HTML5

Three.js

WebGL

WebGL

- 웹 브라우저에서 제공하는 3차원 그래픽 자바스크립트 API
- 플래시, 실버라이트, 유니티 등의 플러그인이 필요없음
- GPU 가속을 사용한 높은 성능의 그래픽 구현

WebGL

8+ 4+ 5.1+

어렵고, 복잡하고

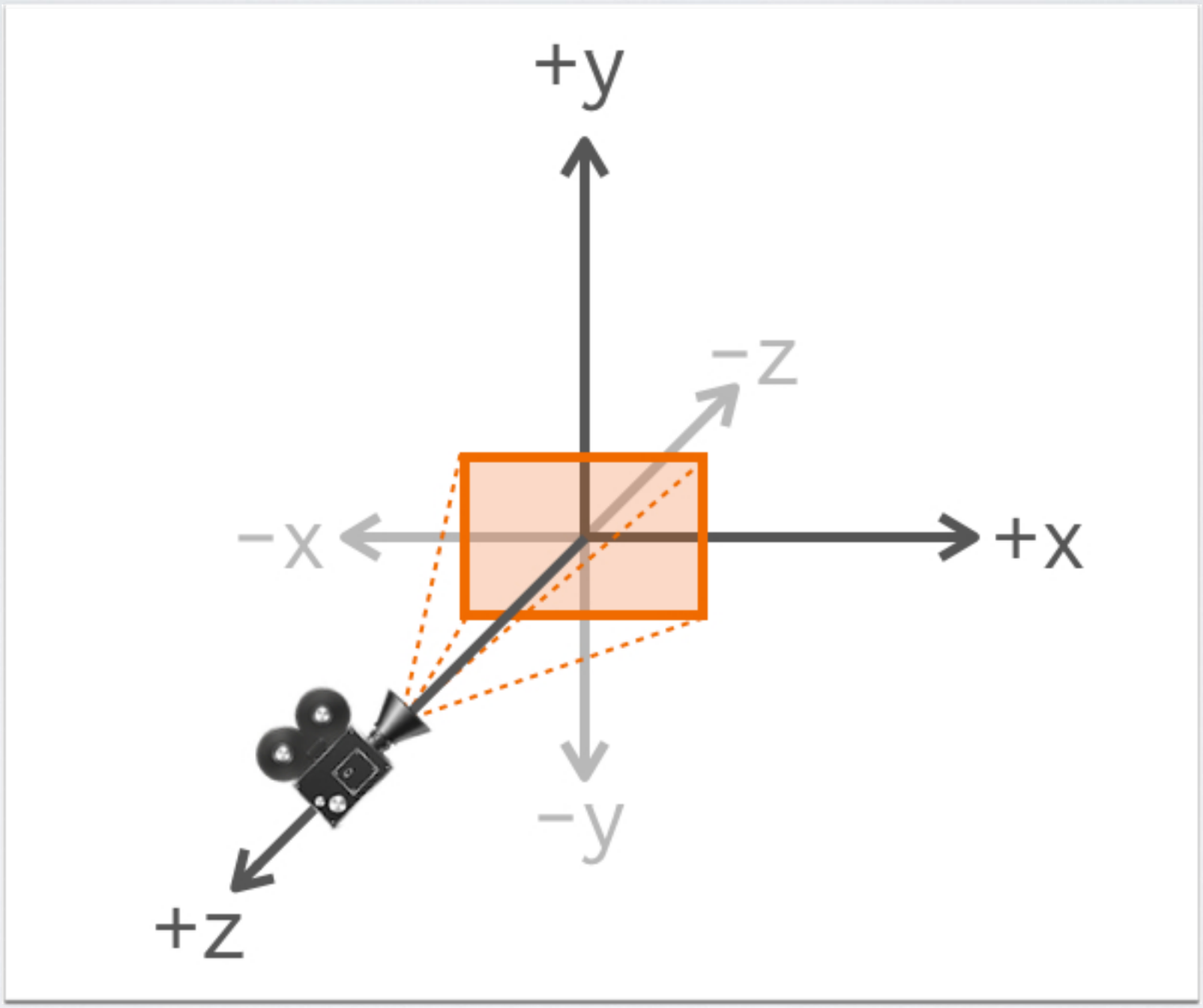
디버깅 헬.....

