Shutterfly Photo Story Lesson Plan

Subject: Math
Grade level: 1

Lesson Title: Shapes in our World

Common Core/State Curriculum Standards:

CCSS.Math.Content.1.G.A.2: Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

CCSS.ELA-Literacy.W.1.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

CCSS.ELA-Literacy.CCR.6: Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

CCSS.ELA-Literacy.L.1.2: Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.

Learning Objectives: students combine shapes to form composite shapes, which in turn get larger as they add yet more shapes.

- Students will create composite shapes from two dimensional shapes
- Students will compose a new shape from composite shapes.
- Students will create a composite shape from three-dimensional shapes.
- Students will identify composite shapes within their environment.
- Students will, with the help of adults, create a published storybook complete with a book title, and a combination of text, image, and audio narration on each page by utilizing technology offered through the Shutterfly Photo Story iPad app.

Students Learning Targets: *(What will students know and be able to do as a result of this lesson?)*
At the completion of this lesson, students will have informally explored relationships between parts and wholes. They will build on knowledge of attributes of shapes to create composite shapes. Through exploration, students will compose complex shapes from simple shapes. Students will recognize the same composite shape (whole) can be made from a variety of shapes (parts). They will recognize shapes (parts and wholes) both two and three-dimensional in their environment and be able to describe these shapes to others using attributes and positional words.

Instructional Strategies: *(Project-based learning, direct instruction, inquiry-based instruction, cooperative learning, etc.)*

- Discussion
- Inquiry-based instruction
- Cooperative Learning
- Direct Instruction

How Students Will Use Shutterfly Photo Story:
Students will use the Photo Story app to create a book displaying their knowledge of composite shapes created from parts of shapes with photos and/or drawings. Through the audio portion of the Photo Story app, students will describe the shape utilizing attributes and positional words.

Required Materials/Lesson Length:
Materials:

- Flash cards w/two-dimensional shapes
- Tangram puzzle/pieces
- Pattern blocks: hexagons, squares, triangles, trapezoids, rhombuses (large and small)
- Colored markers
- Paper
- Three-dimensional solids: cubes, cones, rectangular prisms, spheres, and cylinders
- iPads/digital camera to capture drawings or images
- iPads with Shutterfly Photo Story app to create their Photo Story

Length: 3 hours

- Flash card review: 5 minutes
- Opening Activity: 45 minutes
- Step by Step Learning Activity: 60 minutes in class
- Compilation of Photo Story: 60 minutes in class/homework
- Partner share of Photobook Story: 10 minutes

Resources: *(Photos, drawings, student created stories; reference books, articles, website URLs, etc. for citation)*

- PowerPoint of shapes in the environment and architecture
- Example of photo story book

Procedures/Activities: *(What will the teacher and students do?) (Prior Knowledge. Opening Activity, Step-by-Step Learning Activities, Closure, Post-Instruction Reflection)*

Prior Knowledge/Warm-Up:
Use flash cards or a PowerPoint presentation and three-dimensional shapes to review attributes and names of two and three-dimensional shapes (trapezoid, rhombus, square, rectangle, triangle, cone, cube, cylinder, sphere, rectangular prism). Flash cards or a three-dimensional shape, ask a question to review an attribute or vocabulary word students have learned in the past. Alternate between flashing a two-dimensional shape flashcard or a three-dimensional shape. For three-dimensional shapes, ask questions such as:

- What's it called?
- How many faces did you see?

- How many points did this shape have?
- How many faces were square?
- Was the shape open or closed?

Opening Activity:
Have students use pattern blocks to explore how three-dimensional solids (parts) can be used to build different two-dimensional shapes (whole). Share with students that pattern blocks are actually three-dimensional solids that we will use to create two-dimensional shapes.

Demonstrate how placing various pattern blocks together can create a larger shape. Have students discuss with a partner what larger shape was created and what are the (hidden) shapes used to make the larger shape:

Example: 6 small squares creates 1 large rectangle, two trapezoids create a hexagon

Have students explore using their pattern block shapes to make larger shapes. In small groups have them discuss the shapes (parts) they used to create a different shape (whole) with the pattern blocks. (Listen for correct use of attributes when students describe their shapes).

Have students take photos of the shapes they create for later use in their Photo Story book. They may also trace the pattern blocks onto paper and color their shapes and then take a photo to use later.

Learning Activity:
Direct the students to:

1. Use 3 triangles to create 1 trapezoid
2. Use 4 squares to make 1 larger square
3. Use 6 triangles to make 1 hexagon
4. Use 1 trapezoid, 1 rhombus and 1 triangle to make 1 hexagon
5. Use your pattern blocks to make a picture. Trace the shapes to show what you made. Tell a partner what shapes you used. Can you find any larger shapes within your picture?
    a. Take a picture of your shape and use it in your Photo Story book.

Review the three-dimensional shapes, their attributes and names. Using the three-dimensional shapes, behind a screen (blocker), build a shape so the students cannot see what you are building. Have the students listen to your description of the shape as you build and use their three-dimensional shapes to replicate yours.

- Slowly describe the structure utilizing attributes and positional words. Example:
    - I am placing a cylinder with the circular side down on the table.
    - Next I am placing a cone with the circular side on the opposite circular side of the cylinder.
- Have the students compare their shape to yours.
- Continue the process building more complex shapes with additional pieces.
- Partner the students and have them take turns building a structure and describe it to their partner so the partner can replicate the structure (from partner's description). Have them take turns building and replicating
    - Circulate the room to ensure students are using precise language in describing the position and location of their three-dimensional shapes

Next use your PowerPoint to discuss with students the various shapes that can be found in nature, our environment and in the architecture of our buildings.

Explain to students they will create a Photo Story book using the Shutterfly iPad app. Allow time in class for students to explore the classroom. If time allots, take the class around the school and outside to explore. For homework they will collect photos from their surroundings, images from the Internet or pictures they create where hidden shapes can be identified in the larger shape. In their Photo Story book, they will identify the hidden shapes (utilizing the doodle option). They will also use the recording option to explain the attributes of both the large shape and the hidden shapes.

Differentiation: *(Lesson suggestions for enrichment or re-teaching. Scaffolding needed as a result of misunderstandings noted during formative assessment.)*
To be determined

Special Education/ESL Accommodations & Modifications:

- Utilize visual cues for students who struggle following multi step directions.
- Allow extra time for students to use models or work with a partner as these students work on coordinating their visual and motor skills.
- Have students work with a partner to collaborate on the storybook

Extensions: *(Additional activities, follow-up lesson ideas, how the Photo Story book will be shared)*
Students can build complex shapes with three-dimensional items found within their classroom or home. Example they may take cans of soup (cylinder) and create a pyramid. They can record the process through photos using the Photo Story App.

Assessment: *(How will you determine if students have met the lesson objectives? How will your students know if they have successfully met the lesson objectives? Incorporate formative as well as summative assessments – rubrics, etc.)*
Students will be informally assessed during partner activities to ensure correct and accurate use of terminology and positional statements. Students will be further assessed with the completion of their Photo Story book. Students will be identified as mastered the objectives or needs additional instruction through the correct identification and use of shapes recorded in their Story book.