Math Lesson

Teacher Candidate Name: Amy Rawlings

1. Lesson Plan Information

Subject/Course: Math - Geometry and spatial sense

Grade Level: 1/2 **Date:** Thursday Dec. 10, 2020

Topic: Identifying, constructing, and deconstructing shapes within other shapes

Length of Period: 1 Hour

2. Expectation(s)
Expectation(s) (Directly from The Ontario Curriculum):

Overall Expectation
E1. describe and represent shape, location, and movement by applying geometric properties and spatial relationships in order to navigate the world around them

Grade 1 Specific Expectations
E1.2 Construct three-dimensional objects, and identify two-dimensional shapes contained within structures and objects

Grade 2 Specific Expectations
E1.2 Compose and decompose two-dimensional shapes and show that the area of a shape remains constant regardless of how its parts are rearranged

3. Content

What do I want the learners to know and/or be able to do?
By the end of this lesson:
By the end of this lesson, students will be able to identify two-dimensional shapes contained within structures. Students will be able identify and describe shapes within other shapes. Students will be able to compose and decompose 2D shapes, while understanding that the area of the shape remains constant even though its parts are rearranged.

Resources/Materials
Power point, iPad/lesson plan, pattern block buckets, plain paper, triangle template sheet

4. Teaching/Learning Strategies

INTRODUCTION: *10 Mins*

Minds On

- Share that today we will be looking for shapes inside of other shapes

- Show students pictures of real life 3D structures/objects/buildings – ask students what shapes they see within the structure/what shapes compose it
- Discuss how we can compose shapes by using other shapes – compose 3D shapes by using basic 2D shapes

MIDDLE: *20 Mins*

Guided & Shared Practice

- Play a video which *models* constructing 2D shapes using other 2D shapes using pattern blocks (allows the students to see different ways they can compose/decompose a shape)
- Show an image of the various ways 2D shapes can be used to compose one large triangle – emphasize that no matter what shapes compose/make up the inside, the size of the entire triangle remains constant/the same and doesn't change
- Show students a triangle template – model and draw shapes within the template to show students how to compose the larger shape using smaller shapes
- Hand out triangle template sheets to students, and ask them to compose a large triangle within the space using smaller pattern blocks (students can go get their pattern blocks once I give them their template)
- Once they fill in the triangle, they can take the blocks out, and try to compose the triangle again, but using different shapes

BRAIN BREAK: 5 mins
– Go noodle dance

APPLICATION: *20 mins*
Shared & Independent Practice

- Show students a "pattern block pet"
- Explain how the different shapes compose different parts of the animal's body
- Draw on the shapes on the smart board to show how they could also be composed differently (for example, draw triangles on the smartboard within the rhombuses)
- Invite students to take turns coming up to the smart board and practice drawing the shapes
- Share with students that on a piece of blank paper, they will use their pattern blocks to create a pattern block pet
- Students will trace their pattern block pet carefully
- After tracing the pet's outline, they will remove the blocks, and fill in the space using different shapes – emphasize the area remaining constant not changing even though we are using new shapes to compose it
- While students are composing & decomposing their pattern block pets ask some questions: Which shapes did you use for the body/legs? how did you us rhombuses? how did you create the head? Why did you choose that shape for the ears? What shapes fit well together? Why?

CONCLUSION: 5 Mins

- Ask students to put their papers into their math books

- Students will pack up their blocks/math tools and return them to the side of the room
- Dismiss students to get ready for recess individually

5. Assessment

Observations & Anecdotal notes:

- When students are working with their shapes, I will walk around the room asking various questions and writing down student responses in a chart
- Which shapes did you use for the body/legs? How did you use rhombuses? How did you create the head? Why did you choose that shape for the ears? What shapes fit well together? Why? How did you build the pet differently the second time? Was it challenging the second time?
- I will also write down any noteworthy comments from the students in the form of an anecdote
- This will tell me if students can construct objects and identify the shapes contained within them
- I will also be able to identify if students can compose and decompose shapes with an understanding that the area of the shape remains constant regardless of how its parts are re-arranged

6. Feedback & Reflection

Associate Teacher Comments

Teacher Candidate Comments/Reflection