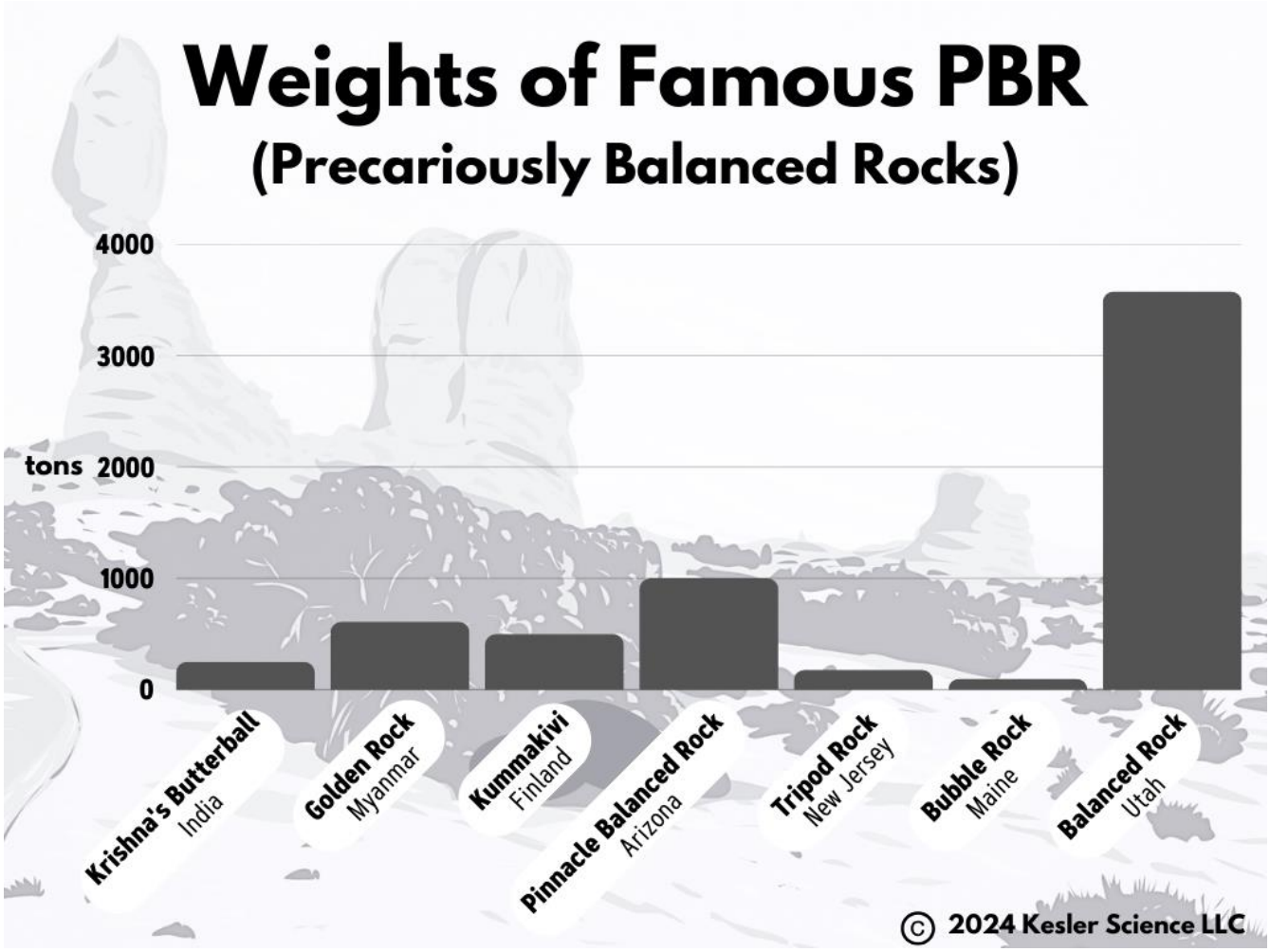
PBRs can also be caused by weathering and erosion. When a rock outcropping is a different makeup than the surrounding landscape, weathering and erosion has a different effect on the two materials. The Devils Marbles in Australia, shown in this antique photo, are clear examples of this type of geological change. Hard granite structures broke through the local sandstone due to tectonic plate movement. The exposed granite was then shaped by wind and water into rounded shapes.

Sometimes what appears to be a boulder balanced on top of others is actually just one big rock that's been carved by wind erosion. These are what scientists call "hoodoos," and there's quite a few of them in Big Bend, Texas. The part of the rock that's exposed to the most intense wind will wear away, leaving behind tall, top-heavy structures. Balanced Rock in Arches National Park in Utah is an iconic example.

PBRs can tell us about more than glaciers and weathering; PBRs can tell scientists a lot about the seismic activity in a region, too. Precariously balanced rocks are exactly that - precarious. If they are shaken by a strong earthquake, for example, they fall down. If we can estimate how long a PBR has been in its current position, we can tell the strength of the largest earthquake that has occurred in that area during that time span.

Observe the graph on the next page showing some of the more famous precariously balancing rocks and their impressive approximate weights.

