NOVA

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Great Escape

PROGRAM OVERVIEW

NOVA tells the story of a group of Allied POWs who attempt to escape a Nazi prison camp.

The program:

- shows archeologists excavating Stalag Luft 3, where in 1944 hundreds of prisoners attempted one of history's most daring escapes, inspiring the 1963 film *The Great Escape*.
- describes German attempts to escape-proof the camp by building prisoners' huts on stilts to deter them from tunneling through the floor, and placing the fence so far from the huts that a tunnel would have to be 90 meters long to reach it.
- details the prisoners' plan to build three tunnels—as a safeguard, in case one or two were discovered—through the building supports of the huts.
- explains how men dug with hand-made tools, used whatever wood was available to support the tunnels, then passed the dug-up sand to others who disposed of it by discreetly sprinkling it out around the camp.
- describes two innovations—an air pump that delivered fresh air to diggers as the tunnels grew longer and oxygen more scarce, and a hand-powered "underground railroad" that allowed diggers to move tons of sand more quickly.
- reveals how prisoners tapped into the camp's electrical system to install tunnel lighting, and reports archeologists' discovery of wiring in the tunnel the Germans never found.
- relives the night of March 24, 1944, when 76 of the 600 prisoners involved escaped before German guards spotted them.
- reveals that only three escaped POWs made it to freedom—the remaining 73 were recaptured and 50 of them executed, on Hitler's orders, by the Gestapo.

BEFORE WATCHING

1 Review with students the basic facts of World War II, including the Allied and Axis players, major battle sites and victories, and time line of events. Find more information at www.bbc.co.uk/history/war/wwtwo/index.shtml

2 Have students use an atlas to locate the site of Stalag Luft 3, which resided in the town of Sagan, on the western border of Poland about 200 kilometers southeast of Berlin. Find a map at www.um.zagan.pl/index.php?id=75&lng=eng

3 Ask students what kinds of character traits they think a person would need to survive as a prisoner of war. Create a list of the traits on the board. Organize students into three groups. As they watch, have each group take notes on one of the following: how the men were organized, what materials they used, and what character traits they exhibited throughout their imprisonment and attempted escape.

AFTER WATCHING

1 Revisit students' notes about the program. How did the group organize itself? What materials did they use to excavate the tunnel? What traits did they exhibit that helped them survive and plan an escape? How did the traits men had compare to what students thought someone would need to survive? Do students think that the low chance of success and fatal consequences made the effort worthwhile? Why or why not?

2 Ask students to consider times when they have had to work as a team to solve a problem. What was the problem? How did the team organize itself to solve the problem? What tools and ideas were used? How was creative thinking fostered?

CLASSROOM ACTIVITY

Objective

To invent a way to deliver a note across a fixed distance.

Materials for teacher

- wooden spools, enough for 2 pulleys per team
- wire coat hangers
- wire cutters
- pliers

Materials for each team

- copy of the "Great Escape Challenge" student handout
- 7 meters of string
- paper
- two pulleys
- paper clips
- wooden laundry clips
- straws
- paper cups
- scissors

Procedure

1. The men at Stalag Luft 3 had few resources and many challenges to overcome as they tried to escape their prison. Using ingenuity, resourcefulness, and perseverance they managed to build a tunnel that allowed 76 men to escape. In this activity, students will use a set of resources to devise a way to deliver a note across several meters.
2. Organize students into teams and distribute copies of the student handout and a set of materials to each team.
3. Explain that each team must devise a way to send a note back and forth across three meters, using only the materials provided. Tell students they are not required to use every material. (See directions on page 3 for how to make a pulley.)
4. Allow students to discover for themselves how pulleys might be used for the challenge. When teams have completed the challenge, have each team present its method to the class and explain how team members came up with their design.
5. Working with students, develop ways to evaluate designs, noting that no single best design exists and that different tasks require different designs.
6. As an extension, ask students to research other great escapes in history. For more information, see Great Escapes at www.pbs.org/nova/naziprison/escapes.html

STANDARDS CONNECTIONS

The "Great Escape Challenge" activity aligns with the following National Science Education Standards.

GRADES 5–8

Science Standard B:
Physical Science
Motions and forces

- If more than one force acts on an object along a straight line, then the forces will reinforce or cancel one another depending on their direction and magnitude. Unbalanced forces will cause changes in the speed or direction of an object's motion.

Science Standard E:
Science and Technology
Abilities of technological design

- Design a solution or product. Students should make and compare different proposals in the light of the criteria they have selected. They must consider constraints—such as cost, time, trade-offs, and materials needed—and communicate ideas with drawings and simple models.

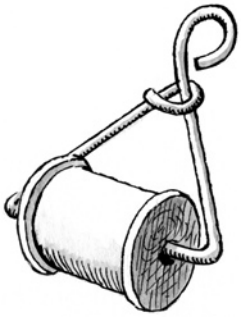
Video is not required for this activity.

Classroom Activity Author
This classroom activity originally appeared in the companion Teacher's Guide for NOVA's "Secrets of the Lost Empires I: Colosseum" program.

CLASSROOM ACTIVITY

Making Pulleys

Cut a 25 cm length of wire from the coat hanger. Slide the wire through a wooden spool. Allow one end of the wire to extend farther than the other. Use pliers to bend the wire at right angles on either side of the spool. Bend the short end of the wire around the other to secure the ends together. Bend the long end into a hook.



ACTIVITY ANSWER

A pulley consists of a freely turning wheel and a rope. The wheel is fixed to a support and the rope runs over the wheel. In this activity, students can discover how to use pulleys to change the direction of force (e.g., pulling a rope down to hoist a flag up). Pulleys can be made with just one wheel, or with two or more wheels.

Students' designs will vary. If students are having difficulty understanding how a pulley can be used to change direction of force, have them experiment with one pulley, noting how when they pull down on the string, the object attached to the other end is lifted up. Some teams may design systems that do not involve pulleys. These are valid inventions and provide an opportunity to compare different designs and discuss the advantages and disadvantages of each.

There are dozens of applications that resemble a pulley system. Elevators operate on pulley systems. Some students may be familiar with clotheslines that operate on a similar principle, with a single loop of rope running continually around the system. Ski lifts use the same model, as do flag poles in a vertical manner.

LINKS AND BOOKS

Links

NOVA Web Site—Great Escape
www.pbs.org/nova/greatescape/
Find articles, interviews, interactive activities, and resources in this companion Web site to the program.

The Great Escape
www.um.zagan.pl/luft3/
Provides an overview of the 1944 great escape, including information about the escape committee, key personnel, the tunnels, the victims, and the survivors.

Books

Brickhill, Paul.
The Great Escape.
New York: Ballantine Books, 1983.
Tells the story of how, in order to escape a Nazi prison, inmates ingeniously built underground railroads, forged passports, drew maps, faked weapons, and tailored German uniforms and civilian clothes.

Vance, Jonathan F.
The Gallant Company: The Men of the Great Escape.
New York: Ibooks, 2003.
Provides background on each of the officers who took part in the March 1944 Stalag Luft 3 escape, chronicling each of their roles and ultimate outcomes.

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Great Escape Challenge

The men who dug the tunnel in order to try to escape Stalag Luft 3 did a lot of creative inventing. Now it's you turn to invent. You need to find a way to send a message back and forth quickly. Can you do it?

Procedure

1. Invent a way to send a note back and forth across 3 meters. You can use only the materials provided but are not required to use all of them.
2. In the space below draw a diagram of your invention. Add descriptions of the different parts and any other information someone might need to understand how it works.