

CONTENTS

Acknowledgements	<i>iii</i>
Introduction	<i>1</i>
Section 1: Background	<i>5</i>
Climate Change: An Overview	<i>7</i>
Introduction	<i>7</i>
A Brief Explanation of Climate Change	<i>7</i>
Issues Related to Climate Change	<i>8</i>
Future Perspectives	<i>9</i>
The Impact of Climate Change on the Arctic	<i>9</i>
The Kyoto Protocol	<i>10</i>
Conference of Parties (CoPs): Beyond the Kyoto Protocol	<i>10</i>
Traditional Ecological Knowledge	<i>13</i>
What is TEK?	<i>13</i>
TEK and Science	<i>14</i>
Why Incorporate TEK?	<i>15</i>
Science Teaching and Science, Technology, Society and the Environment (STSE) Issues	<i>16</i>
Section 2: Suggested Learning Activities	<i>17</i>
Suggested Learning Activities	<i>19</i>
Introduction	<i>19</i>
A. Activating Prior Knowledge	<i>19</i>
B. Concept Map and Debate	<i>22</i>
C. Trip Reports Jigsaw	<i>25</i>
D. The Impact of Climate Change on the Arctic	<i>33</i>
E. Examining the Environmental, Economic, and Social Consequences of Climate Change in the North	<i>38</i>
F. The Arctic Ecosystem and Climate Change Observations	<i>41</i>
G. Development Project: A Decision-Making Activity	<i>43</i>
H. Creating a Community Plan to Reduce Greenhouse Gas Emissions	<i>45</i>
I. Extension: TEK and Environmental Management	<i>48</i>

Appendices 49

Appendix 1: Cluster 0: Overall Skills and Attitudes for Senior 2 Science 51

Appendix 2: Aboriginal Traditional Knowledge and Environmental Management 57

Appendix 3: Responding to Global Climate Change in Canada's Arctic (Executive Summary) 63

Blackline Masters 69

BLM 1a: Decision-Making Process 71

BLM 1b: Decision-Making Chart 72

BLM 2: Video-Related Questions 73

BLM 3: Trip Report Summary 74

BLM 4: Trip Report: Reflection Questions 75

BLM 5: Impact of Climate Change on the Arctic 76

BLM 6: Role Cards for Conference Members 78

Bibliography 81