

LogoEnsemble Project Ideas

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LogoEnsemble Polygon Maker

Turning the Total Turtle Trip Inside-Out

This activity uses the database aspect of LogoEnsemble as an alternative data structure to the traditional procedural inputs used to generate regular polygons.

In order to use the DRAW procedure, you need to have an open database with fields named POLYGON, SIDES, and ANGLE. You may wish to replace the 50 (in italics) in the DRAW procedure with :SIZE and put :SIZE in the title line of the DRAW procedure.

The database should contain the names of polygons with the number of sides in the polygon and the exterior angles of the polygon.

```
Type: DRAW "name.of.polygon
ie... DRAW "pentagon
```

```
to draw :shape
  showr
  choose [polygon = :shape]
  if records = 0 [stop]
  repeat sides [fd 50 rt angle]
end
```

```
to getfield :field
  output getdata record :field
end
```

There should be an open database with three records that looks like the following diagram:

Polygon	Sides	Angle
Triangle	3	120
Square	4	90
Pentagon	5	72
Hexagon	6	60
Septagon	7	51.4
Octagon	8	45

Extension Activities

Compare and contrast the relationship between the number of sides in a polygon and the size of the exterior angles by typing one of the following:

```
SORTUP "SIDES
SORTDOWN "SIDES
SORTUP "ANGLE
SORTDOWN "ANGLE
```



Math Primitives New to LogoEnsemble

Primitive	Description
<>	not equal to infix reporter
>=	greater than or equal to
<=	less than or equal to
^	$3^2 = 9$ (exponentiation)
difference, sum, product, & quotient	prefix equivalents of the arithmetic operations
e	reports the constant e
exp	reports e to the power of the input
log	reports the logarithm of a number in base 10
pi	reports the value of π
power	reports a number raised to a specified power
rerandom	restarts the random number generator
setnf	sets the number of decimal places between 1-16
ge?	greater than or equal to...
greater?	greater than
le?	less than or equal to...
less?	less than
ne?	not equal to