Lesson ideas for geography teachers to share: Physics in the natural world

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Geography and physics have a long history of collaboration and mutual interest in studying the natural world. This worksheet utilises the geography-related animations of the website http://www.schoolphysics.co.uk/. Consider the questions below.

Did you know there are two high tides and two low tides each day? Do you understand why?
http://www.schoolphysics.co.uk/animations/Astronomy%20animations/Tides_html5/index.html

Rotating Earth – how might your world perspective differ if you were from Svalbard or the Russian archipelago of Franz Josef?
http://www.schoolphysics.co.uk/animations/Astronomy%20animations/Rotating_Earth_html5/index.html

The Earth does not have a circular orbit; we undergo an elliptical trajectory. Watch this animation and have a think – what might be the effect of this on our natural world?
http://www.schoolphysics.co.uk/animations/Astronomy%20animations/Keplers_laws_html5/index.html

Are you studying the different types of waves of coastal geography? Can you identify the constructive and destructive wave shapes?
www.schoolphysics.co.uk/animations/Sound%20animations/Standing_waves_html5/index.html

Ever wondered what effect a sea wall has on an incoming wave?
http://www.schoolphysics.co.uk/animations/Waves%20animations/Plane_wave_reflection_html5/index.html

Suggested further work

Learn what a ‘slingshot’ calculation is, often done by NASA or SpaceX.
http://www.schoolphysics.co.uk/animations/Astronomy%20animations/Slingshot_2_html5/index.html

What on earth is Solar and sidereal time?
http://www.schoolphysics.co.uk/animations/Astronomy%20animations/Solar_and_sidereal_time_html5/index.html

Could you use a sine wave to predict an economic recovery or to study historic temperature change (or any other cyclic phenomenon)?
http://www.schoolphysics.co.uk/animations/Waves%20animations/Sine_wave_html5/index.html