**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* |
| 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* |
| 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)* |
| 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* |