# Guidelines for Teachers - Activity 6: Creating Different Polygons

**Description:**
This activity allows students to explore drawing different kinds and sizes of regular polygons with the use of variables.

**Objectives:**

Upon completion of this activity, students should be able to

1. Understand the use of variables within a programming context.

**Student's Prerequisites:**

- Familiarity with StarLogo TNG software

**Student's Task:**

1. Create a regular polygon of size 10. (For example, a pentagon, hexagon)

2. Create a program that allows the user to specify the size of the first triangle. The program then produces 3 triangles of increasing sizes. The output of this program is shown below.
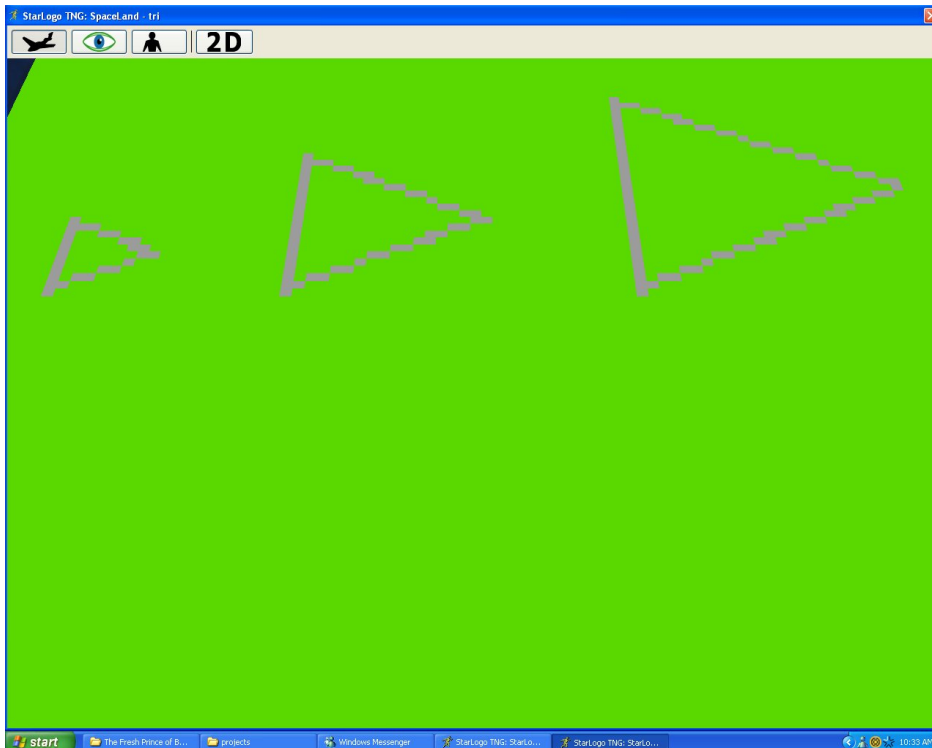
3. Create a program that draws any regular polygon as specified by the user.
4. Create a program that allows the user to specify both the kind of regular polygon and the size of the polygon that is to be drawn.

**Lesson:**

Before students start individual/pair work:

Illustrate use of blocks not encountered previously:

- Demonstrate how to use variables in StarLogo TNG

The teacher can start with the first question in the activity and then continue to show how one can allow the user to specify the colour of the drawing. The teacher can then explain how any parameter can therefore be specified by the user to produce the desired effects. The teacher can demonstrate a few more examples to allow students to become familiar with the idea and use of variables in a programming context.