Three.js

Three.js

자바스크립트 이용한
경량 라이브러리

WebGL 좌표



기본 3가지

Renderer

Camera

Scene

Renderer

최종 결과물을 그려주는 객체

```cs
renderer = new THREE.WebGLRenderer(
);
renderer.setSize(innerWidth, innerH
eight);
document.body.appendChild(renderer.
domElement);
```

Scene

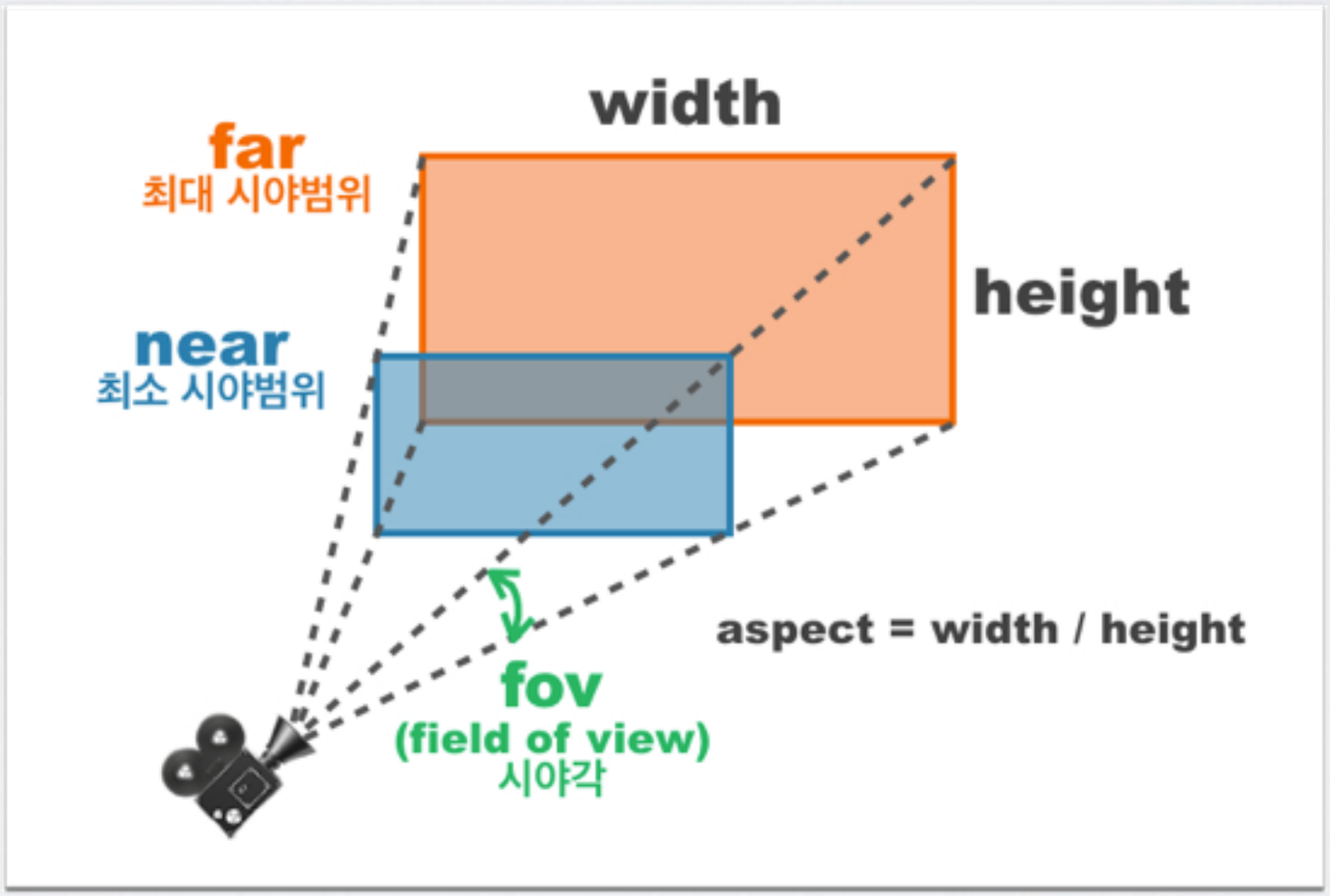
화면을 구성하는 기본요소
여러개의 모델과 조명으로 구성

```cs
scene = new THREE.Scene();

scene.add(object);
scene.add(mesh);
scene.add(light);
```

