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### The IMAX Experience

Students today are learning from curriculum that is delivered by various technological means, including computers, VCRs, laserdisc players, satellite, and . . . IMAX Theaters. IMAX Theaters? Most definitely! I've recently cultivated an educational and personal interest in the IMAX experience. As an elementary principal, I'm called upon to "OK" field trips and to evaluate their value to the curriculum. The past two years, our 3rd grade classes have visited a nearby IMAX complex that is connected to the Hastings Museum. The students spend the day visiting museum exhibits and end the day by seeing one of the current IMAX attractions. The first year, Yellowstone was the feature; this year, it was Niagara. So, why would I recommend students and teachers visit an IMAX Theater?

Impact. The IMAX is a unique teaching tool because of its size.

An IMAX screen can be up to eight stories high. Then there's the sound. Critical to the IMAX experience, sound emanates from a six-channel speaker system. It's a neurological encounter for the senses that captures students' attentions from the moment they walk in the door and journey to their seats. In some locations, the IMAX experience is delivered by a giant dome screen that can be up to 99 feet in diameter, or by the stunningly realistic IMAX 3-D screen.

The movie *Fires of Kuwait* is a prime example of how you can get a different perspective than you might originally have had of an event or place. I recall seeing on television the destruction the Iraqis left when they set the oil fields on fire. However, I didn't quite grasp the vastness of it all until I saw *Fires* at the Hastings IMAX. Panning across smoky Kuwait oil fields was just a little mind boggling. Let's face it. Kids aren't as dazzled by technology as some of us adults are, but I haven't seen a student yet that isn't a little bit "wowed" by a trip to the IMAX.

Curriculum extensions. There is also an opportunity to work into the classroom some information about IMAX technology. For example, a movie at a regular theater uses film frames that are about the size of your thumb, but IMAX film frames are about the size of your palm. The projector used to show an IMAX film is the size of a small car. More facts and figures about the technology are available in the accompanying sidebar. Exercises using math, geometry, and scale are natural extensions to the IMAX trip.

Film Library. For meaningful curriculum, you need more than a neat delivery tool. You have to have content. There are over 100 films in the IMAX library. The bulk of the films represents educational subjects. Sometimes they are offered in a straightforward manner; at other times, they are interpretations of events. A few titles of interest to educators include *Fires of Kuwait*; *Yellowstone*; *Sharks*; *Destiny in Space*; *Antarctica*; *Darwin on the Galapagos*; *Ring of Fire*; *Mystery of the Maya*, and soon, *Everest*, *Pinnacle of the World*. There are too many titles to list here. I've found at least 11 titles

available on laser discs. So, if there is not an IMAX theatre near you, an alternative is to get the IMAX laserdiscs. These sometimes appear in software catalogs, or you can contact David Keighly Productions (800/263-IMAX) for information on laserdiscs, CD-ROMs and other IMAX-related materials.

Support materials. Educational resource guides are available from the IMAX theater when a classroom visits, but unfortunately, we were not permitted to get the guide until the actual visit. The two guides I have seen include background material on the history, origin, and geology of Niagara Falls and Yellowstone. There are also several classroom activities for students. The Niagara guide is geared more to secondary students, but the activities can be modified for elementary students. The Yellowstone guide could probably be used at all levels. Keep in mind that the current IMAX attractions change over the course of the year. What you teach a class this year may not be available next year at your local theater.

Extended field trips. An important part of the trip is using the facilities that are connected to or with the IMAX. Some IMAX theaters are connected with museums, or in a few instances, with an aquarium or with a zoo, as is the case with the IMAX under construction in Omaha. Often the current attraction at the IMAX has a tie-in to another part of the complex. For example, the movie *The Alamo* is a regular feature at the San Antonio IMAX, as is *Destiny in Space* at the Kennedy Space Center.

If you want to plan a visit, check out the IMAX Web sites (there are many) by just searching "IMAX" with one of the many Internet search engines. Here you will find program schedules, ticket prices, coming attractions, as well as other attractions in the area. You will also find IMAX-related facts and educational resources. One of the interesting resources available comes from Intel Corporation. A free comprehensive classroom kit, "The Journey Inside: The Computer," contains a teacher's guide, video, poster, and hand-on chip kit. (For a descriptive brochure and order form, call 800/346-3029, ext. 143.) Where available, teachers can take their classes to see Intel's companion IMAX film, *The Journey Inside: A Learning Adventure in High Technology*.

### FASCINATING FACTS ABOUT IMAX

There are over 136 IMAX theaters in 20 countries, and by the time you read this, those numbers will increase. IMAX's roots go back to Expo '67 in Montreal, where three Canadian filmmakers pioneered the use of multiscreen formats. Osaka, Japan, was the next stop for IMAX technology for Expo'70. The growth of this technology was limited by the huge size and scope of the format. Cameras were big and bulky. Lenses and film were slower than standard fare. But world fairs, expos, and museums kept on using it. Over 35 million people a year see an IMAX production, and by the year 2,000, there will be over 200 theaters operating.

What about practical matters? How do you maintain these mammoth screens? The cleaning of the Henry Crown Space Center Omnimax screen in Chicago was not an easy task. A spherical grid of beams and cross braces holds the 76-foot diameter, 5-

story tall screen to allow sound to get out that about 23 percent of the screen isn't even there! Those holes collect dust, which can distort the picture. It took three people, moving up and down the screen with vacuum cleaners strapped to their backs, close to 20 hours to clean the screen!

The largest IMAX theater, in Santa Clara, California, seats 980 people. But, one of the most interesting IMAX theaters is in New York City. The Sony IMAX seats 600 people and uses specially designed headsets with liquid-crystal lenses that open and close 48 times per second. The headsets have their own sound system and go through a special cleaning process after every showing. It takes 35 minutes to run all 600 of them through a mist of water and lens-cleaning solution.

IMAX projectors are the most powerful projectors ever built. The key to their superior performance and reliability is the unique "rolling loop" film movement. The rolling loop, originally invented by Ron Jones, an Australian, and adapted and enhanced by IMAX, advances the film horizontally in a smooth, wave-like motion. During the projection, each frame is positioned on fixed registration pins, and the film is held firmly against the rear element of the lens by a vacuum. As a result, the picture and focus steadiness are far above normal standards.

Want to go for a ride without ever leaving your seat? When you couple IMAX technology with a modified carnival ride, what do you get? Simulation rides. The *Back to the Future* ride at Universal Studios in Hollywood has been called one of the world's greatest rides. You can visit sim rides at the Luxor hotel in Las Vegas, at the Phantasialand Park in Germany, and at other theme parks in some malls. But, the very first simulator experience was actually at the 1901 Pan-American Exposition in Buffalo, New York. Called a "Trip to the Moon," the ride charged 50 cents per person, was 20 minutes long, and was visited by some 400,000 people, including repeat customers.

What math or technology teacher cannot devise interesting classroom lessons with these fascinating facts about IMAX?

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