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Unit 3G
Circular Motion

Note-Taking Guide and Questions to Consider

Name:

Date:

Main Ideas, Key Points, Questions:

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

Objective(s):

- *Recognize characteristics of uniform circular motion, and understand that a net force is required to change an object's direction of motion.*
- *Understand how the net forced experienced by an object is related to its mass, velocity, and the radius of its motion when traveling in a circular path.*

Notes:

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

Summary:

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?"

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Answer the following.

1. **Name the three ways an object's motion can change that would indicate it is accelerating.**

2. **Define centripetal force in your own words.**

3. **In what direction does centripetal force act on an object that is traveling in a circular path?**

4. **Will the words "centripetal force" ever be written on a free-body diagram? Explain.**

5. **What causes the centripetal force that keeps the moon in orbit around the earth?**

6. **What causes the centripetal force that keeps a car moving in a circular path around a track?**

7. **Why does your body feel as if it is being pushed into the car door when going around a turn?**

questions continued on next page

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Answer the following.

8. In what direction will an object move when the force that causes the object to travel in a circular path no longer applies?

9. What is the time for one lap around a circle called?

10. What distance does an object travel in one lap around a circle?

11. How do you find the speed of an object traveling in a circular path if you know its radius and the time it takes to complete one lap?

12. On the diagram below, draw the direction of the object's velocity and acceleration if it is traveling clockwise.