Textures

- Textures
  - 1D, 2D, 3D images associated with a sampling function
  - Linear sampling, (bi- / tri-)linear interpolation, anisotropic interpolation,
- In GLSL: opaque type `sampler1D`, `sampler2D`, `sampler3D` (among others)
- Access using built-in functions:
  - `vec4 texture(sampler1D texture, float texture_coordinate);`
  - `vec4 texture(sampler2D texture, vec2  texture_coordinate);`
  - `vec4 texture(sampler3D texture, vec3  texture_coordinate);`

New Qualifiers

- `uniform`
  - A qualifier for a global variable, which can be set from the host program using GL functions (gl.uniformX)
  - These values are used to define behaviour between shader invocation instances
  - Example: `uniform float brightness;`
- `in`/`out`
  - Three meanings
    1. Denote values that are passed from one shader stage to the next. Have to be (in general) named the same in both shader stages or explicitly numbered. These values are interpolated between vertices.
    2. `in` Names vertex attributes in the vertex shader (e.g. position, normal, texture coordinates, ...)
    3. `out` Names output values for the fragment shader (99% of the time a color value `vec4`)
  - Example:
    - Vertex Shader: `out vec3 normal;`
    - Fragment Shader: `in vec3 normal;`