beginGeometry()

Begins adding shapes to a new p5.Geometry object.

The `beginGeometry()` and endGeometry() functions help with creating complex 3D shapes from simpler ones such as sphere(). `beginGeometry()` begins adding shapes to a custom p5.Geometry object and endGeometry() stops adding them.

`beginGeometry()` and endGeometry() can help to make sketches more performant. For example, if a complex 3D shape doesn't change while a sketch runs, then it can be created with `beginGeometry()` and endGeometry(). Creating a p5.Geometry object once and then drawing it will run faster than repeatedly drawing the individual pieces.

See buildGeometry() for another way to build 3D shapes.

Note: `beginGeometry()` can only be used in WebGL mode.

Examples

```
// Click and drag the mouse to view the scene from differe
angles.

let shape;

function setup() {
  createCanvas(100, 100, WEBGL);

  // Start building the p5.Geometry object.
  beginGeometry();

  // Add a cone.
  cone();

  // Stop building the p5.Geometry object.
  shape = endGeometry();

  describe('A white cone drawn on a gray background.');
}

function draw() {
  background(50);

  // Enable orbiting with the mouse.
  orbitControl();

  // Turn on the lights.
  lights();

  // Style the p5.Geometry object.
  noStroke();

  // Draw the p5.Geometry object.
```

```
// Click and drag the mouse to view the scene from differe
angles.

let shape;

function setup() {
  createCanvas(100, 100, WEBGL);

  // Create the p5.Geometry object.
  createArrow();

  describe('A white arrow drawn on a gray background.');
}

function draw() {
  background(50);

  // Enable orbiting with the mouse.
  orbitControl();

  // Turn on the lights.
  lights();

  // Style the p5.Geometry object.
  noStroke();

  // Draw the p5.Geometry object.
  model(shape);
}

function createArrow() {
  // Start building the p5.Geometry object.
  beginGeometry();
```

```
// Click and drag the mouse to view the scene from differe
angles.

let blueArrow;
let redArrow;

function setup() {
  createCanvas(100, 100, WEBGL);

  // Create the arrows.
  redArrow = createArrow('red');
  blueArrow = createArrow('blue');

  describe('A red arrow and a blue arrow drawn on a gray
background. The blue arrow rotates slowly.');
}

function draw() {
  background(200);

  // Enable orbiting with the mouse.
  orbitControl();

  // Turn on the lights.
  lights();

  // Style the arrows.
  noStroke();

  // Draw the red arrow.
  model(redArrow);

  // Translate and rotate the coordinate system.
```

```
// Click and drag the mouse to view the scene from differe
angles.

let button;
let particles;

function setup() {
  createCanvas(100, 100, WEBGL);

  // Create a button to reset the particle system.
  button = createButton('Reset');

  // Call resetModel() when the user presses the button.
  button.mousePressed(resetModel);

  // Add the original set of particles.
  resetModel();
}

function draw() {
  background(50);

  // Enable orbiting with the mouse.
  orbitControl();

  // Turn on the lights.
  lights();

  // Style the particles.
  noStroke();

  // Draw the particles.
  model(particles);
}

function resetModel() {
```

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Related References

calculateBoundingBox
Calculates the position and size of the smallest box that contains the geometry.

clearColors
Removes the geometry's internal colors.

computeFaces
Computes the geometry's faces using its vertices.

computeNormals
Calculates the normal vector for each vertex on the geometry.