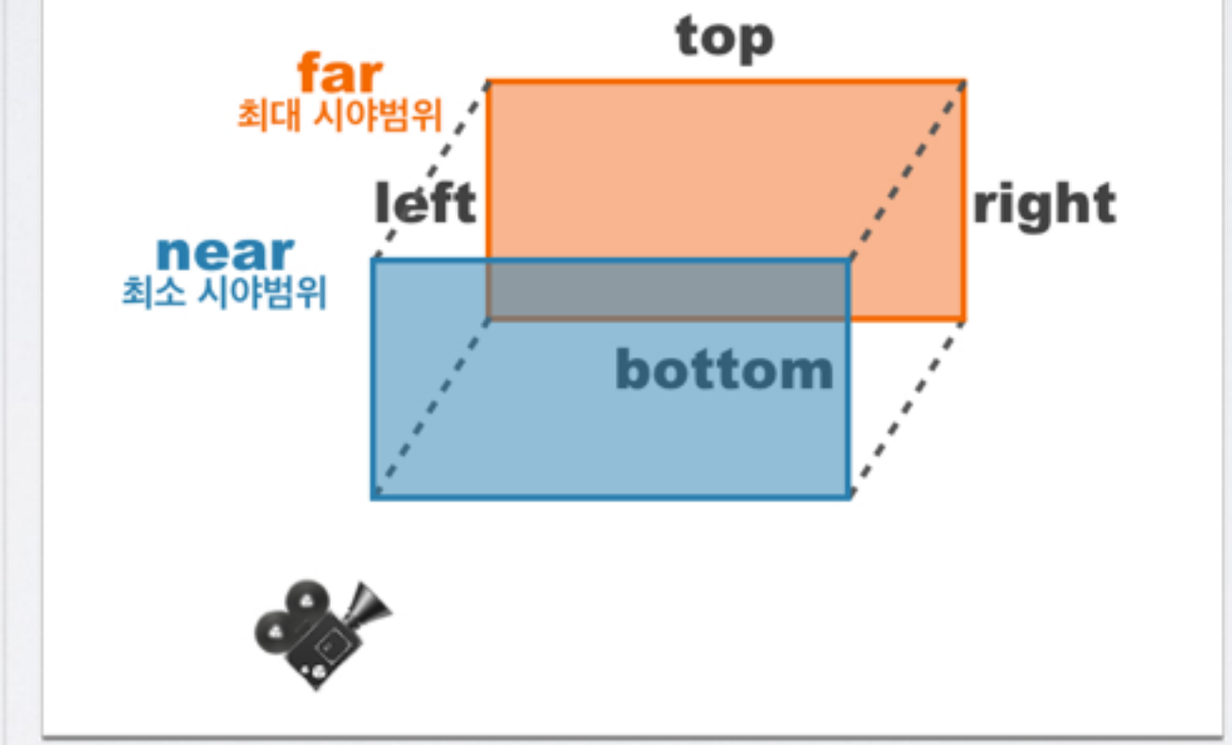
Camera

PerspectiveCamera



Camera

OrthographicCamera



바라보는 방향은 있지만 투시는 없음

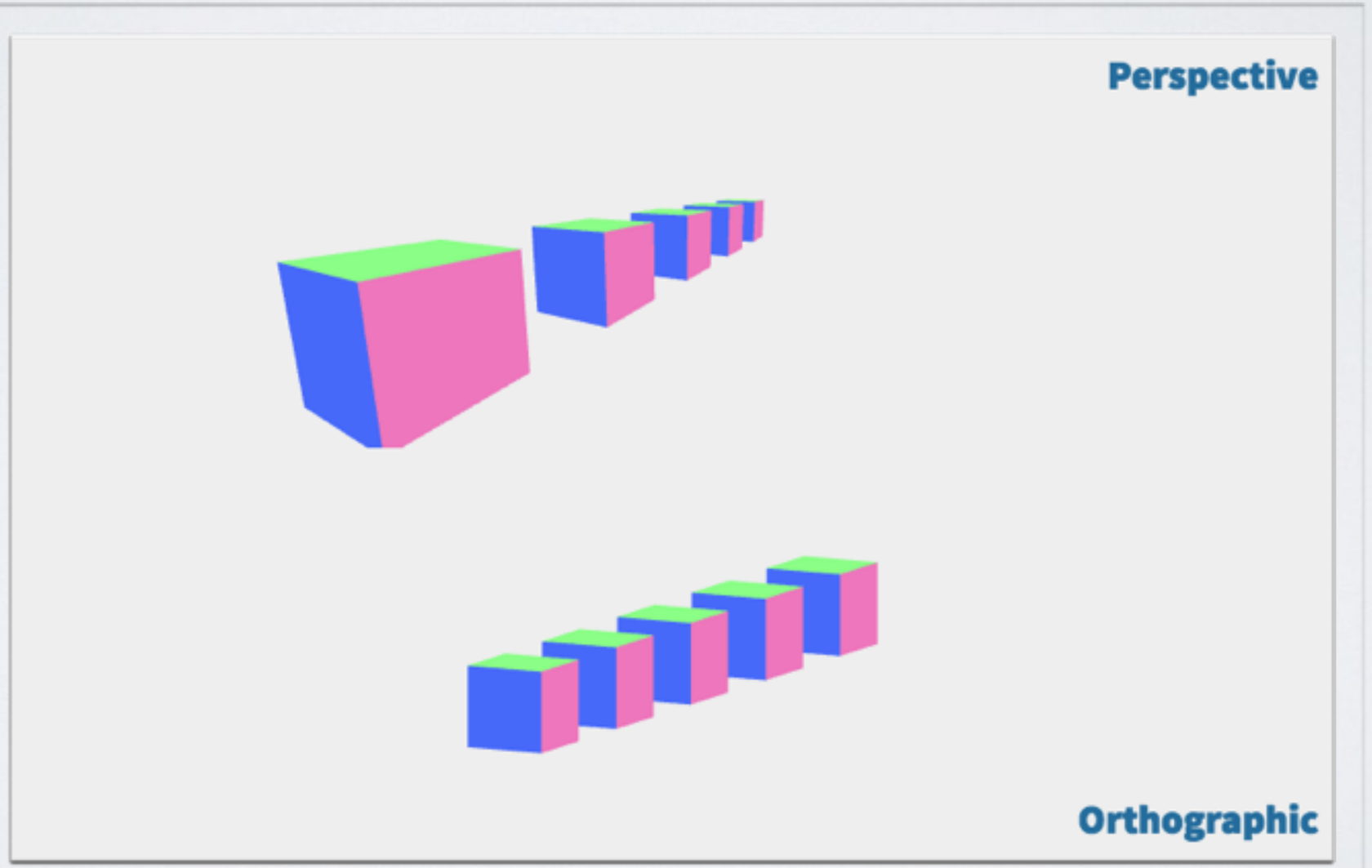
Camera

OrthographicCamera

바라보는 방향은 있지만 투시는 없음

Camera

PerspectiveCamera vs OrthographicCamera



