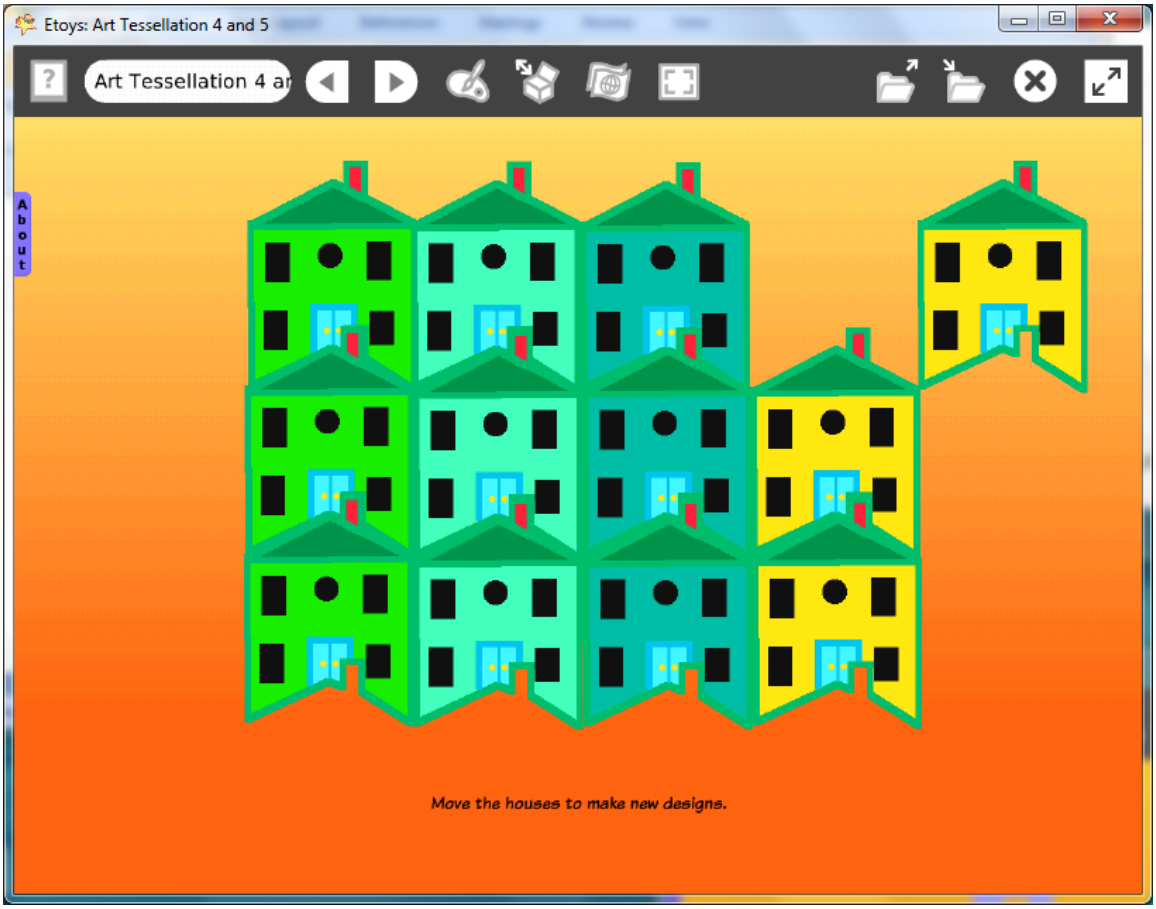
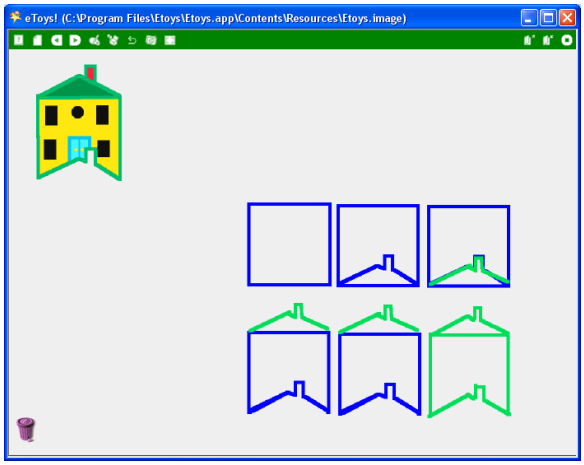
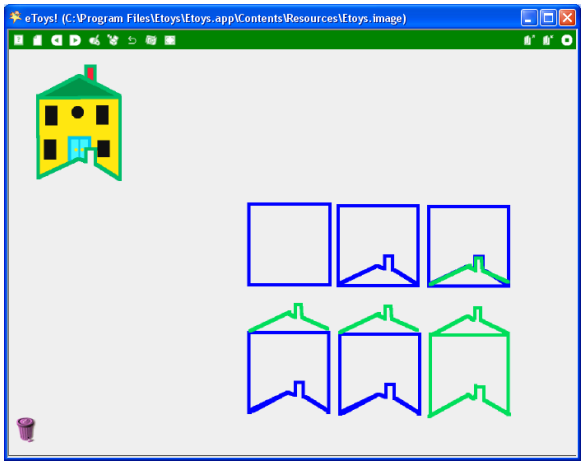
Art
Patterns-Tessellated-Patterns
Fourth – Fifth Grade Levels



