

AN INCREDIBLE JOURNEY.
A STORY OF MONUMENTAL COURAGE.
A MAGICAL PLACE.

ROCKY MOUNTAIN EXPRESS

A STEPHEN LOW FILM



AN
IMAX[®]
EXPERIENCE[™]

EDUCATOR VIEWING GUIDE

"The film is beautiful. It's that simple. The images are absolutely stunning on the dome, the story-telling is superb.

—**Dave Duszynski**, *Cincinnati Museum Center*

"This is an amazing film! Audiences go out of their way to let us know how moved they are by the experience. In our recent preview screenings for over 600 educators, the teachers loved it!"

—**Glenn Shaver**, *Ontario Science Center*



ROCKY MOUNTAIN EXPRESS

**DON'T MISS THE CHANCE TO EXPERIENCE IT
ON THE GIANT SCREEN. TAKE THE JOURNEY OF A
LIFETIME WITH YOUR STUDENTS!**



DIRECTED AND PHOTOGRAPHED BY **STEPHEN LOW** PRODUCED BY **PIETRO L. SERAPIGLIA, ALEXANDER LOW**
A PRODUCTION OF **AGE OF STEAM FILM COMPANY** EDITOR **JAMES LAHTI** ORIGINAL MUSIC **MICHEL CUSSON**
FILMED ON AUTHENTIC GIANT SCREEN NEGATIVE 15 PERF/70MM

See it now in select IMAX Theaters. For locations:

www.RockyMountainExpressFilm.com

What People are Saying

"Rocky Mountain Express is not just a glorious, flag-waving account of how a young nation completed a sea-to-seaway rail line, driving the last spike at Craigellachie, B.C., in 1885. ... It's also a story of mudslides and avalanches, balky steam engines that blew their boilers on steep grades, and miles of track that at one point advanced by just five feet per day, at a cost of six lives per mile."

★ ★ ★

—Chris Knight, **National Post**

"Low... knows just when to hit the audience with human drama, cut to majestic aerial shots of the Rockies and highlight informative maps, keeping viewers grounded in the story. ...audiences of all ages will appreciate the fortitude, perseverance and creativity needed to construct the tracks...younger ones will be left in suspense while parents and older kids gasp at the awe-inducing cinematography and the railway's impressive accomplishments."

★ ★ ★ ★

Kari Kamin, Hipsqueak / **TimeOut Chicago**

"**Spectacular scenery, thrilling sequences...**"

★ ★ ★ ↴

—Jay Stone, **The Ottawa Citizen**

"A restored steam engine roars through cliffs and valleys in Rocky Mountain Express...just the sheer theatricality of the train itself...**stunning...gorgeous...poetic.**"

—Nina Metz, **Chicago Tribune**

"...viewers feel like they are riding on a train that cuts through rugged, steep mountains in one of the planet's most breathtaking spots... **'It was breathtaking; it was awesome,'** says Beth O'Donnell, 59, who attended a preview of the movie with her husband, Mike. 'You felt like you were right on (the train).'"

—Kellie B. Gormly, **Pittsburgh Tribune**

"...**an amazing IMAX film**...incredible story of how Canada's first transcontinental railway was laid. Veteran director Stephen Low uses incredible IMAX aerial photography and breathtaking vistas to put the audience into the landscape."

—www.bombippy.com

"This is **awesome!** You're going to want to **take the hole family.**"

—Dina Pugliese, **CityTV**, Breakfast Television, Toronto

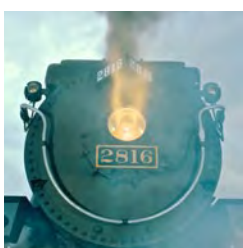
Visit us on Facebook:

www.facebook.com/rockymountainexpressfilm

About the Film

Rocky Mountain Express propels audiences on a steam train journey through the breathtaking vistas of the Canadian Rockies and explores the extraordinary challenge of building a transcontinental railway in the age of steam. The film weaves together spectacular IMAX aerial cinematography, archival photographs and maps, and the potent energy and rhythms of a live steam locomotive (CPR 2816), to immerse audiences in a remarkable story and a region of stunning natural beauty.

