Clark-Pohlod
Earth Science

Name _____
Date _____ Class Period _____

Unit 6: Severe Weather Learning Targets Guide

Self Evaluation			Learning Targets	Date
I've got it! ☐	I've sort of got it. ☐	I don't get it. ☐	**E2.2A:** Describe the Earth's principal sources of internal and external energy (e.g., radioactive decay, gravity, solar energy).	
Clarification: Radiation from the sun heats Earth's surface. The surface in turn heats the atmosphere creating temperature differences in water, land, and the atmosphere which drive local, regional, and global patterns of atmospheric circulation. Example or Explain:				
I've got it! ☐	I've sort of got it. ☐	I don't get it. ☐	**E2.2C:** Describe natural processes in which heat transfer in the Earth occurs by conduction, convection, and radiation.	
Clarification: Radiation from the sun heats the land and water on Earth which in turn heats the atmosphere. Thermal energy produces movement of matter (convection) observed as wind. Example or Explain:				
I've got it! ☐	I've sort of got it. ☐	I don't get it. ☐	**E2.2D**: Identify the main sources of energy to the climate system.	
Clarification: Radiation from the sun creates temperature differences in water, land, and the atmosphere, which drive local, regional, and global patterns of atmospheric circulation. Example or Explain:				

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I've got it! ☐	I've sort of got it. ☐	I don't get it. ☐	**E4.3A:** Describe the various conditions of formation associated with severe weather (thunderstorms, tornadoes, hurricanes, floods, waves, and drought).	
Clarification: Where and when hurricanes form is due to the temperature of ocean water. What direction they move is mostly a function of the direction of prevailing winds and the Coriolis effect. Much of the energy the powers hurricanes comes from the latent heat as water evaporates from the ocean and later condenses into rain. Tornado formation is possible when significant directional wind shear exists in the atmosphere ahead of a cold front in the presence of a strong upper level jet stream. Thunderstorms and tornadoes can develop anytime during the year in N. America, however there are some times that are more conducive to their formation. Example or Explain:				
I've got it! ☐	I've sort of got it. ☐	I don't get it. ☐	**E4.3B:** Describe the damage resulting from, and the social impact of thunderstorms, tornadoes, hurricanes, and floods.	
Clarification: The United States Gulf Coast is among the world's most at-risk regions in terms of human mortality and economic loss due to hurricanes. Example or Explain:				
I've got it! ☐	I've sort of got it. ☐	I don't get it. ☐	**E4.3C:** Describe severe weather and flood safety and mitigation.	
Example or Explain:				

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I've got it! ☐	I've sort of got it. ☐	I don't get it. ☐	**E4.3D:** Describe the seasonal variations in severe weather.	
Example or Explain:				
I've got it! ☐	I've sort of got it. ☐	I don't get it. ☐	**E4.3E:** Describe conditions associated with frontal boundaries that result in severe weather (thunderstorms, tornadoes, and hurricanes).	
Example or Explain:				
I've got it! ☐	I've sort of got it. ☐	I don't get it. ☐	**E4.3F:** Describe how mountains, frontal wedging (including dry lines), convection, and convergence form clouds and precipitation.	
Example or Explain:				
I've got it! ☐	I've sort of got it. ☐	I don't get it. ☐	**E4.3g:** Explain the process of adiabatic cooling and adiabatic temperature changes to the formation of clouds.	
Example or Explain:				