Mesh

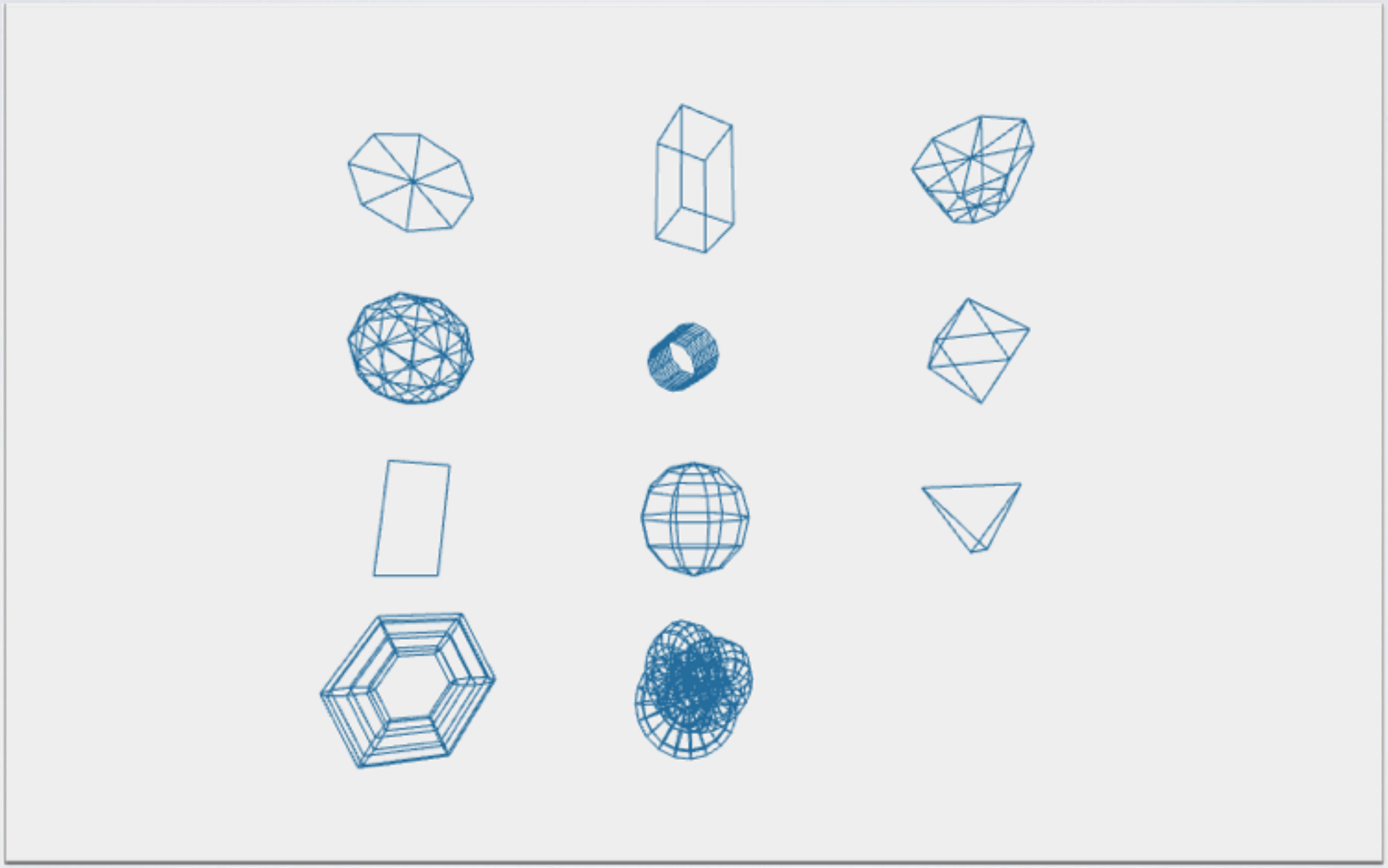
도형과 질감을 적용한 물체

Mesh = Geometry + Material

Mesh

- CircleGeometry
- ConvexGeometry
- CubeGeometry
- CylinderGeometry
- ExtrudeGeometry
- IcosahedronGeometry
- LatheGeometry
- OctahedronGeometry
- ParametricGeometry
- PlaneGeometry
- PolyhedronGeometry
- SphereGeometry
- TetrahedronGeometry
- TextGeometry
- TorusGeometry
- TorusKnotGeometry
- TubeGeometry

Mesh



Animation

우리가 배운 RequestAnimation이
WebGL에서는 당연하게 쓰인다.

