



NATIONAL

WILD WINTER WEATHER

– ICE STORM BRINGS MUCH OF EASTERN CANADA TO A STANDSTILL



Mother Nature arranged a surprise for eastern Canada just in time for the recent holidays.

On Saturday, December 21, a powerful winter storm swirled into southern Ontario, delivering snow and freezing rain. It left thick ice on roads, sidewalks, trees and power lines. Then, it continued eastward, depositing ice up to three centimetres thick near Lake Ontario and in parts of Quebec. By Sunday, the storm had moved to Atlantic Canada. There, it dumped snow on Charlottetown and freezing rain on Fredericton.

WINTER CHAOS

Cities shut down. People couldn't get to work or school. Airlines cancelled flights, interrupting holiday plans. Trains were

cancelled or delayed. Icy roads led to car accidents.

Branches broke off, taking down power lines and blocking roads. Ice caused **short circuits** in hydro equipment, triggering fires.

THE RACE TO RESTORE POWER

Hundreds of thousands of homes lost electricity as a result. Temperatures plunged indoors and food for holiday feasts rotted in dark fridges. Hydro crews scrambled to restore power.

More than 300,000 households in Toronto alone reported outages. Some lost power for as long as 12 days. In Quebec, 51,000 customers were in the black. The storm knocked out electricity for 66,000 customers across Nova Scotia and New

HOW IS FREEZING RAIN FORMED?

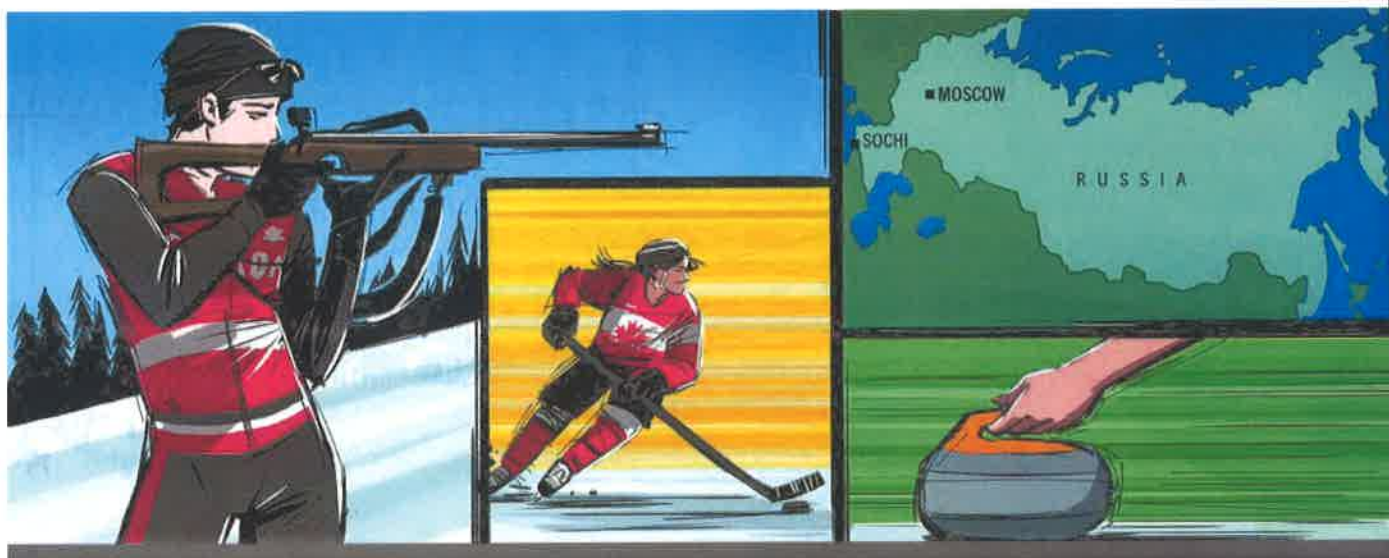
Freezing rain results when snow falls through a layer of warm air, melts, and becomes rain – and then passes through a thin layer of very cold air just before reaching the Earth. The cold air supercools the liquid drops so that they instantly turn to ice when they strike something that's below freezing.

Brunswick, too. Then, 30 centimetres more snow hit the easternmost provinces just days after the first storm. The new snow cut even more power, forcing weary plow and hydro crews to step up recovery efforts.

DEFINITIONS

SHORT CIRCUITS: low-resistance connections established, accidentally or intentionally, between two points in an electric circuit. The current flows through the area of low resistance, bypassing the rest of the circuit.

INTERNATIONAL SOCHI OLYMPICS IN THE SPOTLIGHT



Team Canada is eagerly suiting up for the XXII Winter Olympics. The event will be held in Sochi, Russia from February 7 to 23. At the 2010 Winter Games in Vancouver, our athletes won 26 medals – 14 of them gold. They want to top that record at Sochi.

