Powder Kegs and Cannonballs - Lesson Plan

Summary

In this session, the artist sketched powder kegs and cannonballs from a toy pirate set and discussed the history of gunpowder and artillery. He explained how powder kegs were sealed to stay dry, how gunpowder spread from 9th century China to warfare by the 12th century, and how cannonballs evolved from stone and lead to iron. The talk covered collecting spent cannonballs after battles, the heavy weight of naval stores, and debunked the myth that sailors bowled with cannonballs. The session concluded by noting that iron balls became obsolete with the adoption of rifled artillery in the 19th century.

https://www.youtube.com/live/

Objective

Students will understand the historical development of gunpowder and cannonballs, their role in naval and land warfare, and why solid iron shot became obsolete.

Materials

- Whiteboard or chalkboard
- Projector or printouts of powder kegs and cannonballs
- Handouts of the 9 Fun Facts
- Optional: Short video clip of cannon loading/firing

Introduction

Introduce the topic by showing an image of a powder keg and cannonballs. Ask students what they think these objects were used for and why keeping gunpowder dry would be so important on a ship. Transition into the broader story of how gunpowder spread and how artillery shaped history.

Activity

1. Present the history of gunpowder's invention in China and its spread to Europe.
2. Explain the progression of cannonballs from stone to iron, and how ships stored and carried ammunition.
3. Discuss the myth of sailors bowling with cannonballs and clarify the kinds of games they actually played.
4. Highlight the shift from round shot to rifled artillery shells in the 19th century.
5. Distribute the 9 Fun Facts handout for review.

Assessment

- Students will answer short-answer questions based on the Fun Facts.
- Participation in discussion about why rifling ended the age of cannonballs.
- Completion of worksheet sections for review, data analysis, and reflection.

Rubric

Criteria	4 – Excellent	3 – Good	2 – Fair	1 – Needs Improvement
Understanding of content	Demonstrates clear and accurate understanding of all Fun Facts	Understands most content with minor errors	Partial understanding, some confusion	Minimal understanding shown
Participation	Actively engages in discussion and activity	Participates with some prompting	Limited participation	No participation
Worksheet completion	All sections complete with thoughtful answers	Most sections complete with adequate answers	Some sections incomplete or brief	Worksheet largely incomplete

9 Fun Facts About Powder Kegs and Cannonballs

1. **Ancient Origins of Gunpowder** Gunpowder was invented in China around the 9th century CE. At first, it was used in fireworks, fire lances, and small incendiary devices. Its military uses spread westward through trade and conquest.
Source: https://www.britannica.com/technology/gunpowder

2. **Early Cannon Use** Cannons appeared in Europe and Asia during the 1200s and 1300s. They were first used in sieges to batter down castle walls, and within a few centuries, they became essential in naval battles as well.
Source: https://www.britannica.com/technology/cannon-weapon

3. **What Were Cannonballs Made Of** Early projectiles were carved from stone or cast in lead, but by the late 1400s cast iron had become the standard. Iron shot was more durable, struck harder, and was easier to mass-produce than stone.
Source: https://maryrose.org/news/going-ballistic-science-meets-conservation-on-the-mary-rose/

4. **Average Size of Cannonballs** Cannons were classified by the weight of their shot. A common 6-pounder fired a ball about 3.58 inches across, while larger 12-pounder guns fired balls closer to 4.5 inches in diameter.
Source: https://www.relicman.com/artillery/Artillery1100-Ball6pdr.html

5. **Could They Reclaim Cannonballs from the Battlefield** Yes. Solid shot often survived battles intact and could be collected and reused. At the siege of Louisbourg in 1745, men were even paid bounties to recover rolling cannonballs.
Source: https://warfarehistorynetwork.com/article/cannonballs-grapeshot-and-profanity/

6. **How Many Cannonballs a Ship Might Take and What They Did When They Ran Out** A warship usually carried about 100 rounds per gun, stacked in racks and stored in the hold. When supplies ran low, crews sometimes fired “langrage,” improvised rounds packed with nails, scrap iron, or chains.
Source: https://www.qaronline.org/blog/2020-02-01/artifact-month-langrage

7. **Sailors Did Not Use Cannonballs for Bowling Games** Despite myths, sailors never bowled with cannonballs. The balls were kept secured in racks, and any dent or imbalance could jam a cannon, making such games far too dangerous.
Source: https://www.history.navy.mil/content/history/nhhc/research/library/online-reading-room/title-list-alphabetically/b/brass-monkey.html

8. **Games and Entertainment Sailors Did Instead** Life at sea was harsh, but sailors filled free time with cards, dice, music, and shanties. They also practiced knot-tying, carving, or wrestling for entertainment during long voyages.
Source: https://www.rmg.co.uk/stories/topics/life-sea-age-sail

9. **Iron Balls Are Obsolete Because…** Solid iron round shot became obsolete in the late 19th century with the adoption of rifled artillery. Rifled barrels required elongated, aerodynamic shells for accuracy and explosive payloads, making round iron balls useless in modern warfare.
Source: https://www.britannica.com/technology/cannon-weapon

Worksheet

Name: _____Date: _____

Review

1. When and where was gunpowder first invented?

2. What materials were used to make the earliest cannonballs?

3. How many rounds per gun did warships typically carry?

Discussion

4. Why was it dangerous to play with cannonballs on deck?

5. How did sailors actually entertain themselves on long voyages?

Data Analysis

6. If a warship had 20 guns and each carried 100 six-pound balls, how much would the total cannonball weight be? Show your math.

Reflection

7. Why do you think rifling made such a difference in the history of artillery?

8. What surprised you most about the role of powder kegs and cannonballs in warfare?