

- Add Lighting:
 - Ambient and directional lights to illuminate the Earth.

4. Create the 3D Earth Model

- Load Earth Textures:
 - Use high-resolution textures from NASA or [Solar System Scope](#).
 - Diffuse map, bump map, and specular map for realistic rendering.
- Create a Sphere Geometry:
 - Map the textures onto a sphere to represent Earth.

javascript

 Copy code

```
const geometry = new THREE.SphereGeometry(earthRadius, 64, 64);
const material = new THREE.MeshPhongMaterial({
  map: earthTexture,
  bumpMap: earthBumpMap,
  bumpScale: 0.05,
  specularMap: earthSpecularMap,
  specular: new THREE.Color('grey'),
});
const earthMesh = new THREE.Mesh(geometry, material);
scene.add(earthMesh);
```

5. Fetch Real-Time Satellite Data

- Choose Data Source:
 - NASA's APIs: Check [api.nasa.gov](#) for available endpoints.
 - Celestrak TLE Data: Provides TLE data for satellites.
- Use `satellite.js` :
 - Install via npm: `npm install satellite.js`.

[Continue this conversation](#)