“The 2014 Team is poised for even greater success. [That’s] thanks to the combination of returning medallists, rising stars and the addition of several new events in which Canadian athletes have proven internationally strong,” the Canadian Olympic Team reported confidently on its official website.

LUGE LOOKING GOOD

In mid-January, members of Team Canada were still being chosen. One source of excitement? Canada’s **luge** team. In December, the Canadian Luge Association named two women and five men to send to the competition. All have an excellent chance of claiming the top spot on the podium.

Calgary’s Alex Gough and Kimberley McRae, part of the women’s team, are among these strong **contenders**.

Ms. Gough has done very well in **World Cup** events leading up to the Olympic Games. She has won two bronze medals and one silver medal this season so far.

“Success breeds success. Now all athletes on our team believe

SOCHI 2014 BY THE NUMBERS

In all, 2,500 athletes from 88 countries will compete for medals in 98 events at the Sochi Games. Another 1,650 Paralympians from 45 countries will participate in the Paralympic Games, from March 7 to 16.

The cost of these Winter Games, which will be watched by as many as 3 billion TV viewers, is expected to top \$50 billion.

Russia is hosting the Games for the first time since the Moscow Summer Olympics in 1980.

they too can win,” Ms. Gough said. It is the first time women’s luge will be part of the Winter Games.

DEFINITIONS

CONTENDERS: people who compete for a prize

LUGE: a light toboggan for one or two people, ridden in a sitting or supine position

WORLD CUP: a trophy awarded in a sports competition between teams from several countries



SCIENCE, TECHNOLOGY AND THE ENVIRONMENT

BITCOINS: CASHING IN OR CASHING OUT



How will you pay for that pizza today? Cash? Credit or debit card? Bitcoin?

What is Bitcoin? It's a new kind of digital money. When you use it to buy something, an online transaction transfers the cost of the purchase from a digital "wallet" on your computer or smartphone directly to a seller's "wallet." You can spend whole Bitcoins, also called BTCs, or just a fraction of one.

HOW BITCOIN WORKS

The Bitcoin story began in 2009, when a Japanese computer whiz who calls himself Satoshi Nakamoto launched the **currency**. Bitcoin is different from traditional currencies because no **central bank** or government backs its value.

Instead, Bitcoin is run on a computer network made up of Bitcoin users' machines. This network tracks the transfers.

Say Ed wants to use BTCs to buy a coke at a diner. A message announcing this transaction speeds across the network. Each computer on the link shares a log of every transaction. This guards against anyone trying to spend a Bitcoin more than once.

MINING BITCOIN

To make new BTCs, network users must break difficult mathematical codes. It's a race: each person tries to come up with a solution first. Once a solution is verified by the network, the winner earns a fixed number of new BTCs.

Solving the code and creating new Bitcoins is called "mining." Mining takes lots of computing power, electricity and time. Often, several users pool their efforts to crack these codes.

Once the easier formulas are mined, the rest become increasingly difficult. The result? Fewer BTCs are mined, so the existing ones **theoretically** hold their value. Over 12 million Bitcoins are now in use, valued at about \$10 billion. In all, no more than 21 million BTCs will ever be in circulation.

SHOPPING WITH BITCOIN

Miners can exchange BTCs for goods or other currencies. However, you don't need to be a miner to use Bitcoin. You

DEFINITIONS

CENTRAL BANK: a national bank that provides financial and banking services for its country's government, and that sets monetary policy

CURRENCY: a system of money in general use in a country
THEORETICALLY: could be true or could exist

MAP ASSIGNMENT

Complete this map assignment to better understand the article *Sochi Olympics in the Spotlight*.

INSTRUCTIONS

1. Obtain the required resources and read all the instructions before starting.
2. Colour your map after all labelling is completed.
3. Print in pencil only first, then go over the printing in black ink.
4. Work carefully and neatly.

Resources Required: pencil, black pen, pencil crayons, ruler, eraser and an atlas.

Part A Locate and label the following countries in CAPITAL letters and shade each as indicated:

Russia (yellow)	Turkey (green)	Belarus (red)
Ukraine (orange)	Moldova (green)	Turkmenistan (brown)

Part B Locate and label the capital cities of these countries and underline each city name.

Part C Locate and label the following countries in CAPITAL letters and shade each as indicated:

Poland (purple)	Romania (brown)	Iran (purple)
Uzbekistan (red)	Kazakhstan (pink)	Georgia (red)
Azerbaijan (orange)	Armenia (pink)	

Part D Locate and label the following cities:

Volgograd	Sochi
Rostov-on-Don	

Part E Locate and label the following and shade all salt water dark blue:

Black Sea	Mediterranean Sea
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Part F Locate and label the following and shade all fresh water light blue:

Caspian Sea	Aral Sea
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Part G Locate and label the following rivers and shade them light blue

Volga River	Don River
Ural River	

Part H Shade all remaining territory grey.

