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| PLTW_M_L_4CP**Activity 8.4a Working Drawings** **(Miniature Train)**  |

Procedure

1. Place the Train Body component into the assembly. This component will be grounded and therefore locked in space. Place the other components into the assembly. These components are separate for the purpose of assembly animation, which will be done in a subsequent activity. Use the parts list below to check off the components as you add them to the assembly.

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| Item | Quantity | Name | Description | Material |
| 1 | 1 | Train Body |  | ABS Plastic |
| 2 | 1 | Stack  |  | ABS Plastic |
| 3 | 1 | Hitch Magnet  |  | ABS Plastic |
| 4 | 1 | Hitch Peg  |  | ABS Plastic |
| 5 | 4 | Wheel |  | ABS Plastic |
| 6 | 4 | Axle Peg |  | ABS Plastic |
| 7 | 2 | Linkage Arm  |  | ABS Plastic |
| 8 | 4 | Linkage Peg |  | ABS Plastic |
| 9 | 1 | Cow Catcher |  | ABS Plastic |

1. Use assembly constraints to model the Miniature Train components. Perform interference analyses on the components to determine if unnecessary overlaps occur. Save the assembly file when complete.
2. Create a part drawing for each part of the train. Components that require section or auxiliary views must have the views within their CAD drawings.
3. Create an exploded view of your assembly with balloons and a parts list on a drawing sheet. Unmodified off-the-shelf components do not require dimensioned drawings. Only modified off-the-shelf components require technical drawings. Such drawings will include only the dimensions required to perform the modification.
4. Assist classmates by exchanging your CAD drawing printouts and checking the drawings for errors. Place a revision block on each drawing to track changes made before drawings are submitted for final evaluation.