

## The Shape Of Space

### 1. Euclidean space:

- Describe an example of a surface in this space. Draw an example.
- Describe triangles in this space. How many degrees do triangles have in this space?
  1. Draw 2 triangles that have the same angle sum. Are all these triangles congruent?
- Draw a line in your space. Set a point not on this line. How many lines go through this point parallel to your original line? Draw an example of this.

### 2. Spherical space:

- Describe an example of a surface in this space. Draw an example.
- Describe triangles in this space. How many degrees do triangles have in this space?
  1. Draw a triangle with three  $90^\circ$  angles.
  2. Draw a second triangle with three  $90^\circ$  angles.
  3. Describe the relationships between these two triangles.
- Draw a line in your space. Set a point not on this line. How many lines go through this point parallel to your original line? Draw an example of this.
- Are the latitude lines on a globe parallel lines?

### 3. Hyperbolic space:

- Describe an example of a surface in this space. Draw an example.
- Describe triangles in this space. How many degrees do triangles have in this space?
  1. Draw a triangle with three  $10^\circ$  angles
  2. Draw a second triangle with  $10^\circ$  angles
  3. Describe the relationships between these 2 triangles.
- Draw a line in your space. Set a point not on this line. How many lines go through this point parallel to your original line? Draw an example of this.