

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.



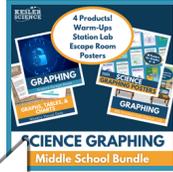
WIKI TICKETS

Quick formative assessments



STEM CHALLENGES

Real-world STEM problem-solving



GRAPHING

Table and charts and graphs ... OH MY!



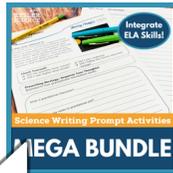
SCIENCE READING COMPREHENSION

Leveled reading passages with mini-activities



SPANGLER COLLABORATION

Exclusive Steve Spangler lessons and videos



WRITING PROMPTS

Writing activities covering 100+ topics

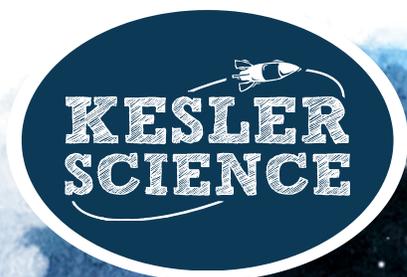


EXPLORIES

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!



New Years Fireworks and Other Traditions



Where I live, New Year's Eve means one thing: fireworks!

Thinking about the fireworks tradition here made me curious - what are some other fun customs for ringing in the new year around the world? I took a deep dive and found some interesting stuff!

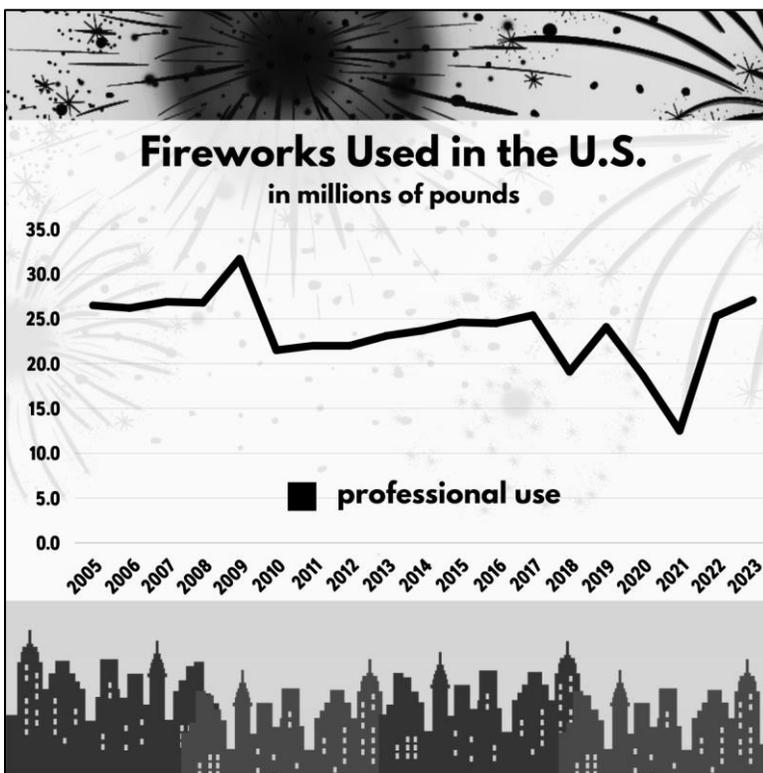
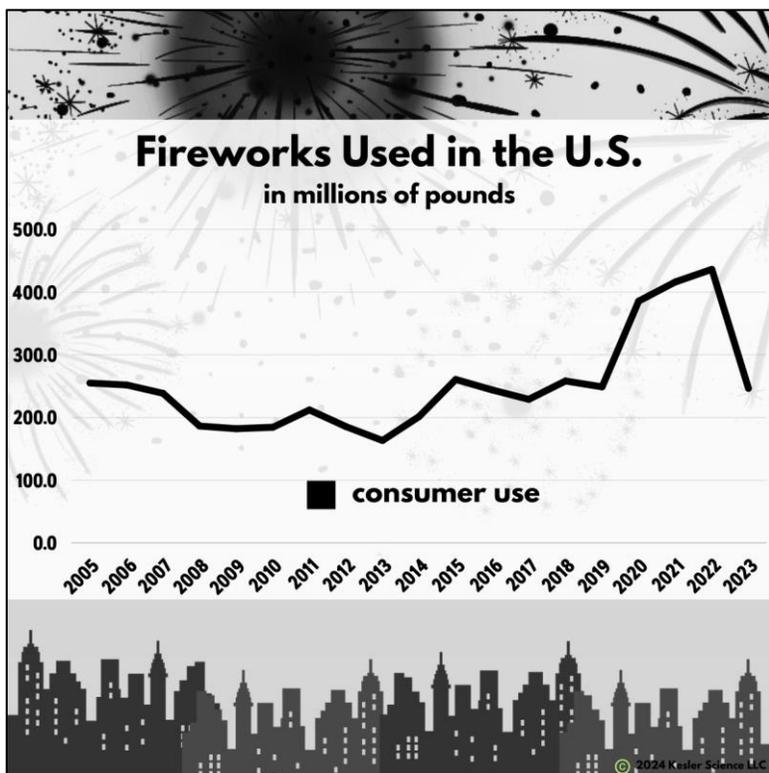
If you and I were ringing in the New Year in the Czech Republic, we'd see apples on the table—not as a healthy midnight snack, though. They slice the apples in half to predict the future. If the seeds form a star, it's a sign of good luck. But if they make a cross? Yikes—that's a bad omen.

