

Physical Science
Week 10 – Text pp. 305 – 318

Day 1 Read pp 305-309

1. What is **physics**?
2. Name the branches of classical physics.
3. Name the branches of modern physics.
4. Physics begins with the study of ? .
5. Complete this: Speed is
6. What is the mathematical formula for calculating speed?
7. Do the application at the top of p 309.
8. How is velocity different than speed?

Day 2 Read pp 309 – 312.

1. Know these terms: **vector quantity, vector**.
2. Carefully study the diagram at the bottom of p310. Then do the application on p311.
3. What is a force?
4. Complete this: Acceleration is (Note that it is not just speeding up. See bottom of p312).

Day 3 Read pp 312-315

1. Read the examples of measuring acceleration on p313, then use the formula on p312 to do the application at the top of p313.
2. Memorize Newton's First Law of Motion, p314.
3. What does the first law of motion have to do with wearing a seat belt in the car?
4. Try the "trick" shown at the top of p315.
5. What does mass have to do with inertia? (Hint – which is easier to push, a car or a bicycle?)

Day 4 Read pp 316-317.

1. In the second law of motion, what does "inversely related" mean?
2. The SI unit of force is the ? .
3. A force of one ? exerted on a mass of one ? accelerates the mass by one ? .
4. Acceleration is directly proportional to the ? .
5. Acceleration of an object is inversely proportional to the object's ? . In other words.....

Day 5 Read p318

1. The third law of motion says
2. All forces work in ? .
3. How do rocket engines take advantage of the third law of motion?