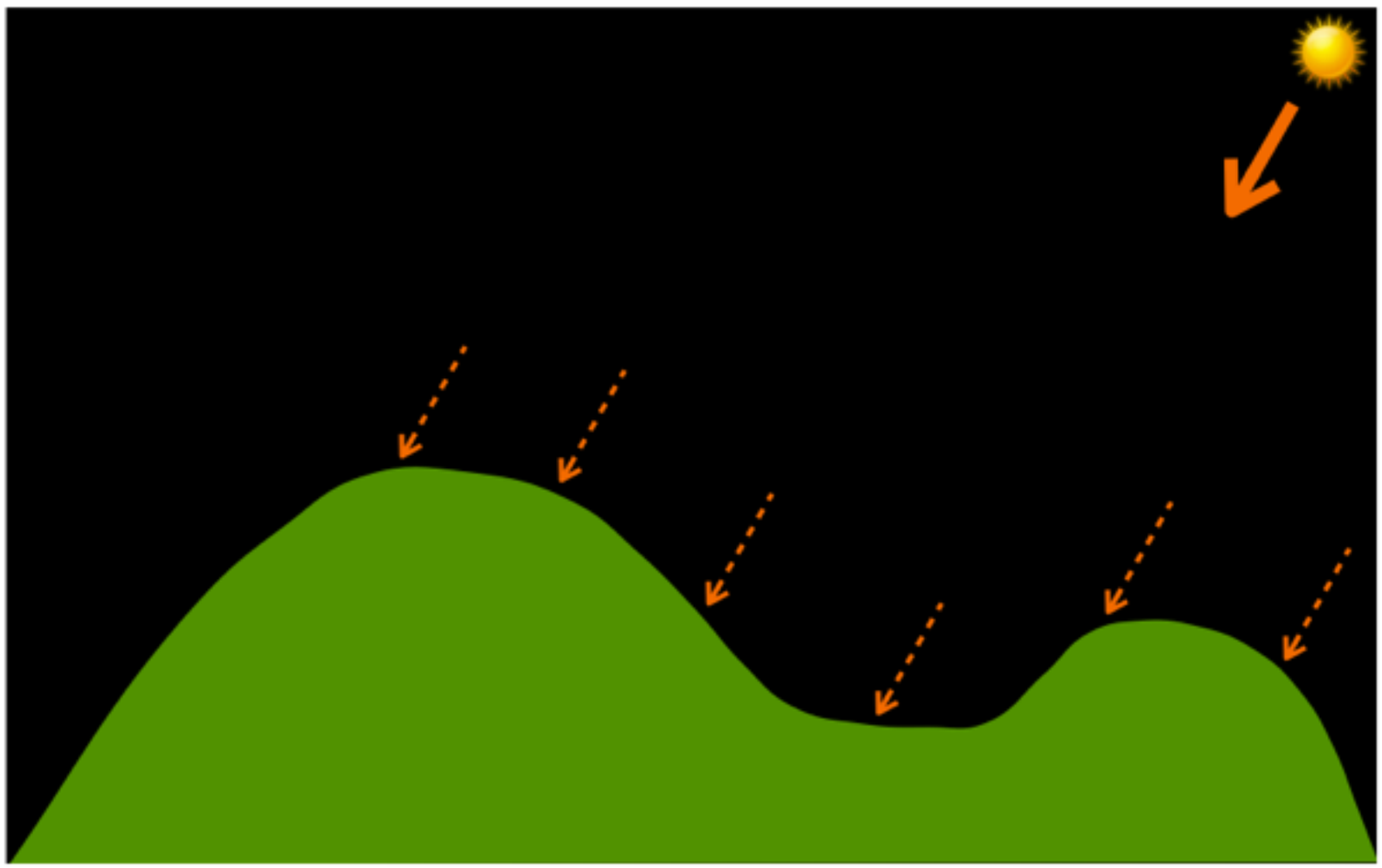
```cs
function draw() {
  requestAnimationFrame(draw);

  mesh.rotation.x += .01;
  mesh.rotation.y += .02;

  renderer.render(scene, camera);
}
draw();
```

