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### Venn Diagramming using Project Interactivate

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## Venn Diagramming

You should submit this form in addition to any computer generated files/documents/models to your group folder on Angel. Please create a .zip file and upload the group of files as a single archive.

Name: Sarah Heigl
Grade level(s)/Subject taught: 9 <sup>th</sup> grade Algebra
Objectives:  <ol style="list-style-type: none"><li>1. To find the differences and commonalities between sets of concepts, objects, numbers, etc...</li><li>2. To be able to group sets, parts of sets into different areas on the Venn Diagram.</li></ol>

Items to include in your lesson plan: (Choose your discipline/concepts from your own area).

1. Write the Mathematical Concept or "key idea" that modeling will be used to teach: (e.g. Students use mathematical modeling/ multiple representation to provide a means of presenting, interpreting, communicating, and connecting mathematical information and relationships)

Students use number sense and numeration to develop and understanding of multiple uses of number in the real world, the use of numbers to communicate mathematically, and the use of numbers in the development of mathematical ideas.

Materials:

Project Interactivate activity "Venn Diagram Shape Sorter"

Computer Lab

Worksheet

Pen/Pencil/Markers

Poster sticky notes

“...a rich **one-page, single-spaced**, description or a *vision* of your best thinking...”

Prompts:

1. How will you assess the prior knowledge of the student?
2. How will you begin the lesson?
3. What are the teacher and students doing every 5-10 minutes? (Teacher Actions and Student Actions)
4. How will you assess the learning for the lesson?

Using \_\_\_\_\_ project interactivate \_\_\_\_\_ I plan on having my students...  
(software / modeling package(s))

1. Prior knowledge will be assessed by a group discussion on what a Venn Diagram is and how to use one. Students will also complete a lesson previous to this one. This would be the second or third in a series.
2. I would begin this lesson by a quick review of what a Venn diagram is. And Why we use Venn Diagrams. With a quick pictorial representation/example.
3. Teacher would open up the activity on her computer and project onto the screen. This way all students will be able to participate. The teacher would begin by choosing the program where there is one circle and students need to guess what the rule is. Students would be broken up into two teams. One student from each team (alternately) would pick a shape and attempt to place it either in the circle or on the outside of the circle (but within the universe). If the student is correct that shape will stay where they placed it. If they are incorrect then the shape will be replaced. The next team would take their turn. When it is a team's turn they can use their turn to guess the rule. If they are correct then they win that round. If they are incorrect then it is the other team's turn. Once the students feel confident doing this with one circle then I would add a second circle and so on. Time permitting we would then make things a little more interactive. The teacher would have a Venn diagram on the blackboard and magnetic shape pieces. The students would be broken into teams again. At this point students would take their turn as before. Other students are not allowed to yell out suggestions. Students are on teams, yes, but it is up to the individual students to determine what to move where. This way each student has the opportunity to play without just being told, by their classmates, what the rule is.
4. Learning will be assessed at the end of the lesson by giving them a handout with two “rounds” of the game printed on it. There will be various shapes already placed. The students will have to figure out the rule.

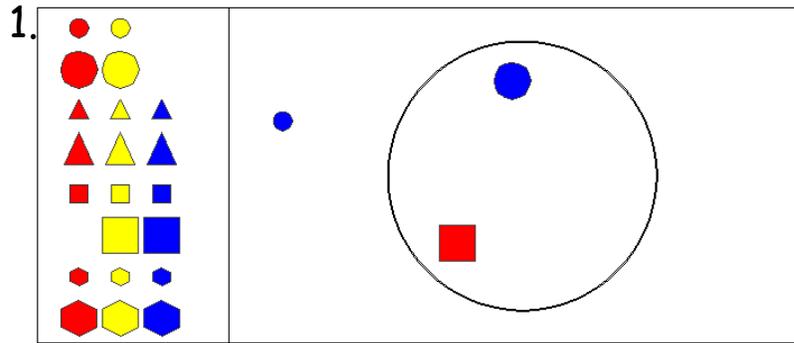
Please provide a rich **one-page, single-spaced**, description or a *vision* of your best thinking on a way or ways you might teach the planned lesson. (approximately ½ page for the teacher role, ½ page for the student role). Also, construct a tentative rubric that you might use with your students (see example)

