

STEM Session for Share the Wealth Conference

Activity: Ball Blast

Equipment: Two large size exercise balls.

As many different size and weight balls that you have.

Game: Mark one exercise ball letter "A" and the other letter "B".

Divide the class into two equal teams. Designate one or two people from each team to be the "All Powerful Being" (depending on how big your classes are). I designate them with a scrimmage vest. Place each team on one of the sidelines of the basketball court facing each other. The large exercise ball should be placed in the middle of the court, surrounded by the smaller ball.

Objective: Each team wants to move their ball over to the other teams' side line. You can only move the exercise ball by making hitting it with a ball. The only person who can gather the ball for their team is the All Powerful Being. The All Powerful Being **MAY NOT** make contact with the exercise ball. Teams may prevent the ball from crossing their sideline **ONLY** by throwing another ball at the exercise ball. First team to have their ball cross the other team's sideline wins!

Round Two

Add two more exercise balls (mark them A and B) that are a little smaller. The same rules apply, but the small ball has to cross the sideline first, before the larger ball can be attacked.

I also add in different kinds of balls (foam footballs, heavier weighted foam balls, ect.) into the mix. Have the All Powerful Beings give their power to someone else.



Closure Questions: Why does the ball move? Did it make a difference which ball you threw? Why or why not? Did it matter where you hit the ball to make it move? Which balls made the exercise ball move further? Why? How did you make the ball stop? Why were you able to do that?

Activity: Straw Ball Bag

Give each student between 20-25 bending straws and a roll of scotch tape. Show them a mesh style ball bag that hold more than one ball.

Objective: Create a ball bag that will hold one softball size foam ball. It needs to be something that you can turn upside down and the ball will not come out of the "bag". Student can work in groups (I recommend no more than 3 people) or they can work by themselves.



More of a challenge:

Give the students less straws and less tape to use.

Use the straws from the cafeteria that do not bend for material.

Use a bigger ball.

See if they can fit more than one ball into their design. If not, have them try to modify their design to fit more balls or bigger balls.

Activity: Marble Drop

This activity requires you to gather materials ahead of time. It took me about 4 months to gather the necessary equipment for this so plan accordingly.

You will need as many toilet paper rolls and paper towel rolls as you can gather, one small to medium size Styrofoam cup, one marble, and a roll of scotch tape.

I gave students the option of working by themselves, or working with a partner.

Each group was given four of the toilet paper rolls, a cup, one marble and a roll of scotch tape. They had to attach the toilet paper rolls to the gym wall in a way that the marble traveled through each roll and landed in the cup. The cup had to stay on the floor.



Stage 2: Give the students 3-4 more tubes (depending on how many that you have) and have them add a change of direction to the pervious tubes.



Stage Three: Give the students one or two paper towel rolls and have them add some height to the previous tunnels.

- Instead of a change of direction, have them make the additional tubes into an acute, obtuse or right angle to their previous creation.
- More Challenging: Limit the amount of tape they can use.

Activity: Paper Towel Tower

Have the students create a tower made solely out of paper towel rolls. It has to be able to stand on its own.

