***Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_***

***Step 1: Overview***

*Engineers continually strive to make buildings stronger to resist the forces of earthquakes. After watching the video, in the space below write why you think some houses in earthquakes remain intact while others get destroyed:*

<https://app.discoveryeducation.com/learn/videos/D629B6EB-6EBE-484C-B9F0-107EB50F04AB?hasLocalHost=false>

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is an earthquake?

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|   |

What is elastic rebound and how is it related to earthquakes?

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|  |

How are earthquakes measured?

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| --- |
|  |

**Balanced and Unbalanced Forces**

As you know, a force is a push or pull on an object. In this investigation, you’ll be studying balanced and unbalanced forces as they relate to stresses created by different seismic waves. Use the resources provided to identify the difference between balanced and unbalanced forces. In the space below draw a picture of balanced and unbalanced forces. It can be from the websites or from your own understanding of balanced and unbalanced forces.

|  |  |
| --- | --- |
| **Balanced Forces** | **Unbalanced Forces** |
|  |  |

Which type of force will cause a house to collapse during an earthquake? Explain why.

Keep this in mind as you begin to build your model house.

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**Seismic Waves**

Surface, Primary, or Secondary?

|  |  |
| --- | --- |
| **Motion** | **Type of Seismic Wave** |
| Side to Side |  |
| Up and Down |  |
| Rolling |  |