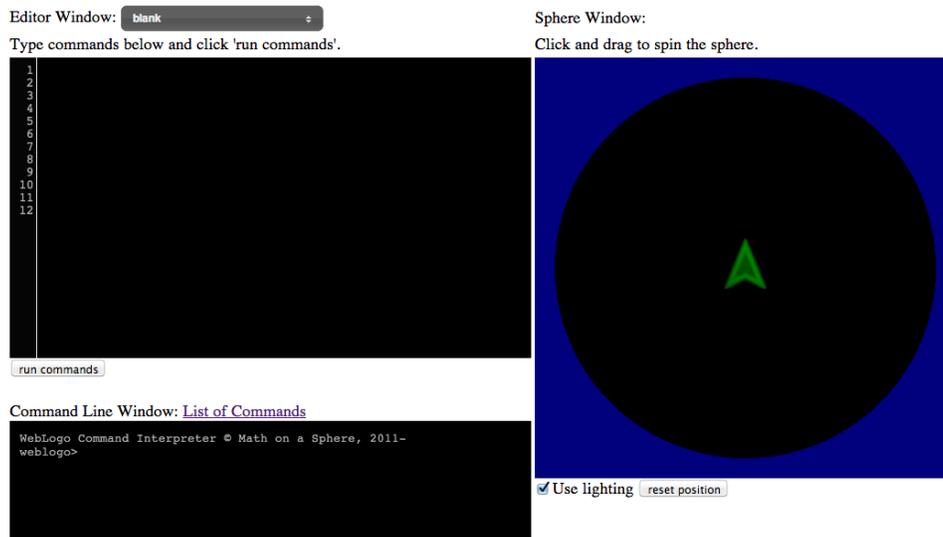


Getting Started with Math on a Sphere (MoS)

When you're preparing to use the Math on a Sphere (MoS) software in your class/workshop/camp, we suggest that you start by playing with the MoS website: <http://ponder.org.uk/weblogo/client.html>

When you open the MoS website, you'll see that the window contains three sections: an editor window, a command line window, and a sphere window. The "Editor Window" is on the top left, the "Command Line Window" is on the bottom left, and the "Sphere Window" is on the right hand side.



You can draw designs by entering code in either the "Editor Window" or the "Command Line Window". An easy way to get started is to select a built-in design from the drop-down menu located directly to the right of the words "Editor Window".



Once you select a design, click the button below the Editor Window that's labeled "run commands".

Editor Window: `icosahedron`

Type commands below and click 'run commands'.

```
1 // This program projects a 20-sided object onto a sphere
2 setspeed (2*PI)
3 x = 63.5
4 theta = 108
5 thetatwo = 72/2
6
7 tri = function () {
8   repeat 3 { forward x right theta }
9 }
10
11 penta = function () {
12   repeat 5 { tri() right 72 }
13 }
14
15 repeat 3 {
16   penta()
17   forward x
18   right thetatwo
19 }
20
21 left 72
22 forward x
23 right thetatwo
```

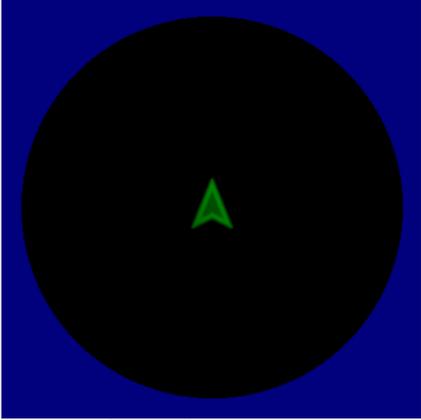
[run commands](#)

Command Line Window: [List of Commands](#)

```
WebLogo Command Interpreter © Math on a Sphere, 2011-
weblogo>
```

Sphere Window:

Click and drag to spin the sphere.



Use lighting [reset position](#)

After you click this button, you can see that the green triangle begins to move, and the design is drawn on the sphere. (Math on a Sphere is based on Logowriter, and in Logowriter the idea is that a turtle is drawing the designs. In MoS, the turtle is represented by the green triangle.)

Editor Window: `icosahedron`

Type commands below and click 'run commands'.

```
1 // This program projects a 20-sided object onto a sphere
2 setspeed (2*PI)
3 x = 63.5
4 theta = 108
5 thetatwo = 72/2
6
7 tri = function () {
8   repeat 3 { forward x right theta }
9 }
10
11 penta = function () {
12   repeat 5 { tri() right 72 }
13 }
14
15 repeat 3 {
16   penta()
17   forward x
18   right thetatwo
19 }
20
21 left 72
22 forward x
23 right thetatwo
```

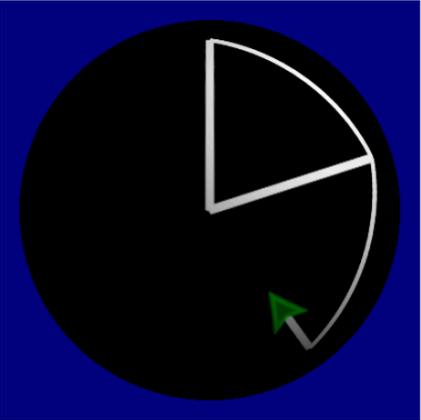
[run commands](#)

Command Line Window: [List of Commands](#)

```
WebLogo Command Interpreter © Math on a Sphere, 2011-
weblogo>
```

Sphere Window:

Click and drag to spin the sphere.



