**Climate Change in the Arctic**

**What Do You Know about Climate Change? Answer Key**

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| What is the “greenhouse effect?”* *Natural process*
* *Greenhouse gases and clouds absorb infrared radiation (heat) from the earth’s surface and radiate it back towards the surface*
* *Heats the atmosphere and surface (keeps earth warm enough for life)*
 | Is the greenhouse effect good or bad? Why?* *Good - keeps earth warm enough for life*
* *Bad – anthropogenic (human activities) effect s increase greenhouse gases resulting in increased global average temperature*
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| What is the difference between the greenhouse effect and climate change?* *Average global surface temperature is increasing but climate in a specific area may be warmer or colder*
* *The greenhouse effect causes an overall warming of the average earth temperature*
* This warming is one factor that causes changes in the climates of specific areas (e.g. more rain, less rain, more and bigger storms, higher temperatures, lower temperatures)
 | What natural events and human activities can have an effect on climate?* *Vehicles*
* *Industrialization*
* *Heating*
* *Electricity*
* *Deforestation (cut down trees which remove CO2 from the air)*
* *Agriculture*
* *Landfill decay*
* *Mining*
* *Refrigeration*
* *Forest fires*
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| What are possible effects of climate change on plant and animal life?* *Too little rain makes lakes and rivers dry up*
* *Too much rain causes flooding*
* *Forest fires*
* *Forest pests increase*
* *Habitats threatened so species may face extinction*
* *Migration patterns may change*
* *Coral reefs dying due to acidification*
 | What are possible effects of climate change on human societies? * *Property damage*
* *Increased deaths from natural disasters*
* *Increased heat related deaths*
* *Permafrost melts, ground shifts, buildings and pipelines damaged*
* *Increased pollution (asthma, allergies)*
* *Damage to agriculture (drought, floods, insects)*
* *Damage to forest industry (insects, fires, disease)*
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| What evidence makes you think climate change is happening?* *Average global surface temperature is increasing*
* *Extreme weather (drought, floods, storms)*
* *Changing climate*
* *Arctic permafrost melts*
* *Polar ice melting*
* *More tropical diseases (West Nile Virus)*
* *More pests (pine beetle)*
* *Melting glaciers*

*Rising sea level* | What are actions you can take to reduce the effects of climate change?* *Walk, bike, take public transit*
* *Switch off lights and unplug unused appliances*
* *Use a/c and heat only when necessary*
* *Purchase carbon off-set credits*
* *Buy green electricity*
* *Fly less*
* *Plant trees*
* *Insulate homes*
* *Purchase energy efficient appliances*
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