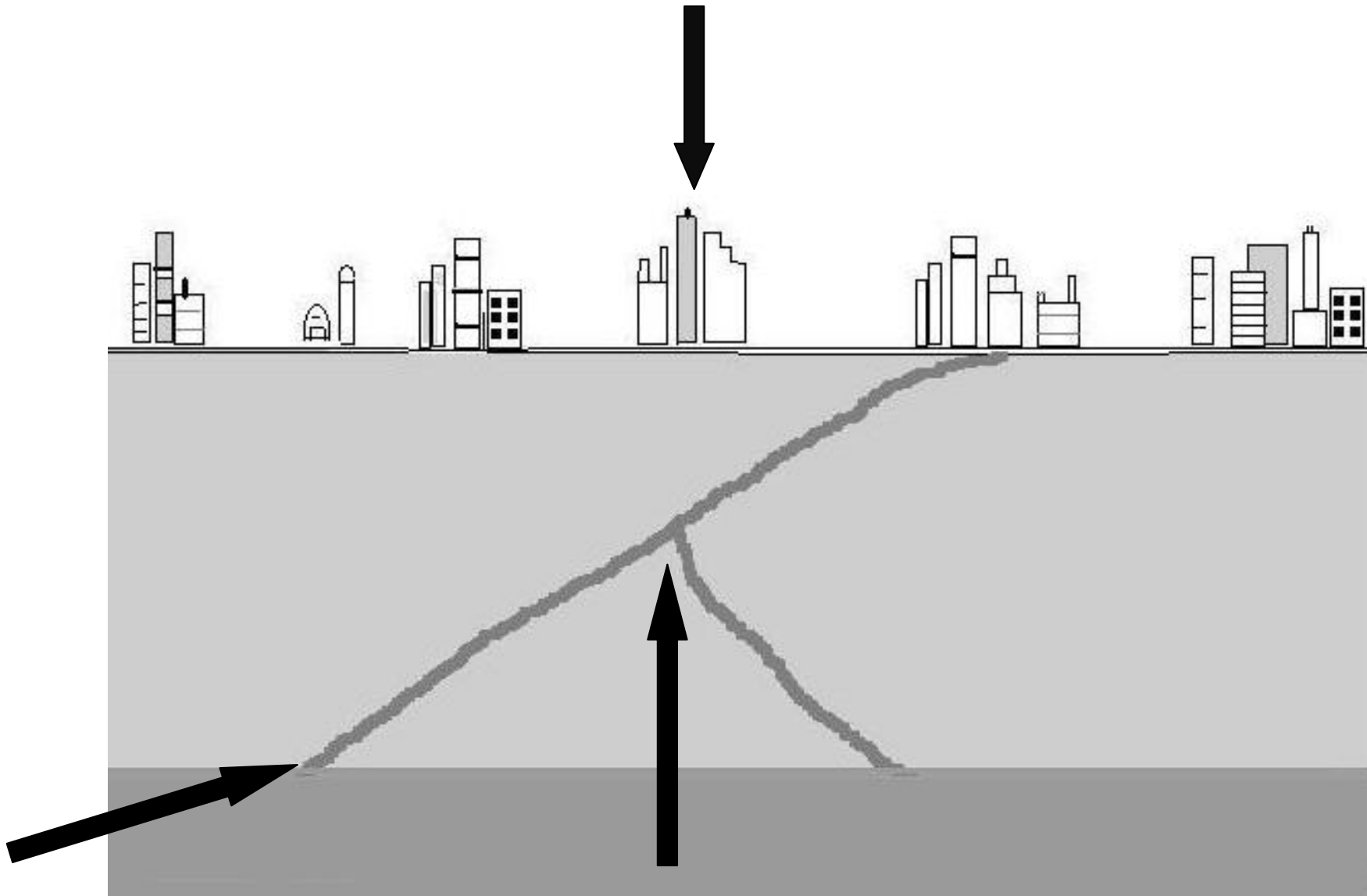