Some things to think about or do with your students before or after your Rocky Mountain Express journey...



Let's go railroading

Take an imaginary railway journey anywhere in the world.

Where would you go? What would you pack? What would you see? What kinds of train would you travel on and what landscapes would you travel through? How far could you go? **Create a timetable of your journey**—what station stops would you make, what distances would you cover? How fast could you travel? **How were the railways you travel on built and when?** What were the challenges for the builders? What role might a railway have played in shaping the communities you pass through and in shaping *your* community?



Building the Impossible

Engineers and laborers from around the world were recruited to help realize the Canadian Pacific Railway, a giant financial gamble and one of the greatest engineering feats of all time. Among those recruited, were an army of labourers from China and other countries and a general manager from the United States (William Cornelius Van Horne) . **Could you build a transcontinental railway? Would that be impossible? What do you think it would it take? With your students, create a 'mind map' of some of the things involved.** Would it take just trains and tracks or land, labour, capital, technology, supplies and political support. The General Manager needs to grasp a range of concepts and technologies and the relationships between them to be able to successfully manage a railway enterprise. As General Manager what would your priorities be? What would be the working conditions? Where would you build it and who would use it? What might be some of the complications?

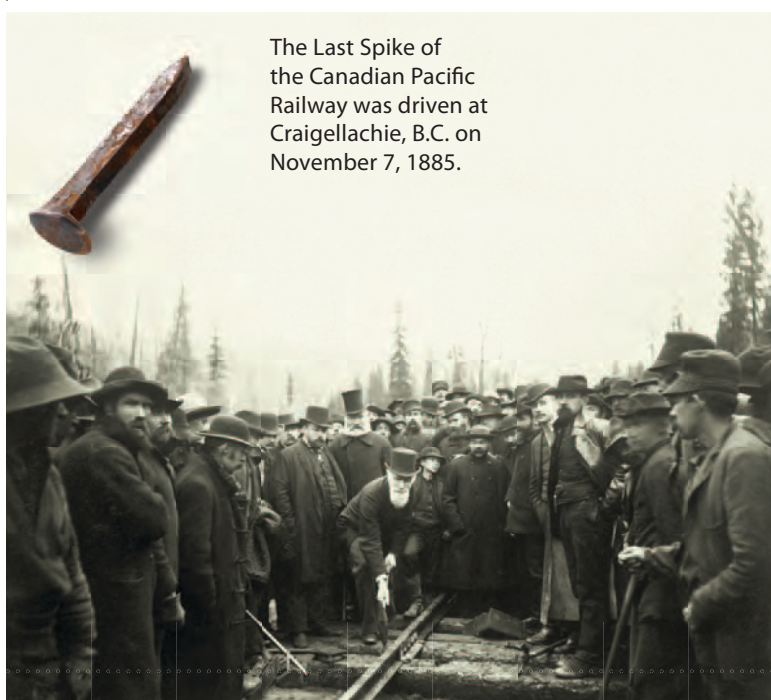
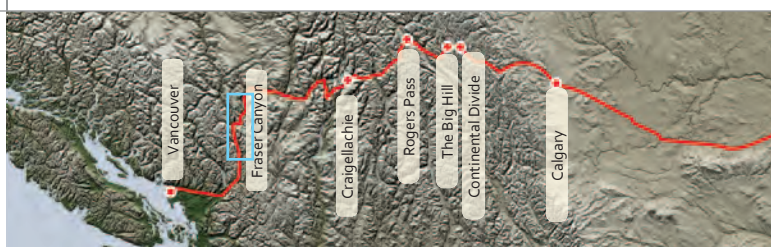


William Cornelius Van Horne
(1843-1915)



Where on earth is *Craigellachie*?

