

Power of Water Student Assessment Rubric

		Competency Level			
Performance Expectations	Description	0	1	2	3
3-5-ETS1-1	Student can define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.	No human need areas protected; clay and/or time runs out.	Student protects one or more areas that are not the chosen/assigned human need; clay and/or time runs out.	Student protects chosen/assigned human need using only the amount of clay given during the allotted time period.	Student protects chosen/assigned human need and all other areas using only the amount of clay given during the allotted time period.
3-5-ETS1-2	Student can generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	Student uses zero to three of the protection strategies listed in the Explore section; no human need areas successfully protected.	Student uses one or more of the three protection strategies listed in the Explore section; chosen/assigned human need NOT successfully protected.	Student uses one of the three flood protection strategies listed in the Explore Section; chosen/assigned human need successfully protected.	Student uses more than one of the three protection strategies listed in the Explore section; chosen/assigned human need successfully protected.
3-5-ETS1-2	Student can plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	Student can provide neither an improvement to successful strategies nor a method to improve unsuccessful strategies.	If chosen/assigned human need is successfully protected using one strategy, student cannot provide additional protection strategies. If chosen/assigned human need is NOT successfully protected, student cannot provide nor implement improvements to their flood protection strategies.	If chosen/assigned human need is successfully protected using more than one strategy, student cannot provide additional protection strategies. If chosen/assigned human need is NOT successfully protected, student cannot provide nor implement improvements to their flood protection strategies.	If chosen/assigned human need is successfully protected, student can envision better or more efficient protection strategies. If chosen/assigned human need is NOT successfully protected, student can correctly suggest and implement improvements to their flood protection strategies.
4-ESS2-1	Student can make observations and/or measurements to provide evidence of weathering or the rate of erosion by water, ice, wind, or vegetation.	Student provides zero or one example of changes in the landscape and cannot provide an example of long-term erosion.	Student acknowledges one or two of the changes in the landscape and may provide some example of long-term erosion.	Student notes the changes in the landscape, including gorges or grooves in the sand, movement of sand on the model surface, and deposition in the river bed; provides some example of long-term erosion.	In addition to meeting the expectations of competency level 2, student is able to correctly mold the future (100 years) landscape to reasonably portray the effects of long-term water erosion (e.g. smooth ridges and altered river banks).
4-ESS3-2	Student can generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.	Student uses zero flood protection strategies listed in the Explore section to protect chosen/assigned human need.	Student uses one of three flood protection strategies listed in the Explore section to protect chosen/assigned human need.	Student uses two of the three flood protection strategies listed in the Explore section to protect chosen/assigned human need.	Student uses all three flood protection strategies listed in the Explore section to protect chosen/assigned human need.
5-ESS2-1	Student can develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	Student uses zero to three of the protection strategies listed in the Explore section; no human need areas successfully protected. [Elaborate Section: Student provides zero or one example of changes in the landscape and cannot provide an example of long-term erosion.]	Student uses one or more of the three protection strategies listed in the Explore section; chosen/assigned human need NOT successfully protected. [Elaborate Section: Student acknowledges one or two of the changes in the landscape and may provide some example of long-term erosion.]	Student uses one of the three flood protection strategies listed in the Explore Section; chosen/assigned human need successfully protected. [Elaborate Section: Student notes the changes in the landscape, including gorges or grooves in the sand, movement of sand on the model surface, and deposition in the river bed; provides some example of long-term erosion.]	Student uses more than one of the three protection strategies listed in the Explore section; chosen/assigned human need successfully protected. [Elaborate Section: In addition to the requirements of (2), student is able to correctly mold the future (100 years) landscape to reasonably portray the effects of long-term water erosion (e.g. smooth ridges and altered river banks).
5-ESS3-1	Student can obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	Student cannot provide an explanation describe how humans affect the environment and vice versa.	Student provides simple yet correct answers, citing only what was discussed during the lesson, to describe how humans affect the environment and vice versa.	Student provides well-thought correct answers based on the activity and makes connections across the activity to describe how humans affect the environment and vice versa.	Student provides well-thought correct answers extending beyond the activity to describe how humans affect the environment and vice versa.