Unit 3C
Newton’s Second Law Part 1
Note-Taking Guide and Questions to Consider

Objective(s):
- Understand the difference between field forces and contact forces.
- Use Newton’s second law to calculate an object’s acceleration when it experiences a net force.

Notes:
During the video segment, use words, phrases, or drawings to take notes.

Summary:
After watching the video segment, write down key points, main ideas, and big questions.

Main Ideas, Key Points, Questions:
After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself, “If I was going to explain this to someone else, what would I say?”
1. What kind of force is the force of gravity? Do objects have to be touching in order for the force of gravity to be exerted?

________________________________________________________________________

________________________________________________________________________

2. Write the equation for Newton’s law of universal gravitation:

\[ F_a = \text{____________} \]

3. As the distance between two objects increases, how does the force of gravity between them decrease?

________________________________________________________________________

________________________________________________________________________

4. What is the acceleration due to gravity on earth?

________________________________________________________________________

________________________________________________________________________

5. Does an object’s mass or weight change when it goes to another planet? Explain why.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

6. Force is measured in what unit? What is this unit equal to in other units?

________________________________________________________________________

7. Define a contact force in your own words.

________________________________________________________________________
8. What are the five types of contact forces?

9. Write the equation for Newton’s second law:

\[ F_{\text{net}} = \] 

10. How are the direction of the net force on an object and the direction of the object’s acceleration related?

11. What is the equation for the force of gravity on an object?

\[ F_g = \] 

12. If two forces act in opposite directions on an object, how do you find the net force acting on the object?

\[ F_{\text{net}} = \]