Over in Germany, they've got another cool tradition for New Year's Eve. People used to drop molten lead into water and interpret the shapes it made as it cooled. Lead melts at a relatively low 621°F

(327°C), but, you know, it's lead—not the safest material to mess with. These days, they've swapped it out for melted wax, which is way safer and only needs about 120°F to melt.

In Indonesia, they celebrate by releasing sky lanterns. The key to a successful lantern-flying is using super-light materials and a fuel source that burns long enough to heat the air inside - and knowing how to not set anything on fire when they land!

Back to fireworks: check out the two graphs (next page) about fireworks use over the past two decades. The first shows the millions of pounds used by individuals in their own yards, driveways, etc. The second shows the millions of pounds used by professionals putting on displays as group events.



1. Look at the scales of the two graphs. Which group used more fireworks each year? Why do you think the difference is so large between the two graphs?

2. When did personal consumer fireworks usage peak? How many millions of pounds were used?

3. When did personal consumer fireworks increase drastically? When did it drop off again?

4. What trends were happening in professional use during the peak consumer years?

5. What was going on in 2020 and 2021 that might explain why there were fewer big fireworks displays and more backyard usage? What would have changed in 2023 to reverse the trend?

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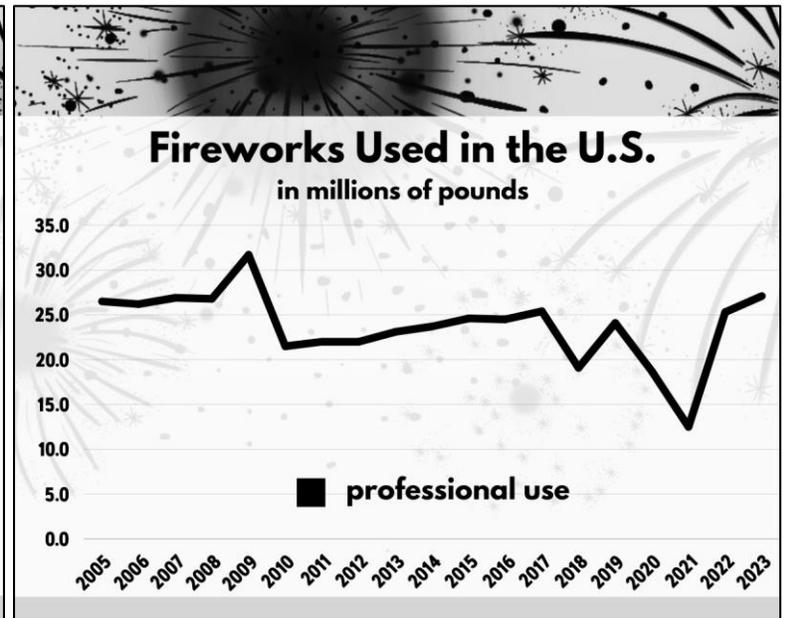
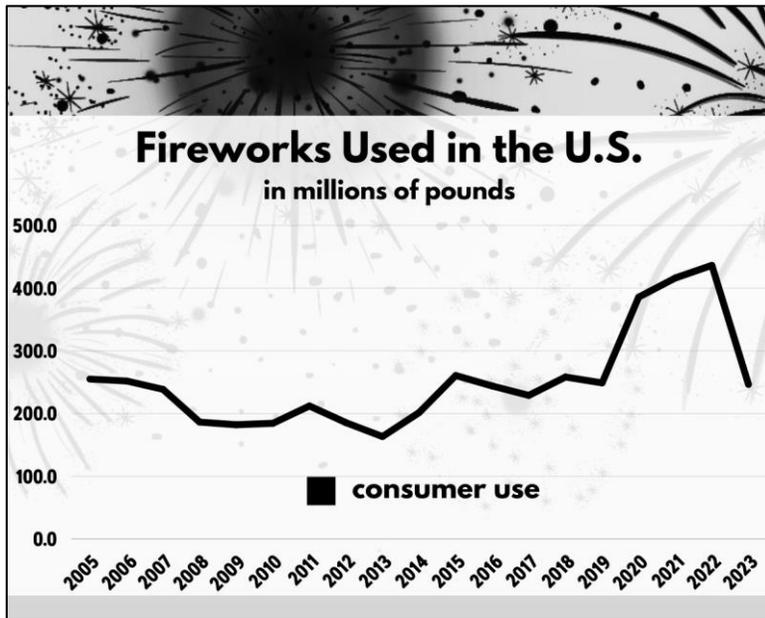
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1. **Look at the scales of the two graphs. Which group used more fireworks each year? Why do you think the difference is so large between the two graphs?**

Consumers used at least 100 million more pounds than professionals, sometime much more. Professional fireworks are much more expensive, so only groups with enough money to hire professionals can use them. Professional displays are also enjoyed by thousands of people at one time, so they use fewer pounds than each person buying their own.

2. **When did personal consumer fireworks usage peak? How many millions of pounds were used?**

Consumer fireworks usage peaked in 2022 with about 400 millions pounds used.

3. **When did personal consumer fireworks increase drastically? When did it drop off again?**

In 2020, the personal usage jumped from below 300 million pounds to nearly 400 million pounds. In 2023, it dropped off to below 300 million pounds again.

2. **What trends were happening in professional use during the peak consumer years?**

In 2020 and 2021, the fireworks usage in professional displays dropped to its lowest point. In 2022, the professional use rose back to normal levels.

2. **What was going on in 2020 and 2021 that might explain why there were fewer big fireworks displays and more backyard usage? What would have changed in 2023 to reverse the trend?**

In 2020 and 2021, many group events were canceled due to the pandemic, or they were much smaller than usual. People may have used their own fireworks instead as a result. When the group displays became more available after 2022, individuals may not have bothered to make their own displays.