

NARRATIVE ACTIVITY

4 students in a group

Two students objective will be to hit the objects in the paper.

Materials

1-Piece a paper with a circle drawn on it and scotch tape

2-Four tacks with flat surface

3-Two rubber, glass, or wooden balls, the material and size of the balls don't matter.

Procedure

The students will place the tacks inside the circle. You as the teacher can determine the size of the circles drawn or you can allow students to decide.

The students will tape the flat surface of the tack to the clear side of the paper and will place the pointed side up and flat surface side down.

Your high achieving student will record the observations as other students engage in the activity.

Your middle achieving student will determine the distance the students will be from that target. They will also determine how many tries each student will have and record the number of times each student hits the target.

Your lower performing students will be the students involved in trying to hit the objects on the paper.

Your high achieving student should be looking for the following

- Number of tries before the student hits the targets
- Number of times students hit target in each attempt
- How many times does the ball miss the targets
- What distance was the student from the target
- What happened when the ball collided with the target

Your high achieving students will place their information on the board or large sheets of poster paper to hang around the classroom so each student can copy the information.

As a class determine the percentage of times each group hit the target and the percentage of times the groups missed the target.

Also have kids make predictions based on numbers what would have happened if the circle with the tacks were smaller or if the tacks were larger than ones used in the activity.

You now have a narrative to discuss Rutherford's experiment to discover the internal structure of an atom.

Follow-up for Activity

The following day you can present the actual experiment of Rutherford and then ask the students to make predictions on Rutherford's experiment using your narrative creating activity from the day before as a model.

To facilitate development of conclusions about Rutherford's experiment have the students refer back to percentages of hits and misses and what does it mean in terms of internal structure of atom.

You can illustrate vocabulary by relating it to objects used in the activity.

Paper=atom

Circle=Nucleus

Tacks=Protons

Ball=alpha particles

Sample of Chart

NO. of Attempts	NO. of Hits	NO. of Misses	Distance	Observations