

# Physics in Sports Instagram Project



PROJECT DUE DATE \_\_\_\_\_

Each and every movement in each and every sport contains a great deal of physics. In some sports, such as swimming and cross-country, the winner of a competition is determined by who can move the fastest average speed. Other sports, such as basketball, figure skating, and ultimate Frisbee, the success depends on accuracy, technique and team work.

**As a pair (or individually) your assignment is to create a social media page about a specific sport using the Instagram template provided.**

**FORMATIVE grades & TEST GRADE!**

## What am I doing??

- Design an Instagram page analyzing the physics of a sport or physical activity.
- Minimum of NINE content posts.
  - Information can be posted using videos or pictures with captions
  - At least 4 posts are a picture or video you have taken yourself!
  - Yes, you can use TikTok
- Include ONE reference post – citing your sources – your last post
- You will research information related to the sport of your choice

**What sport will your page be about?** \_\_\_\_\_

If you need some ideas come see Mrs. Crawford.

## **PART 1: RESEARCH QUESTIONS**

**Complete these questions on a piece of paper and turn in for project formative points.**

1. **Name of the Sport.** This is will be your Instagram page name (screen name) and your profile pic.
2. **Who is your target audience?**
3. **Describe the objects in motion in your sport.** Do people move around a lot? Do they move in straight lines or do they change directions? Is a ball, projectile, other equipment the focal point of the game?

4. **Explain how speed is a part of your sport**, such as the speed of a served tennis ball or speed of the runner. Describe how this speed is controlled by the athlete or is changed by their actions or movements. How is acceleration involved?
5. **Find at least one example of the Laws of Motion (Newton's Laws) in your sport.** Describe each example as clearly as possible. Use words that you have learned in class. (Example: speed, velocity, acceleration, gravity, air resistance, projectile motion, forces, etc.)
6. **Explain how safety equipment protects you** when participating in the sport
  - Use the terms **momentum and impulse** in your description.
7. **Include information for at least 3 or more** of the following that relate to your sport:
  - What forces are involved in your sport? Use force diagrams (box with arrows) to describe the forces acting upon the athletes in the sport.
  - How does weight or mass affect your sport? Does added weight or mass have an advantage or disadvantage? Are there weight classes to your sport?
  - Consider the role friction plays in your sport. In what circumstances is friction desirable? Undesirable?
  - Describe the limitations (measurements) of the game or sport. Do these limitations affect the play of the sport? Do they limit the success of the winner?
8. Using your understanding of the physics involved, **describe 2-3 specific things that an athlete could use to improve performance or improve the outcome of this sport.**
9. **Your last post is to have your research sources.** You should aim to use information from **at least 3 sources**. List these resources on your last Instagram post.

**TURN IN your research questions for formative points on your project *BEFORE* you begin setting up your Instagram page**