

Name _____

Taming the Tsunamis: Understanding Their Origins and Measures for Detection and Mitigation

Open-Ended Response Answer Key

1. When receiving a tsunami warning, residents of a coastal community should immediately move inland or to higher ground, following designated evacuation routes. It is crucial to stay informed through official channels and heed evacuation orders. Safe areas, such as elevated locations or tsunami evacuation buildings, should be identified in advance. It's essential to take emergency supplies, stay together with family members, and avoid returning to the coastal area until authorities declare it safe.
2. Engineering solutions like seawalls and breakwaters can help mitigate the impact of tsunamis on coastal infrastructure by dissipating the energy of the waves. However, these solutions may have limitations, such as high construction costs and potential environmental impacts. Seawalls and breakwaters must be carefully designed to balance protection with potential drawbacks.
3. Global efforts to improve tsunami detection and mitigation involve international collaborations, data sharing, and technology development. Organizations like the UNESCO Intergovernmental Oceanographic Commission work to enhance tsunami warning systems in vulnerable regions. Collaboration among countries with expertise in seismology and oceanography is essential to address this global challenge effectively.
4. Public awareness and education play a critical role in reducing the vulnerability of coastal communities to tsunamis. Community involvement in preparedness efforts, including regular drills and exercises, ensures that residents know how to respond when a tsunami warning is issued. Education programs also raise awareness about the risks, safe evacuation procedures, and the importance of being prepared for natural disasters.