Part I Complete your map with a frame, title and compass. ★

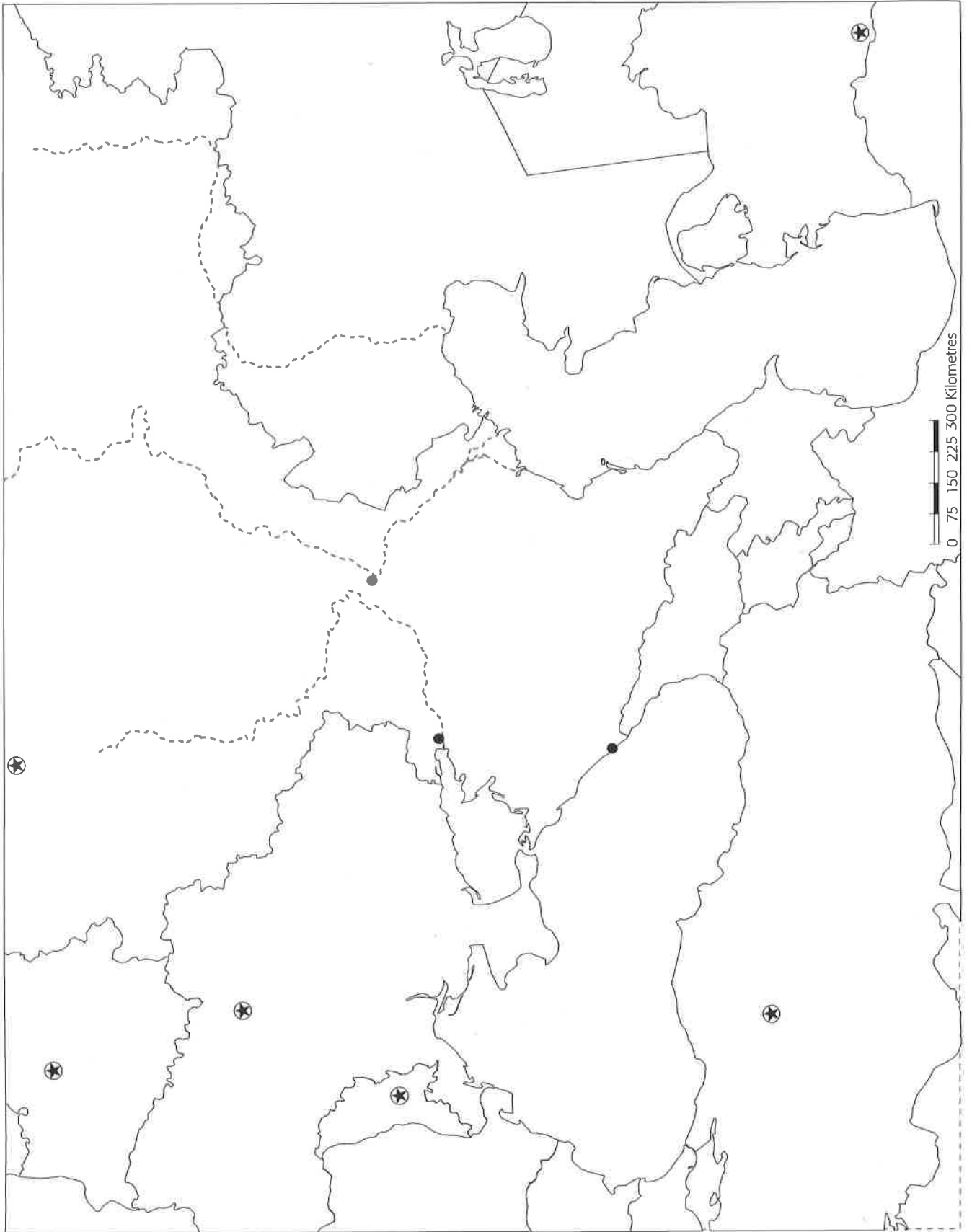


Russia

Straight Ahead = A-D

Uphill = A-H

Mountain = all and excellent quality



I'm going for: _____



XX

Mountain

uphill

Straight Ahead

weather

p. 10

p. 11 all. Inference shows you went to online sites or other research

p. 13 quick write has all dressed

Sochi

p. 16

p. 17 written responses on separate page to #1+2

Map p. 19

A-I

Bitcoins

p. 22

p. 23. -all plus concept map.

p. 24 x-wd

Weather

p. 10, p. 115

p. 13. effective Inference

forall

Sochi.

p. 16

p. 17 top only

Map (p. 19)

A-H

weather p. 10

Sochi

p. 16

Map: (p. 19)

A-D

(no shading on water)
(no others are grey)

Due Wed. Feb 12