**Geometry – First Grade**

**3D Shapes**

1.      **Lesson Overview**:*The purpose of this lesson is for students to use attributes to identify 3D shapes. During this lesson, students will explore the attributes of 3D shapes and compare them to 2D shapes. They will connect 2D shapes to 3D shapes.*

2.      **Learning Objectives/Targets**: *Students will use attributes to identify and describe 3D shapes.*

3.      **Professional Standards**: ***1.G.1.*** *Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.*

4.      **Materials and Resources**:

* 2D pattern blocks
* 3D shapes and nets
* Poster paper for each group
* 3D booklet for each student

5.      **Lesson Development**: *60 minutes total*

·**Engagement and Motivation**: Seat students around the edge of the rug. *Read several 2D shape attribute riddles. As each riddle is read, place the shape on one side of the board for later use. When finished, explain that all of those shapes are alike in some way. Next, show “secret box.” Let students ask 3 questions to figure out what is inside. Then, silently place one 3D shape at a time from the “secret box” on the other side. Ask students what we might label the “secret box” items. Then together label each side of the sorting chart.*

·**Instructional Procedures**:

* *Remind students about how we already learned about the 2D shapes. Have a couple of students name some attributes of the 2D shapes. Tell students that today they will explore attributes of 3D shapes.*
* *Next, place students in cooperative groups and assign each group a 3D shape and a poster. Tell students that today they will have a silent discussion with their group about their shape. Students will each choose a different color marker to use on their poster. They must write or draw what they know or observe about their shape. Remind students that they can make comments on each other’s ideas in writing as long as they do it in a respectful way. Give students 3-5 minutes for silent discussion. Walk around and join in the silent discussions using a marker. Ring bell to let students know that time is up. Give groups 1 minute to discuss the ideas on their posters and choose 3 important things to share out with the class.*
* *Ask students to come to the rug and place posters in the middle of the rug. Discuss one shape at a time and have groups share out about their ideas. Introduce vocabulary – faces, edges, and vertices - when discussing the shapes. Make a chart to show 3D names and pictures while discussing.*
* *At the end of the discussion, ask students if they notice anything about the faces of the 3D shapes. Give students a chance to think, pair, share.*
* *Place chart on board for students to use as a resource. Tell students that we will use what we now know about 3D shapes to get some wiggles out. Teacher will call out a 3D shape, students should look around the room without moving and try to find an example of that shape. When given the signal, students should walk to that shape and point. Try several.*
* *Pass out 3D booklet. Students will complete the booklet at their seats. Then they can choose an activity to work on when they are finished: 3D shapes, geoboards, or tangrams.*
* *Have students who are struggling come to the table to work in a small group on their booklet.*

·**Closure**:*(5 minutes) Bring students back to the rug. Show Venn diagram. Ask students to think of ways that 2D and 3D shapes are the same and different.*

6. **Reflection**