Steps for solving simple problems in special relativity

1. **Draw** a diagram of the situation.
    a. Use a stick figure to indicate **Mavis** (which represents both her and her fleet of co-moving cameras). Draw **whoosh lines** trailing Mavis to remind you that she is moving across the illustration. Label the **velocity of Mavis** as measured in Stanley's video recordings.
    b. Use a stick figure to indicate **Stanley** (which represents both him and his fleet of co-stationary cameras).
    c. Draw the **object** of interest (e.g. spaceship, ruler, clock).

2. **If** the **object is co-moving** with one of the frames of reference, draw a **chain-link symbol** with an arrow to "**attach**" the object to Mavis or Stanley. Attaching an object to Mavis's frame of reference means that the object remains in front of one particular of Mavis's cameras. Only that camera captures video of the object. The object is never in front of any of Mavis's other cameras.

3. **If** the **object is neither attached to Mavis nor attached to Stanley**, label the object with the **velocity relative to Mavis or Stanley**. For example, if the object is traveling at 0.6 times the speed of light in Mavis's video recordings, add the label $v_{\text{REL MAVIS}} = 0.6c$ next to the object.

4. Optional: You might need to draw the object in two situations (e.g. a clock displaying an earlier time and the same clock displaying a later time).

5. Apply **special relativistic relationships** keeping in mind **what object is attached to what frame** of observation. If you have all the requisite data for a particular frame of reference, you can also apply the **definitions of kinematic quantities** (e.g. velocity).