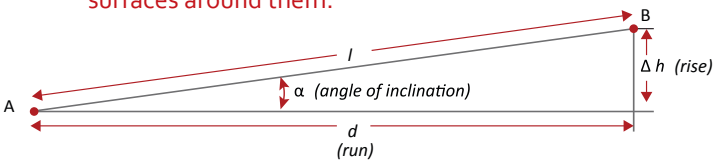
The narrative of Rocky Mountain Express focuses on the nearly impossible challenges faced by builders in the 1880s as they lay track through the mountains of western Canada. Extreme weather and changes in elevation made this job one of the most difficult ever undertaken, requiring long tunnels and towering bridges, the cutting of ledges along precarious cliffs and the building of giant snow sheds to help protect the track from avalanches. **Challenge your students to retrace the western most route of the Canadian Pacific Railway on a map.** What is the highest elevation on the route? What might have been the hardest places to build? And where on earth is Craigellachie, B.C.?



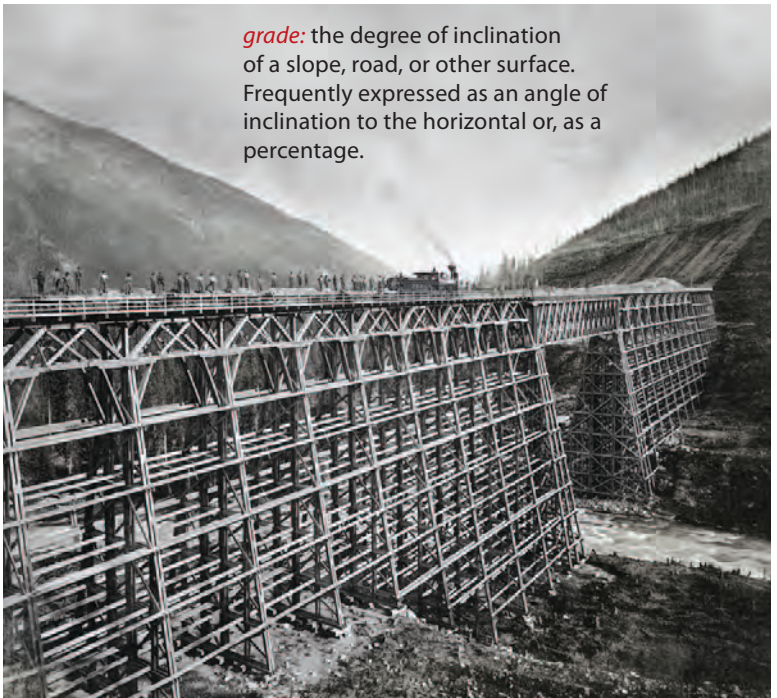
$$100 \times \frac{\text{RISE}}{\text{RUN}} = x \%$$

Get the lowest possible grades

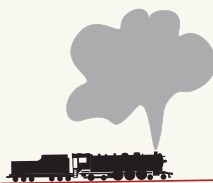
Why do railroad builders like to have the lowest possible grades? In the film the builders use a range of engineering techniques, including trestle bridges, cliff cuts, tunnels, and spiral tunnels to overcome the mountainous terrain and to avoid laying track that is overly steep. A train is almost magically efficient when travelling straight and over level track (zero grade). Railway builders aim to create the shortest route possible between two points while also trying to minimize the *grade* of the track along the way. When the track curves to avoid obstacles or deviates from the horizontal, there is an energy and dollar cost. Have students estimate, then calculate the grade of surfaces around them.



grade: the degree of inclination of a slope, road, or other surface. Frequently expressed as an angle of inclination to the horizontal or, as a percentage.



How steep a hill can a train climb? On a 1% grade, a locomotive can pull approximately half of the load it can pull on level ground.



1% grade