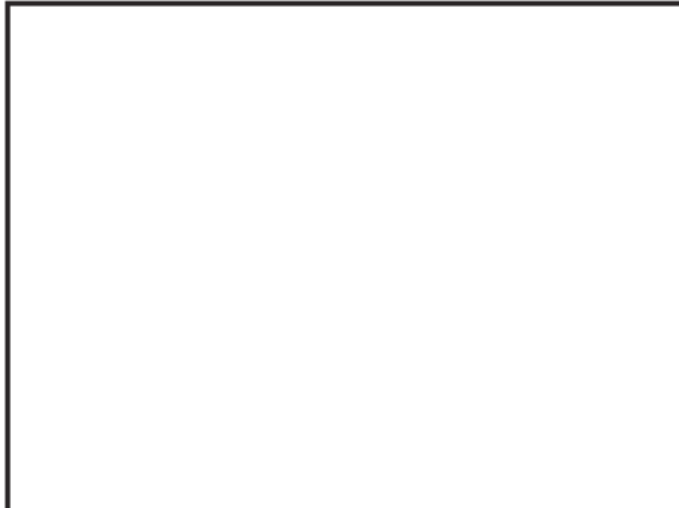
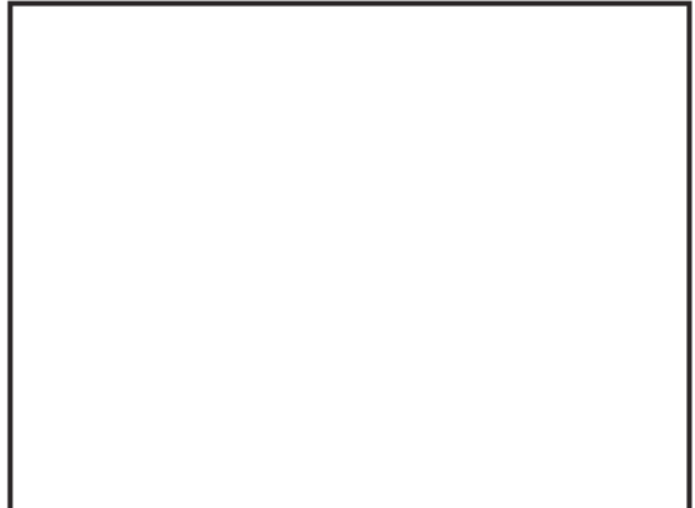


## Bronze

Draw a picture to show the effect of each strength of earthquake.



2. Felt by very few people. Hanging objects may swing.



5. Felt by nearly everyone. Sleeping people may be woken. Trees and telegraph poles sway.



7. Felt by all. People run outside. Moderate damage to buildings.



11. Almost all buildings destroyed. Wide cracks in the ground. Water, gas and electric out of action.

## Silver

- Sort the following cards into order of strength from the least to the most powerful.
- Number the statements from 1 to 12.
- Choose four different descriptions to illustrate.



Felt by nearly everyone.  
Sleeping people may be woken.  
Trees and Telegraph poles sway.



Felt by no-one.



Felt by all. People run outside.  
Furniture moves. Slight damage  
to property.



Total destruction.  
Waves seen on the ground.



Felt by many but they don't  
realise it is an earthquake.



Many buildings destroyed.  
Ground is badly cracked.



Felt indoors by most people.  
Vibrations similar to a lorry  
hitting a building.



Almost all buildings destroyed.  
Wide cracks in the ground. Water,  
gas and electric out of action.



Specially designed buildings  
damaged, others collapse.



Felt by very few people. Hanging  
objects may swing.



Felt by all. People run outside.  
Moderate damage to buildings.



All buildings damaged. Cracks  
appear in the ground.

## Gold

- Sort the following cards into order of strength from the least to the most powerful.
- Number the statements from 1 to 12.



Felt by nearly everyone.  
Sleeping people may be woken.  
Trees and Telegraph poles sway.



Felt by no-one.



Felt by all. People run outside.  
Furniture moves. Slight damage  
to property.



Total destruction.  
Waves seen on the ground.



Felt by many but they don't  
realise it is an earthquake.



Many buildings destroyed.  
Ground is badly cracked.



Felt indoors by most people.  
Vibrations similar to a lorry  
hitting a building.



Almost all buildings destroyed.  
Wide cracks in the ground. Water,  
gas and electric out of action.



Specially designed buildings  
damaged, others collapse.



Felt by very few people. Hanging  
objects may swing.



Felt by all. People run outside.  
Moderate damage to buildings.



All buildings damaged. Cracks  
appear in the ground.

Why might the descriptions for an earthquake of a certain Mercalli intensity differ in different places?

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## Optional Challenge

# Design an Earthquake-Proof Building

Study the buildings below. How might their shape and structure help them in an earthquake?



The Transamerica  
Pyramid -  
San Francisco



The Yokohama  
Landmark Tower -  
Japan



A Japanese Pagoda



Beijing National Stadium

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## How to Strengthen a Building

Use this box to make notes to help you create your earthquake-proof building.

- Shape
- Base
- Walls
- Other

Use this list of features to help you make your notes:

- Deep foundations to add stability to the building.
- X-shape supports prevent the building from twisting and make it stronger.
- Emergency shut off switches for gas and electricity to prevent fires.
- Thin walls with steel bars help to reduce the movement of the building.
- Sprinkler system to put out any fires.
- Shock absorbers in the base can absorb the shock waves produced by the earthquake.
- Shutters on windows to stop any falling glass.

# Design an Earthquake-Proof Building

Draw your own earthquake-proof building below.

Remember to label the features you have included and explain why you have added them.