**The Physics Of Sports, Music, or Leisure**

Everyone is different in their own ways, and likewise everyone has different interests. For example, some people are talented academically, whereas others are gifted athletically, musically, or artistically. Just because a person possesses talents in one aspect of their life does not mean that they necessarily have to operate one-dimensionally. Hobbies and other interests complement our strengths and serve as an outlet for creativity and exploration. As with most phenomena in life, these interests can be explained using the laws of physics to better understand how something operates or to improve your performance. For this project, you will study an extracurricular area of interest in your life, particularly a sport, musical instrument, or leisure activity. Your chosen activity will be presented to the class using iMovie. Research should be conducted outside the classroom, however class time may be available to create your presentation. The project presentation is worth 100 points. The following criteria must be met for this presentation:

**1. Choose a sport, musical instrument, or leisure activity (back side).**

**2. State information for each of the following:**

**1. Title** (3 Points)

- What is the title of your presentation?

**2. History** (12 Points)

- Identify 5 significant events or occurrences that led to the development of the activity

- Include a visual aid (picture, video, etc.)

**3. Technical Aspect #1** - Include a visual aid (12 Points)

1. Identify one technique of your chosen activity

2. Identify the physics law or principle associated with the technique

3. Explanation of technique (3 facts minimum)

**4. Technical Aspect #2** - Include a visual aid (12 Points)

1. Identify one technique of your chosen activity

2. Identify the physics law or principle associated with the technique

3. Explanation of technique (3 facts minimum)

**5. Technical Aspect #3** - Include a visual aid (12 Points)

1. Identify one technique of your chosen activity

2. Identify the physics law or principle associated with the technique

3. Explanation of technique (3 facts minimum)

**6. Technical Aspect #4** - Include a visual aid (12 Points)

1. Identify one technique of your chosen activity

2. Identify the physics law or principle associated with the technique

3. Explanation of technique (3 facts minimum)

**7. Recommendations** - Include a visual aid (12 Points)

- List five recommendations to a person to enhance their performance on your chosen activity

**8. Outline** (15 Points)

: Put all information on a typed outline

: Project will not be graded until an outline is submitted

: Information on the outline will be information graded

**9. Appearance** (10 Points)

: Storyboard a script and develop a theme (Talk Show, Dr. Show, Documentary, Hospital Drama, etc.)

: Create visuals for the video (sets, pictures, props, costumes, etc.)

: Create dialogue that incorporates factual information

: Clean up clip transitions

: Make sure information is well enunciated

**Sports**

- Auto Racing

- Badminton

- Baseball

- Basketball

- Bobsledding

- Cheerleading

- Cross Country

- Cycling

- Dodgeball

- Football

- Golf

- Gymnastics

- Hockey

- Lacrosse

- Ping Pong

- Racquetball

- Rugby

- Skateboarding

- Skiing (Snow or Water)

- Snowboarding

- Soccer

- Softball

- Swimming

- Tennis

- Track & Field

- Volleyball

- Water Polo

- Wrestling

**Musical Instrument**

- Accordion

- Bagpipes

- Cello

- Chimes

- Clarinet

- Cornet

- Cow Bell

- Cymbals

- Drums (Any Form)

- Flute

- French Horn

- Gong

- Guitar (Acoustic or Electric)

- Harmonica

- Harp

- Harpsichord

- Keyboard

- Oboe

- Piano

- Piccolo

- Recorder

- Saxophone

- Tambourine

- Triangle

- Trombone

- Trumpet

- Tuba

- Tympani

- Ukulele

- Violin

- Xylophone

**Leisure Activity**

- Billiards

- Boating

- Bowling

- Bungee Jumping

- Croquet

- Dancing

- Fishing

- Hiking

- Hunting

- Walking

- Rock Climbing

- Rodeo

- Shooting (Rifle or Bow)

- Skateboarding

- Skating (Rollerblade or Ice)

- Walking

- Weightlifting