In the beginning of class the students would break up into small groups. Each group would start at one poster size sticky note (on the wall) and write everything that they know about that question. Example: the first sticky note would ask “what is a Venn diagram?” Students would write what they think a Venn diagram is. The group would then rotate to the next poster which asks, “Why do we use Venn diagrams?” Groups would rotate again and again until they have contributed to all posters. From there, there would be a class discussion as to what was written on the posters. Using project interactivate I would demonstrate to the students the “Venn diagram shape sorter.” This would give students a visual manipulative to connect to. Once the demonstration was complete the students would run the program taking turns (teams) placing shapes and guessing what the rule is (for one circle). When students are comfortable we would then move on to using two circles in the Venn diagram and so on. The next lesson would be students working with three circles. Once that is complete I would have students develop their own game. They would come up with the rules themselves either in cooperative groups and/or individually. Then each of the games would be played by the class, or small group, time permitting, to see if it works. This also serves as a form of assessment. By doing this, students make it their own. They end up creating their own meaning and therefore grasp the information better and longer. It is internalized.

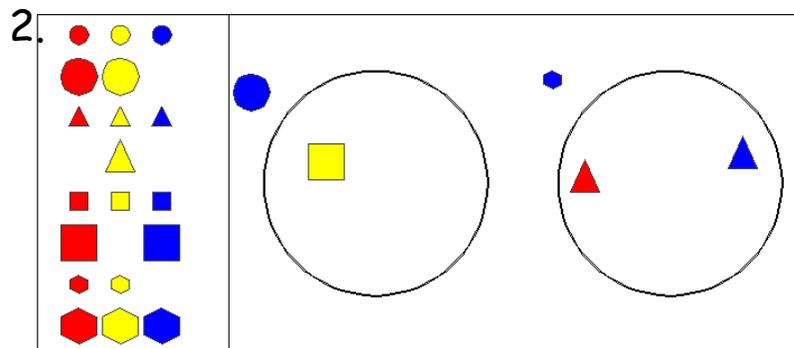
# Venn Diagramming

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Name the rule for the following:

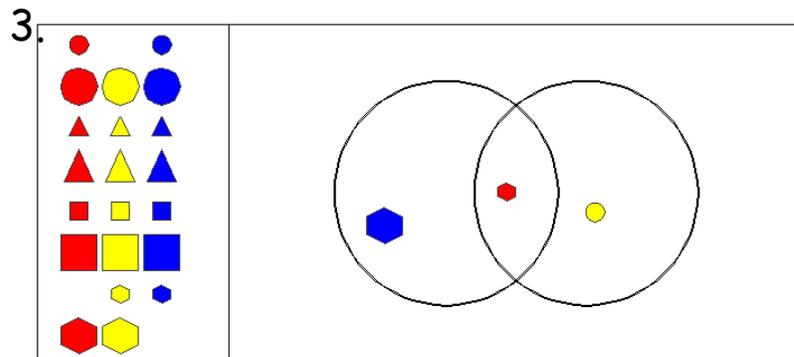


Circle Rule:



Circle 1 Rule:

Circle 2 Rule:

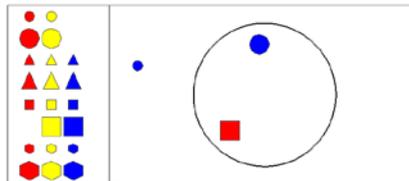


Circle 1 Rule:

Circle 2 Rule:

Choose which rule goes with each circle by eliminating (crossing out) the rules that do NOT apply.

Example: **Highlighting** = Crossed out



Circle One
Little
Big
Square
Triangle
Quadrilateral
Circle
Red
Blue
Yellow

There are bigs inside the circle so

that cannot be the rule.

There is a circle inside the circle so square cannot be the rule.

There is a square inside the circle so circle cannot be the rule.

There are shapes other than triangles so that cannot be the rule.

Same with Quadrilaterals, red, blue, and yellow.

So the only rule left would be big.

2.

Circle One	Circle Two
Little	Little
Big	Big
Square	Square
Triangle	Triangle
Quadrilateral	Quadrilateral
Circle	Circle
Red	Red
Blue	Blue
Yellow	Yellow

3.

Circle One	Circle Two
Little	Little
Big	Big
Square	Square
Triangle	Triangle
Quadrilateral	Quadrilateral
Circle	Circle
Red	Red
Blue	Blue
Yellow	Yellow