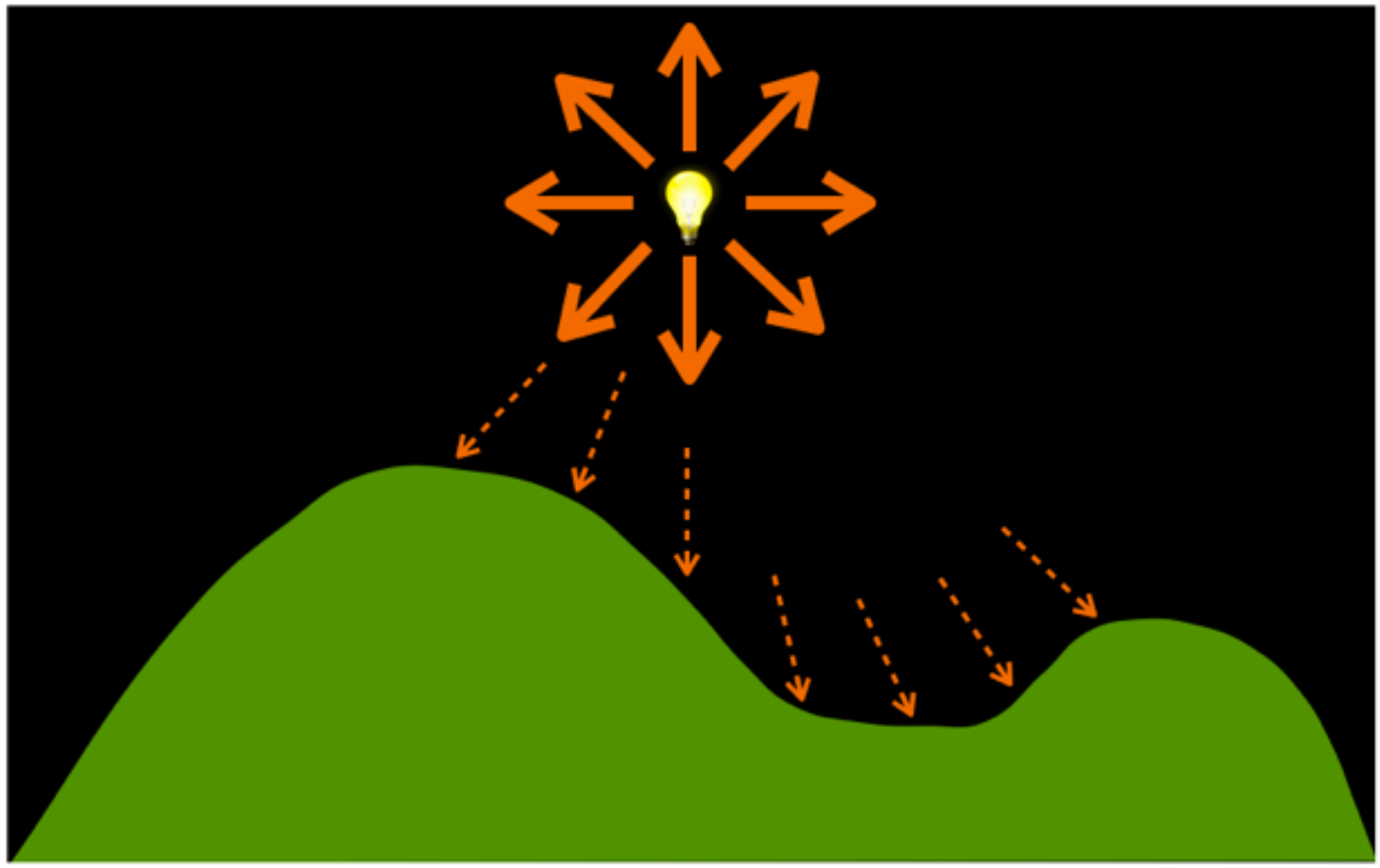
Light

DirectionalLight 방향광



Light

PointLight 점광



Light

SpotLight 집중광