Use lighting [reset position](#)

Once the turtle has finished drawing the design, you can use your mouse to see different parts of the sphere.

Editor Window: icosahedron

Type commands below and click 'run commands'.

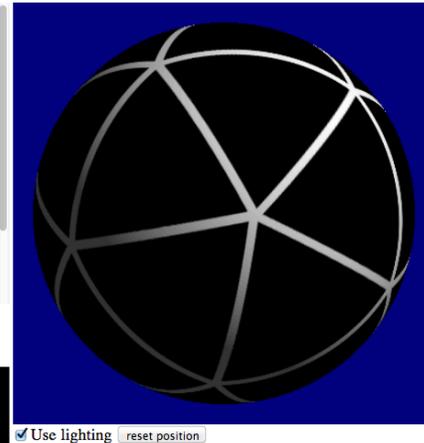
```
1 // This program projects a 20-sided object onto a sphere
2 setspeed (2*PI)
3 x = 63.5
4 theta = 108
5 thetatwo = 72/2
6
7 tri = function () {
8   repeat 3 { forward x right theta }
9 }
10
11 penta = function () {
12   repeat 5 { tri() right 72 }
13 }
14
15 repeat 3 {
16   penta()
17   forward x
18   right thetatwo
19 }
20
21 left 72
22 forward x
23 right thetatwo
```

Command Line Window: [List of Commands](#)

```
WebLogo Command Interpreter © Math on a Sphere, 2011-
weblogo>
```

Sphere Window:

Click and drag to spin the sphere.



Use lighting

If you want to try creating your own designs, you can enter code in either the “Editor Window” or the “Command Line Window”. To start fresh with your own design, you can either select and delete all the code in the “Editor Window”, or choose “my design” from the drop-down menu:

Editor Window: --sample-designs--

Type commands blank commands'.

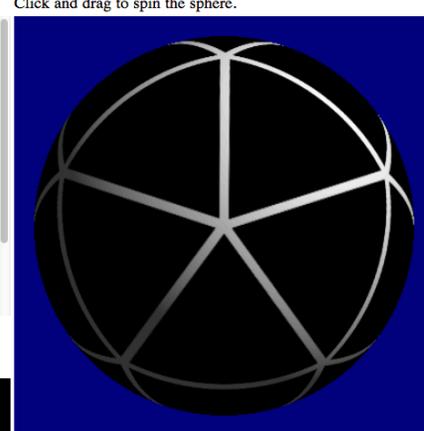
```
1 // This pro
2 setspeed (2
3 x = 63.5
4 theta = 108
5 thetatwo =
6
7 tri = funct
8   repeat 3
9 }
10
11 penta = fun
12   repeat 5
13 }
14
15 repeat 3 {
16   penta()
17   forward x
18   right the
19 }
20
21 left 72
22 forward x
23 right thetatwo
```

Command Line Window: [List of Commands](#)

```
WebLogo Command Interpreter © Math on a Sphere, 2011-
weblogo>
```

Sphere Window:

Click and drag to spin the sphere.



Use lighting

By choosing “my design”, you remove all the code from the “Editor Window”, as shown below.

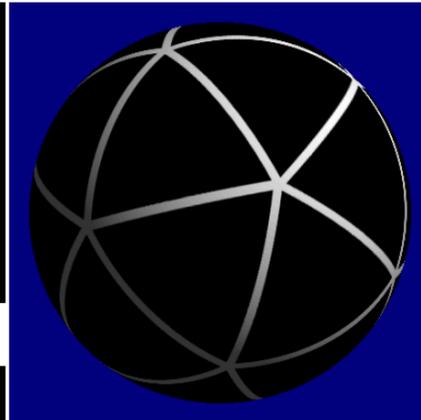
Editor Window:
Type commands below and click 'run commands'.

```
1
```

Command Line Window: [List of Commands](#)

```
WebLogo Command Interpreter © Math on a Sphere, 2011-  
weblogo>
```

Sphere Window:
Click and drag to spin the sphere.



Use lighting

Want to learn more about controlling the turtle? Consult the Topic pages, which are included in a separate document. Short descriptions of these pages are provided on the following page.