WHOLE SCHOOLS INITIATIVE

Lesson Title: **Getting into Shape!**	**Big Idea & Learning Objectives** 1.Students will develop an understanding of the composition of complex 2 and 3 dimensional shapes. 2.Students will understand that each shape's name gives us a hint as to what the shape is composed of. 3.Students will learn to make various shapes with their bodies. 4.Students will understand how combinations of different body angles creates a two or three dimensional shape. 5.Students will create a chant and dance routine to help them remember the two dimensional shapes
Content Area & Arts Discipline: **Math & Movement/Dance**	**Overview of the Lesson** The teacher will review the meaning of numerical prefixes: tri, quad, penta, hexa, hepta, octa, nona, deca. Students and teacher will review the elements of dance: body, action, space, time, and energy. Keeping these in mind students will create lines and angles with their bodies. The students and teachers will discuss how many of the body lines and angles would need to be put together to make various two and three dimensional shapes. The students will create a chant to help them remember the shapes and will add dance movements to create dance sequence.
Grade Level: **Fourth or Fifth Grade**	**Procedures** **Engaging Students ("The Hook"):** The teacher will engage the students by telling them that today we will be investigating shapes. Specifically shapes that we can make without any pencils, paper, or props of any kind. What do you think we will be using? Right our bodies. We know that good dancers use their bodies and the space around them to create shapes. Let's get our bodies ready to dance. The teacher will lead the students in some dance warm-up sequences. (see hand-out)

Proposed Time Frame: 2 hour (2 class periods)	**Building Knowledge:** **(REVIEW FROM ANGLES IN ACTION)** Together make a chart displaying the prefixes and the numeral that they represent. Add two more columns for example of the the shape and what it is made of. Review what they already know about shapes. They must be closed they are made of lines, have corners, etc. When students say lines prompt them to tell you the types of lines. Lets make lines with our own bodies. Make a set of parallel lines, perpendicular, and intersecting. What are the similarities and differences between the types of lines. When two lines connect what do they form? What if the two lines connect and stop at that point? Make body angles using the elements of space (size, level, place) --Split students into groups and make a quick sycopated dance sequence that uses space, lines, and angles. Set the criteria for two total counts per move. Give the students three minutes to construct a routine. Then count them off (5, 6, 7, 8) and let each group perform. Have the students point out the moves that showcased each type of line or angle. OR watch a video clip of people performing a dance and have students record the movements seen that demonstrate each geometric concept. Teacher should pose the question: How could we use movement to bring these lines and angles together to create new shapes?
Date Lesson Created: **January 2014**	**Modeling the Experience:** •Begin with Tri-. Tri- means three. If a shape begins with tri-, it is made of three lines. How can we show this? •Have students work in groups to form a shape with three lines with their bodies and space. • Compare and contrast each groups shape. What do you notice about each shape. How many lines does it have? How many angles? What kind of angles do you see? How do you know? etc. •Continue this activity for each prefix •Have students come up with a chant to remember each of the prefixes and the shapes. Then have the students create a dance sequence that showcases each shape and correlates with the chant.

Lesson Author: **Kristen Roberts**	**Applying Understanding:** •Students will create lines, angles, and shapes through dance and will record their learning in a chart •Students will compare their movements with those of a classmates. •Students create a chance and a dance sequence that demonstrates their understanding of geometric concepts.
Room Requirements & **Arrangement:** **classroom** **-large open space** **-uncluttered** **-carpet/rug**	**Opportunities for Reflection (Closing):** •By reflecting on their own dance sequences as well as those of their peers, students will realize that angles are additive. Several angles put together form shapes, all shapes have lines, etc.
Material Equipment: ●**smart board/chart paper and** **markers**	**Assessing the Learning:** The teacher will observe students as they work in groups to analyze their understanding of relationships between lines, angles, and shapes The teacher will grade student dance sequences using a teacher created rubric

Resources:

-Elements of Dance sheet
-Dance Warm-ups

Standards & Principles

State Content Standards:

4.G Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
4.G.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
4.G.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.
4.MD.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Dance/Movement
D.4.1 Demonstrate a basic understanding of movement skills. (CP, CA)
D.4.2 Demonstrate a problem-solving experience integrating kinesthetic awareness of movement. (CP, CA)
D.4.2a Use improvisational skills to problem-solve through assembling or sequencing movement and creating new movement.
D.4.2b Discuss and justify own movement choices and evaluate movement choices presented by others.
D.4.3a Explore one or more elements of dance simultaneously: space, time, shape and energy through improvisation.
D.4.3b Collaborate with a partner (sharing weight, mirroring, leading, copying) to create and explore movement possibilities.

Vocabulary: ● **shape** ● **prefixes (tri, quad, penta, hexa, hepta, octa, nona)** ● **angles(right, obtuse, acute)** ● **lines, line segments, and rays** ● **additive** ● **dance elements**	**Principles of Universal Design for Learning:** I. Provide Multiple Means of Representation 2.5 Illustrate through multiple media. 3.4 Maximize transfer and generalization II.Provide Multiple Means of Action and Expression 6.3 Facilitate managing information and resources 6.4 Enhance capacity for monitoring progress III.Provide Multiple means of engagement 7.2 Optimize relevance, value, and authenticity. 8.3 Foster collaboration and community.
	## <u>Appendix</u> **Extended Learning Activities:** **Ways to Adapt:** --Extensions: You can extend this by having students to create three dimensional shapes through dance. --Students could define each shape through the point of view of one of its parts(a line, angle, etc.)