Nature's Balancing Act



1. Which PBR weighs the most according to this graph? Which PBR weighs the least?

2. One ton is equal to 2,000 pounds. What is the weight of Krishna's Butterball in pounds?

3. Tripod Rock in New Jersey weighs 163,260 kilograms. How could you find out how many kilograms are in one ton?

Blog Link: https://blog.keslerscience.com/phenomenon-and-graphing/natures-balancing-act

Nature's Balancing Act

The Devil's Marbles in Australia

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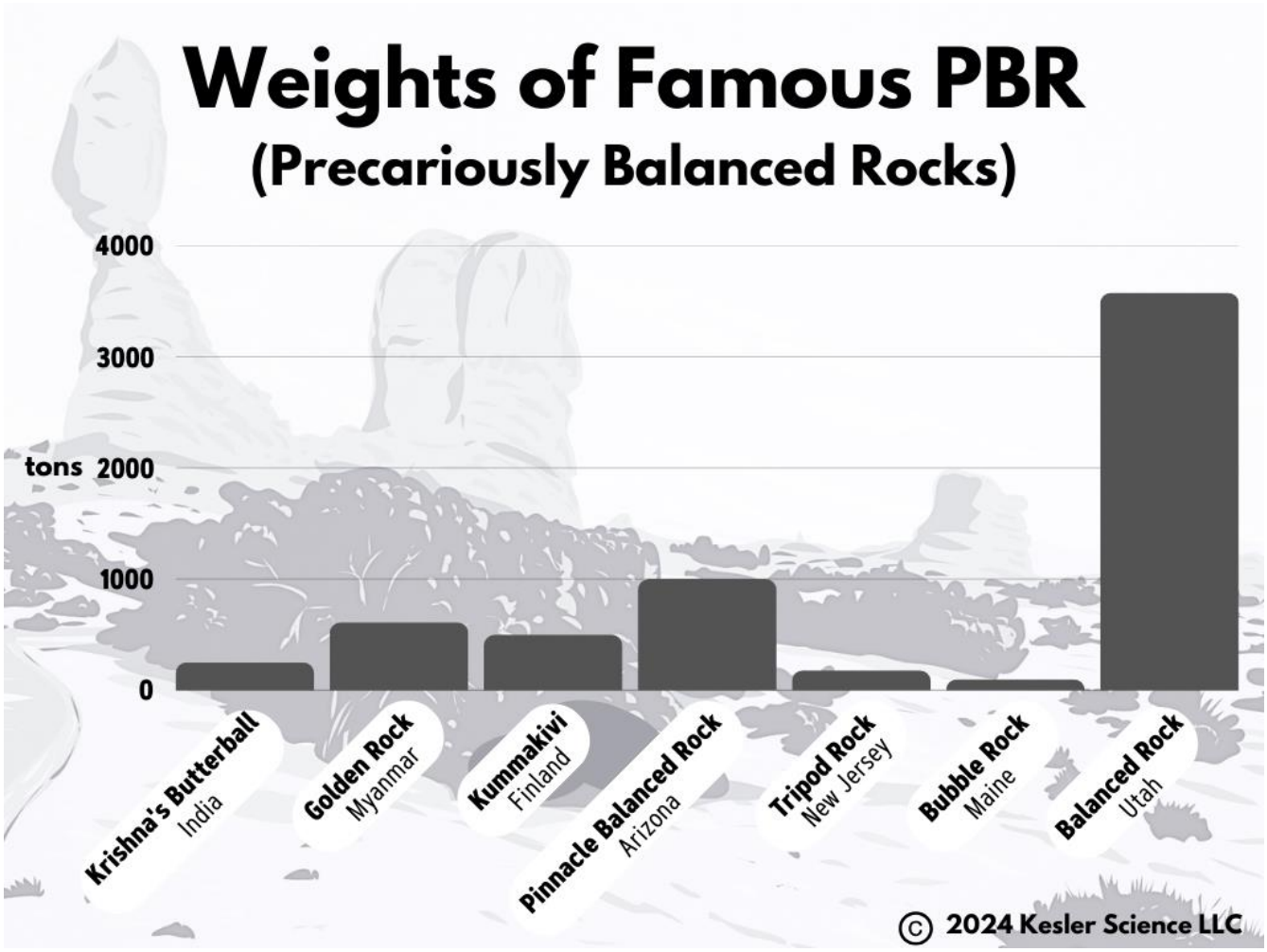
Weekly Phenomenon
Graphing Activity
Teacher Key

Nature's Balancing Act



1. Which PBR weighs the most according to this graph? Which PBR weighs the least?

   The Balanced Rock in Utah has the greatest weight with 3,577 tons. Bubble Rock in Maine has the least amount of weight at 100 tons.

2. One ton is equal to 2,000 pounds. What is the weight of Krishna's Butterball in pounds?

   Krishna's Butterball weighs 250 tons. 250 x 2000 = 500,000 pounds.

3. Tripod Rock in New Jersey weighs 163,260 kilograms. How could you find out how many kilograms are in one ton?

   Tripod Rock has a weight of 180 tons. If you divide 163,260 by 180, that will give you the amount of kilograms in one ton (907).