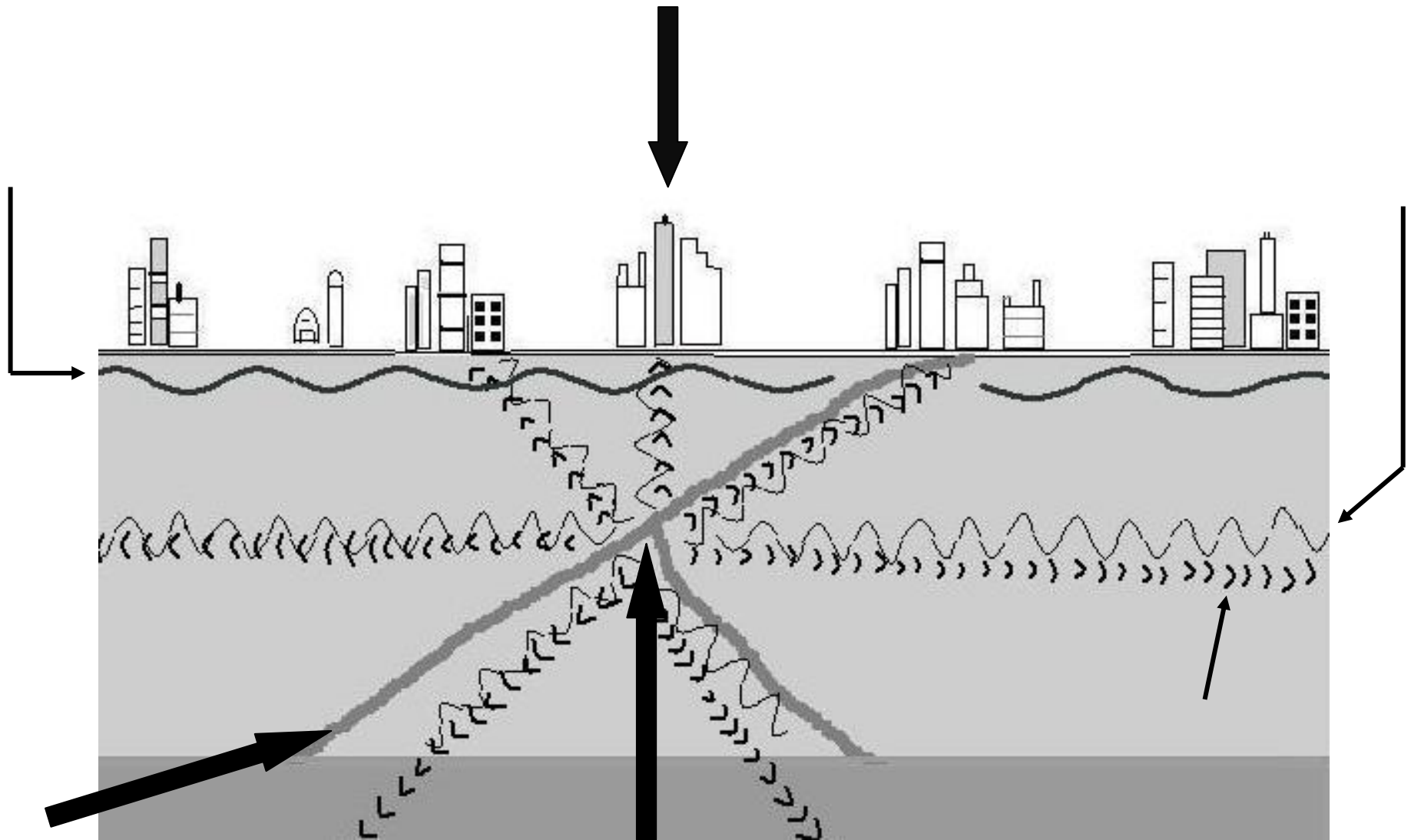