Introduction:	Students use Etoys to create a tessellated pattern. Technology makes it easy to try many ideas, to experiment with changes, and to save patterns and design elements the artist wants to remember and enjoy.
Topic:	Students will use Etoys paint tools to draw a shape that will make a tiled pattern. The lesson uses a vocabulary of art and math. Students become familiar with the elements of art: line, shape, scale, and color. They also become familiar with elements of geometry: square, angle, and length.
Subject:	Art

Time:	Two 40 minutes labs
Description:	Students will use straight line tools in the paint palette to create a design that follows classic rules of tessellation and then explore the effects of various color combinations of the tile and of the background colors.
Vocabulary:	angles, symmetry, asymmetry, symmetrical, asymmetrical, warm colors, cool colors, line, shape, triangle, square, circle, rectangle, details, contrast, size, large, medium, small, design, pattern, duplicate, copy, set, sequence, above, below, beside, before, left, right, upper, lower, edge, near, up, down, between, almost, add, subtract, equals, exactly
Evaluation Criteria:	Creates a design tile that will tessellate. Uses appropriate vocabulary when describing a pattern. Knows how to keep and find a project. Works independently and follows written directions.
Teacher Information: **Etoys Quick Guides:** Click the question mark in Etoys to open the set of tutorials about basic tools and techniques.	**Etoys Quick Guides:** Click the question mark in Etoys to open the set of tutorials about basic tools and techniques. Use Etoys Quick Guides if the lesson mentions unfamiliar tools or techniques. Give students time to read them too.
Goals:	Students draw a square and make a tessellated pattern from it. Students explore mathematical ideas and ways to analyze patterns. Looking for patterns is useful on the computer screen and in the real world.
Lesson 1: 40 minutes Paint Tools: Straight Line Tool	Students use the paint palette's straight line tools to draw a tile that will tessellate and then create a finished design using it. Students may be expected to work independently from the directions in the Student Information section of this Lesson. Draw a shape with the straight line tools; click and drag while

	holding down the Shift key to make a perfect square.  Draw a shape on the lower edge and click keep. Get a new straight line tool and trace that shape in a different color (green in the example). Erase the bottom edge of the square then keep the sketch.
Halo Handles: Move and Pick Up	Move the green tracing to the top of the square; use a new brush and trace the whole drawing in the green color. Add details: doors, windows, roof, and chimney. Keep it.
Halo Handles: Size, Color, Copy	Make copies of the finished tile. Change colors and make a tessellated pattern with the tiles.
Halo Handles: Viewer	Change the background color for the whole world screen. Use fill and border.
Navigator Bar: Keep Find Projects	Publish the project: nametessellateddate For example: katetessellatedaug08
Student Information:	Show students an example screen if an LCP projector is available or use a computer and show examples to small groups. Or, give students a copy of the written instructions to use as independent learners.
Paint Tools: Straight Line Tool	Draw a shape with the straight line tools; click and drag while holding down the Shift key to make a perfect square.

	 Draw a shape on the lower edge and click keep. Get a new straight line tool and trace that shape in a different color (green in the example). Erase the bottom edge of the square the keep the sketch.
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Standards:	Art National Standards for Art Education Kindergarten-Fourth Grade Visual Arts Content Standard 1: Understanding and applying media, techniques, and processes Content Standard 2: Using knowledge of structures and functions Content Standard 3: Choosing and evaluating a range of subject matter, symbols, and ideas

	Content Standard 4: Understanding the visual arts in relation to history and cultures Content Standard 5: Reflecting upon and assessing the characteristics and merits of their work and the work of others Content Standard 6: Making connections between visual arts and other disciplines Mathematics Illinois Performance Standards Fourth Grade: 9A, 9B Naming and Constructing Geometric Figures: To introduce tools for geometry; and to review points, line segments, lines, and rays To construct angles, triangles, and quadrangles; and to classify quadrangles To classify quadrangles based on their properties Fifth Grade Geometry Explorations: 7A, 7B, 9A Define and create tessellations National Educational Technology Standards (NETS) 1. Basic operations and concepts Students are proficient in the use of technology. 2. Social, ethical, and human issues Students practice responsible use of technology systems, information, and software. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity. 3. Technology productivity tools Students use technology tools to enhance learning, increase productivity, and promote creativity. Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works 4. Technology communications tools Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.

	6. Technology problem-solving and decision-making tools Students use technology resources for solving problems and making informed decisions. Students employ technology in the development of strategies for solving problems in the real world.
Resources:	Etoys Help Quick Guides: Open Etoys and click the question mark in the Navigator Bar to open a set of interactive tutorials that introduce basic tools and techniques. **www.EtoysIllinois.org** for projects, tutorials, and lesson plans **www.Squeakland.org** to download Etoys software
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