Collisions
9TH GRADE SCIENCE

OVERVIEW	The unit focuses on colliding objects in the physical world. Students will be exposed to how fundamental principles in physics can be applied to more than one object. Students will then create a ReddyNote account and then share tasks that break up long collision problems into simple steps like a tutorial. They will then enter their answers in the description field of their tasks and share them with the teacher for evaluation.
OBJECTIVE	The student will be able to accurately predict the physical interaction outcome of objects in collision. They will also take a quiz over collision involving various objects such as spheres and atoms in free-space and pass with a 90% or better to show proficient knowledge in the step-by-step process. The ReddyNote aspect allows them to organize their studying into a tutorial-based strategy.
STANDARDS	Standard 6: Principles of Physics Students learn to be able to describe objects in the natural world and predict how those objects behave through the use of fundamental principles using quantities like velocity, acceleration, force, etc. Students also learn how the ideas they study in physics relate to ideas in other sciences.
MATERIALS	❖ Internet access ❖ Computer Lab with a computer for each student. ❖ Physics book and notes
PROCEDURE	1. Teacher gives notes over the lesson and then creates a list of examples of collision problems, step-by-step, to use in ReddyNote 2. Go to the computer lab where the teacher will help each student set up a ReddyNote account. The teacher will also show them how to get started editing tasks and their deadlines and notes. 3. Then the students will follow the steps and complete each task for the assigned problems. A task for one problem will deal with vector properties, then the next task will be velocity to momentum conversions, then so on until the outcome of the collision is calculated 4. Students share their newly completed tasks with the teacher for evaluation.

EVALUATION	Students will be given a short quiz on each type of object in collision from the tutorial steps to determine if students can complete the problems without the explanations.