

Modifications for Conducting Lessons without the Wave Wires® Magnet Station

Lesson 14: Stop the Train!

To maximize the number of small groups that can simultaneously experience the lessons in the Wave Wires Teacher's Guide, you may choose to have students do some of the hands-on lessons in the Wave Wires Teacher's Guide without using the Magnet Station. The following modification tips for this lesson are provided in order to assist you:

- Additional **MATERIALS** needed: several books (preferably hardcover), steel ruler
- Substitute the following steps for steps 1, 2, 3, and 5 in the **EXPLORE IT** section of the lesson (and follow all other steps in the original lesson in the guide):
 1. Make two stacks of books with equal heights (about 9–10”H each) by stacking books on top of one another on a tabletop. Place the steel ruler across the top of both stacks of books, creating a bridge with the ruler.
 2. Attach the three 6mm magnet wires to the bottom of the steel ruler, so the magnet wires are hanging upside down and can move freely. If needed, adjust the height of the stacks of books.
 3. Adjust the height of the stacks of books (if needed), so the dangling magnets are close to the tabletop (but not touching). Use your hand to gently activate the magnet wires. Record your observations
 5. Place the pan piece on the tabletop underneath the dangling magnets. Adjust the height of the stacks of books (if needed), so the dangling magnets are as close to the pan piece (but not touching) as possible. You could also place a thin, hardcover book under the pan piece to raise it (if needed). Use your hand to gently activate the wires. Record your observations.