Playground Design:

**Brief:**
Your school has recently received extra funding for a new playground. The administration has decided to take suggestions from students on the design of the playground. Your task is to design a playground that will fit in the area of your school that your teacher indicates. You must include a map of your playground which shows a variety of shapes such as quadrilaterals and triangles on the ground. These can be garden beds, paths, or sections around playground equipment. Your map must include the mapping conventions that you have learned about. You must also design a climbing frame that uses quadrilaterals and triangles. It must be no higher than 2 metres and no longer than 5 metres. You must use straws or skewers to make a model of your climbing frame to the correct scale: 5cm represents 1 metre.

**Key questions to think about:**
1. How do we measure and map the land set aside for the playground?
2. How much space do we have for the playground, and how is it laid out?
3. What kind of equipment would we like to include in a playground?
4. How much garden would we like to include?
5. What are the properties of 2D and 3D shapes?
6. What 2D shapes do we need to include in our design?
7. What 3D shapes do we need to include in our playground equipment?
8. How do we create and interpret maps? What conventions do we need to know about and use?
9. How do we create scale drawings and models? What ratios do we use?

**What you need to hand in:**
1. A map with your playground drawn to scale. It needs to include at least one path, and some locations for playground equipment. It should be coloured appropriately with each colour explained in your key (e.g. red means the area for the swings). The map needs to follow conventions (key, North point, orientation to North, scale and grid references). Your design needs to incorporate tessellating shapes.
2. A photocopy of your original map should also be included, with all of the angles and the lengths of each side marked for every shape.
3. A 3D model of one piece of your playground equipment. This needs to be created to scale. Accompanying the model should be a drawing of the 3D shape from at least two different viewpoints.
4. A page explaining why you have chosen this design. Explain what the good points are and how you decided what was important.