Explain the impact of three different waves in an earthquake.



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Explain the impact of three different waves in an earthquake.

Surface waves cause ripples on the ground like ripples in water. This can be demonstrated by causing ripples in a tub with a floating toy. The toy moves up then down in a circular motion. This is the most damaging to buildings.

3 Surface Waves

Last waves to be felt
The ground moves like waves on a beach.
Moves only through the crust of the earth

2

S waves are shear waves and vibrate buildings perpendicular to the direction the wave is coming from. They can be demonstrated by holding a jump rope tightly on the floor, and quickly jerking it side to side so the wave travels across the rope. S waves can only pass through solid rock and not through the Earth's core.

S Waves (Secondary)

Second to hit.
Buildings move from side to side
Travel only through solid media.
Move perpendicular to the direction of propagation.

1

P waves are compression waves and travel faster so they reach the Earth's surface first. They vibrate rocks (and buildings) in the same direction the wave is coming from and can be demonstrated by stretching a Slinky then quickly jerking it a little further. P waves can travel through liquid and solid, so they can penetrate the Earth's core and be measured on the opposite side of the Earth.

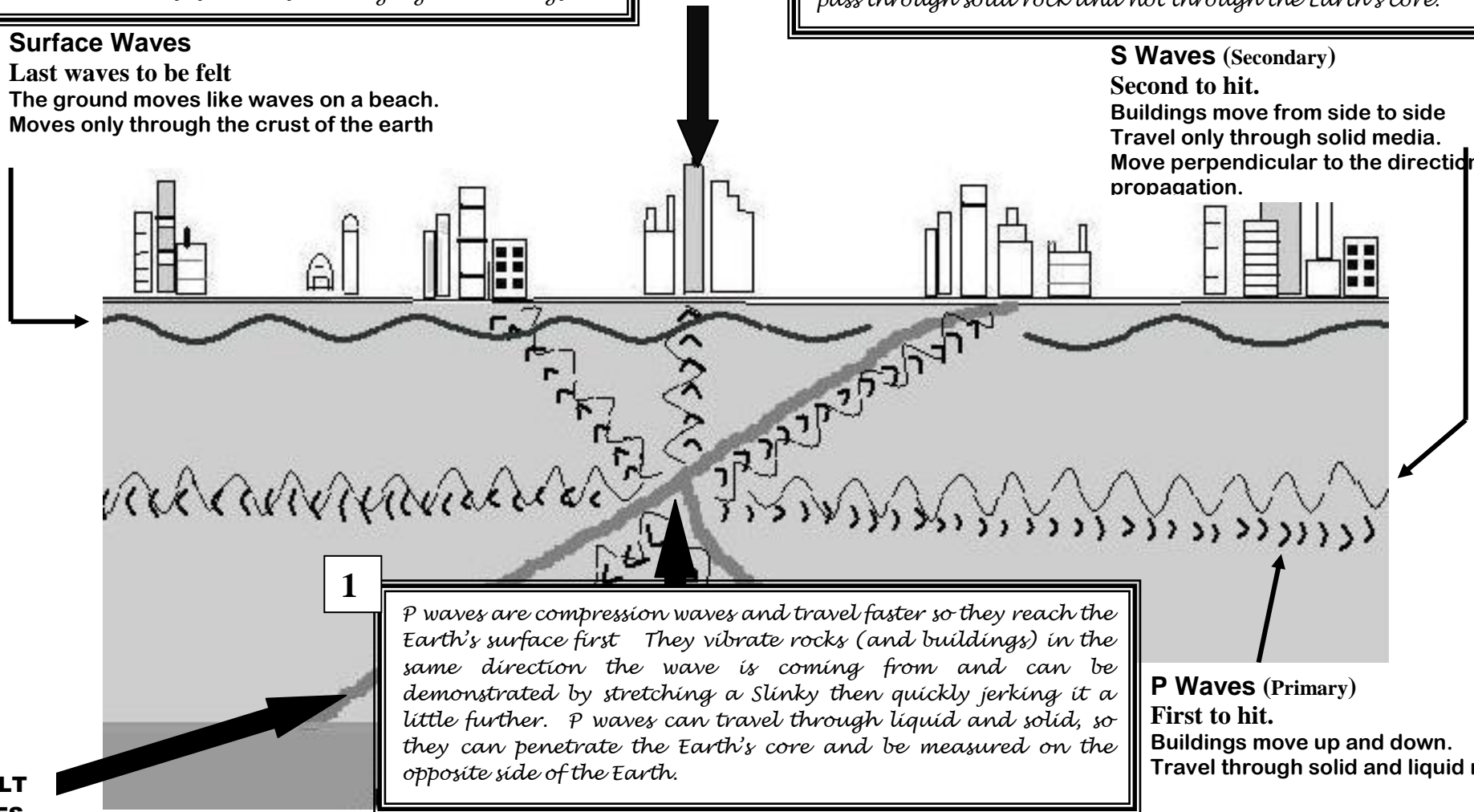
P Waves (Primary)

First to hit.
Buildings move up and down.
Travel through solid and liquid media.

EPICENTER

FOCUS

FAULT LINES



Geology 9 Information Pieces

EPICENTER G-9	Buildings move up and down. G-9
	Buildings move from side to side G-9
FOCUS G-9	The ground moves like waves on a beach. G-9
FAULT LINES G-9	First waves to hit G-9
	Second waves to hit G-9
P Waves (Primary) G-9	Last waves to hit G-9
	Last waves to hit G-9
S Waves (Secondary) G-9	Travel through solid and liquid media G-9
	Travel only through solid media G-9
Surface Waves G-9	Moves only through the crust of the earth G-9

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1. *Put the student MatchCard and instructor MatchCard back to back in a clear plastic page protector.*
2. *Laminate the information pieces. Or you can make them sturdier by covering the paper with transparent tape prior to cutting the pieces out.*
3. *For more ideas on how to use the MatchCards, and for keeping a notebook for review, see the Instructor's Guide.*