Beluga Whales in the Ice (K-2)
This lesson asks students to think about how beluga whales survive in icy Arctic and subarctic waters and why they sometimes need to migrate.

A Vacation to the Polar Regions (K-2)
http://www.nationalgeographic.com/xpeditions/lessons/05/gk2/polar.html
Students will learn about the characteristics of the Arctic and Antarctic by looking at a globe and at pictures of the polar landscape and animals.

The Antarctic Food Chain (K-2)
This lesson introduces students to the animals of Antarctica and to the Antarctic food chain.

What's So Key About a Keystone Species? (K-2)
A keystone species is a species that has a major influence on the structure of an ecosystem. Its presence impacts many other members of the ecosystem, and if its population dwindles or disappears, there can be far-reaching consequences for the ecosystem.

Antarctica: A Cold Desert Ecosystem (3-5)
http://www.nationalgeographic.com/xpeditions/lessons/08/g35/antarctica.html
In this lesson students will construct a rough map of Antarctic ecosystems and explore relationships among the creatures that populate them.

Other Elementary Activities/Resource:
Polar Bear Panic!
http://www.oceanexplorer.noaa.gov/explorations/02arctic/background/education/media/arctic_polarbears.pdf
Background articles:
Too Far To Swim
http://ewradio.org/program.aspx?ProgramID=4345
Strange Behavior by Polar Bears
http://ewradio.org/program.aspx?ProgramID=4320
What has been happening to polar bears in recent decades
http://www.arctic.noaa.gov/essay_schliebe.html
Other suggested resources from this online workshop

copyrighted by Marilyn Cook
Here is a lesson that I did for TEA and now it is on DLESE
(TEA = Teacher Experiencing Antarctica and the Arctic)
(DLESE = Digital Library for Earth System Education)
http://tea.armadaproject.org/activity/cook/keepingwarmwhenitiscoldhowdoesapolarbearkeep warm_main.html

copyrighted by Andrea Medrano
http://www.ecotippingpoints.org

Here is a lesson that is 5th-8th
from Nova called Shackleton's Expedition lesson objectives:
find the Big Dipper in the night sky
locate Polaris (North Star) in the night sky
understand how the angle to Polaris and latitude are related
understand what an astrolabe is
determine the latitude by using an astrolabe
http://www.pbs.org/wgbh/nova/shackleton/classroom/w3northstar.html

copyrighted by Lynn Arnold
I've found that video clips can often bring a subject to life.
Jonathan Bird's Plankon: Ocean drifters 12 minutes
This is a great film to begin a unit on oceans as plankton is the basis for the food chain.
This very well done 12 minute film does an excellent job explaining what it is and why we should care.
Be sure to click on the “film script” link if you want that as a follow up with your students. It have found that it is extremely useful to read after seeing the film.
http://www.oceanicresearch.org/education/films/planktonfilm.htm
[with script here: http://www.oceanicresearch.org/education/films/planktonscript.htm]

copyrighted by Holly Gray
If anyone is interested in reading an amazing book about global climate change research in the Arctic which is very well written and covers the historical and contemporary research in the village of Barrow, Alaska with an emphasis on different ways of knowing and the collaboration between the researchers and the local Inupiat community check out;
"The Whale and the Supercomputer" by Charles Wohlforth
Really it is a fascinating and entertaining read and covers so much!!!!