

Exploration- Exploring New Frontiers



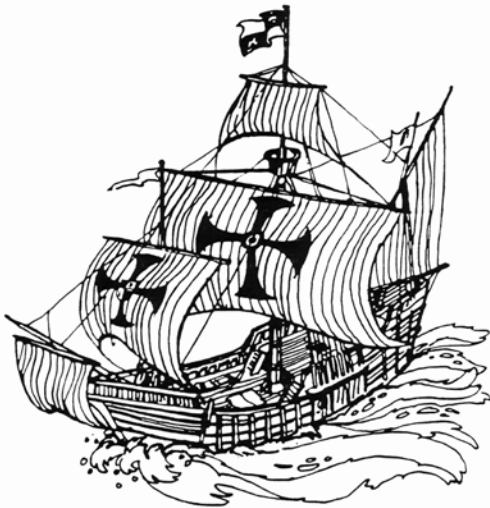
Join the National Engineers Week Committee and USA TODAY as we lead students into the challenging world of exploration.

USA TODAY has prepared a special activity for Discover "E" engineers to help stimulate critical and imaginative thinking; encourage problem solving and effective decision making; and reinforce reading for ideas, concepts, and information - The activity is intended for use with social studies or history classes in grades three through eight to help students understand the roles of technology and exploration in our society. In one class period you may not have time to use all of the ideas presented. Adapt as necessary.

This project, "Exploring New Frontiers," is representative of projects found in USA TODAY's newest education program, 'Visions of Exploration: Past, Present, Future..' "Visions") was developed in cooperation with the National Association of Elementary School Principals and NASA. It is aimed at grades three through eight. Through a variety of special curriculum materials, USA TODAY has become a key teacher resource in 37,000 schools throughout the USA. It is a current and dynamic instructional resource for reaching math, social studies, science, language arts and career education. Start to scan the newspaper for articles you'd like to use. Familiarize yourself with the newspaper as an instructional tool. With an available aid like USA TODAY, you can spark students' interest in exploring math, science and technology in the world around them. Let the journey begin!

Objective

To help students understand and expand upon the meaning of "exploration" and become aware of the engineers role in exploration.



Lesson

Students will need copies of USA TODAY.

Discuss

Lead the class in a discussion of the word "exploration". What does it mean "to explore"? Who are explorers? Who are some famous explorers from the past? Are explorers only people from the past? Only adults? Are engineers explorers? Why is exploration important? Where do ideas for exploration come from? Is exploration always successful? (To expand on these points, refer to the speech outline "E is for Exploration" in your Discover Primer)

Evaluate

Discuss with students the reasons for exploration. Using USA TODAY, help students find examples of current explorers. Why are these individuals considered explorers? Are any of these explorers engineers? What are these explorers hoping to accomplish? How does technology help them? What are some important characteristics or qualities that these explorers have?

Compare current explorers and expeditions with the 1804 journey of Meriwether Lewis and William Clark into Louisiana Territory- Explain that Lewis and Clark were asked by President Thomas Jefferson to survey, map and record the wilderness between the Mississippi River and the Pacific Ocean. What objective did Jefferson have in sending the explorers on their journey? Explain to students that in 1802, the United States ended at the Mississippi River and that Jefferson was well aware of the potential in taming an undeveloped west. In addition to exploring the new territory, Lewis and Clark were instructed to observe and record in their journals information about the geography of the region, its plants and animals, weather and economic possibilities. What did Lewis and Clark accomplish? What technology did they use? Were Lewis and Clark engineers? Imagine they had one present-day technology or product available to them on their Journey. What would you



suggest it be and how would it have affected their expedition? How has the nature of expeditions changed since Lewis and Clark?

Identify

Ask students to locate the area of the Lewis and Clark expedition on the USA TODAY weather map. Explain that Lewis and Clark's 7,689-mile journey lasted two years and four months. During this period they encountered many obstacles, including bad weather. What other obstacles might Lewis and Clark have encountered? Using USA TODAY identify obstacles that present-day explorers face. What obstacles might future explorers face? How might technology overcome these obstacles?

Analyze

Discuss the benefits of the Lewis and Clark expedition. What valuable knowledge and applications resulted from their exploration? How is life in the USA different today as a result of Lewis and Clark's expedition? Using USA TODAY, identify current frontiers of exploration. How is life different as a result?

Predict

Using USA TODAY, ask students to identify the kinds of technology used by today's explorers. Why is technology important in exploration? What kinds of technology do engineers use? What do students predict

will be the frontiers for future exploration? How will technology help explore these new frontiers? How will life in the USA be different as a result?)

Extended Activity

(An optional activity to leave with the teacher as an extension or follow-up to the lesson.)

Challenge students to imagine future frontiers and to invent a way to explore them. Ask students to present their ideas in a drawing or model. Have students explain their creations, describing the design and purpose. Send designs to the Discover "E" engineer.

(Activity extracted from "Visions of Exploration: Past, Present, Future." For more information on "Visions" or other USA TODAY educational programs, write: Educational Initiatives and Marketing, USA TODAY, 1000 Wilson Boulevard, Arlington, VA 22229.)

