To Do and Notice:

Hold the rope firmly and keep it taut. Give it a strong jerk downward.

You can make the waves travel faster or slower by adjusting the tension of the overhead rope where it meets the wall.

Turning the tuning peg on a guitar has the same effect.

Things you can try to do with the guitar string:

1. **SINGLE PULSE**
   - A dip is formed
   - Which travels
   - To the far wall
   - Where it bounces and returns along the rope as a hump.
   - This wave may bounce back and forth several times before the motion fades away.

2. **REPEATED PULSES**
   - The waves follow each other along the rope, are reflected at the ends, and return.
   - A series of waves travelling away and returning pass through each other giving the rope a jumbled motion that changes constantly.

3. **STANDING WAVES**
   - Try changing the frequency of shaking, making it a little faster or slower.
   - At a certain rate, the fumbled motion becomes steady and you no longer see waves traveling back and forth.
   - The two sets of waves moving in opposite directions fit together in such a way that you see only an up and down motion: a standing wave.
   - The way the rope moves when it carries standing waves is the way a guitar string moves when it is set into vibration.