

Coding With Technology



Lesson Title:	Using Scratch to Explore Shapes
Grade:	Grade 4
Curriculum Area(s):	Mathematics
Prior Knowledge:	Knowledge of the basic Scratch Tips activities, experience creating polygons, knowledge of screenshots and using a word processor program

Curriculum Expectations:

Mathematics: Geometry and Spatial Sense

- identify and compare different types of quadrilaterals and sort and classify them by their geometric properties
- relate the names of the benchmark angles to their measures in degrees
- identify, perform, and describe reflections using a variety of tools

Grouping:

Individual, Partner

Assessment:

These lessons provide opportunities for teachers and students to gather evidence through teacher, peer, and self-assessments; and learning goals and success criteria. See *Growing Success: Assessment, Evaluation, and Reporting in Ontario Schools, Chapter 4* for more information.

Materials/Resources:

List of triangles
Programming posters
Scratch desktop or mobile version <https://scratch.mit.edu/projects/editor/>
Screen capture tool
Word processor

Lesson:

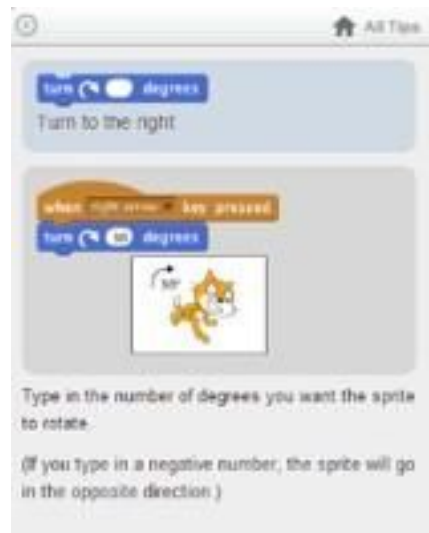
Minds on:

- Review with students how to construct angles and triangles.
- On chart paper, make a list of the the quadrilaterals and angles we know how to make (e.g.right angle or 90 degrees).
- Remind students they will be using that knowledge today.



Action:

- Discuss with the students that they will use Scratch to draw: square, rectangle, rhombus and parallelogram (highlight these on the chart paper).
- Review with students how Scratch allows use of angles.



- Inform students that they should add a description to each of their scripts of code to explain how they know they have completed the task.
- Students work at computers or mobile devices with Scratch.
- Remind students to either save their files or take screenshots of their work and paste them into a word processor.

Consolidation, Connection, and Reflection:

- The students will come back together and share how they made each shape.
- Students share their script on chart paper and/or project on a large screen.



Modifications:

Students could work in partners or small groups.

The students could construct one shape at a time and then annotate their ideas.

Next Steps:

Perform the same lesson/activity and have partners present creations of the shapes.

Continuing to use Scratch to reflect, translate or rotate shapes.

Extension Links

Develop a game to share the students knowledge of geometry.

<https://scratch.mit.edu/projects/1952443/>