

# Heart rate



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# Background Information

- Our test is about stress and heart rate. Stress is all about how your body gets tired and stressed out.
- Heart rate is all about how high your blood pressure and if you are healthy.
- Stress can affect you in two different ways: Physically, and Mentally. They can really affect the way you live while stressed.

# Expert Consultation

We contacted an expert on heart rate and stress, and he told us very useful information. He said that your heart rate is very important to your health because if your heart rate is too high, you could have dehydration, seizures, or even a heart attack. And he also said that if you are too stressed then it could lead to loneliness, drugs, alcohol, and even illnesses. So, from the information that you have just read, it is very important to your body and health from the causes of a high heart rate and stress.

# What our project is, and why we chose it:

- Our project is about stress and how it affects you
- We chose it because it seemed interesting to us and it seemed like a cool experiment, stress is not good for your mental and physical health, that is why we chose it for our project so we could learn more about it

# Pre-Questions:

Does anyone know the definition of stress?

Answer: Fatigue; strain; accent or emphasis



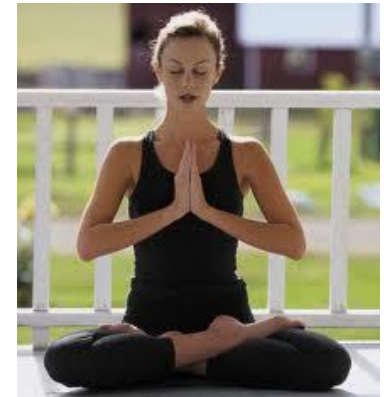
# Does anyone know techniques for stress relief?

Answer: Yoga; sleeping; listening to music; meditation; deep breathing; rhythmic exercise; sports; laughter; etc.



# Yoga

- exercise; meditation
- It is the most relieving technique for stress



- It can relieve stress in the muscles, and can relieve you from your stress of an injury

# Sleeping

Research says that:

Sleeping is the best way to relieve stress because your body gets to rest and not think at all and gets to repair your injury or your stress.





# Music

Tests say that music can soothe mental stress the best.



# Meditation

Meditation gives you a sense of calm, peace and balance that benefits both your emotional well-being and your overall health.



# Deep breathing

Deep breathing like meditation also helps the inner-chi; breathing deeply can bring in enough oxygen that the body needs to survive, and you also learn to breathe properly that lets your body grow in physical and mental balance



# Rhythmic Exercise

Working out to rhythmic exercise may reduce fatigue, enhance motor coordination, and increase relaxation.



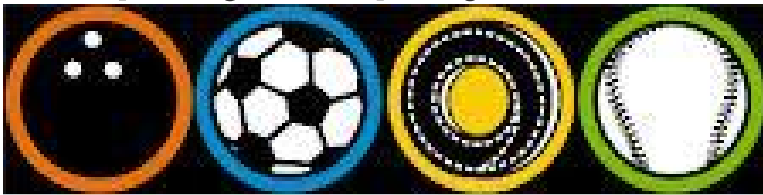
**You Earn Your Body**

*I WANT TO GET HEALTHY.  
I WANT TO LOOK BETTER.  
I WILL EAT RIGHT  
I WILL EXERCISE.*

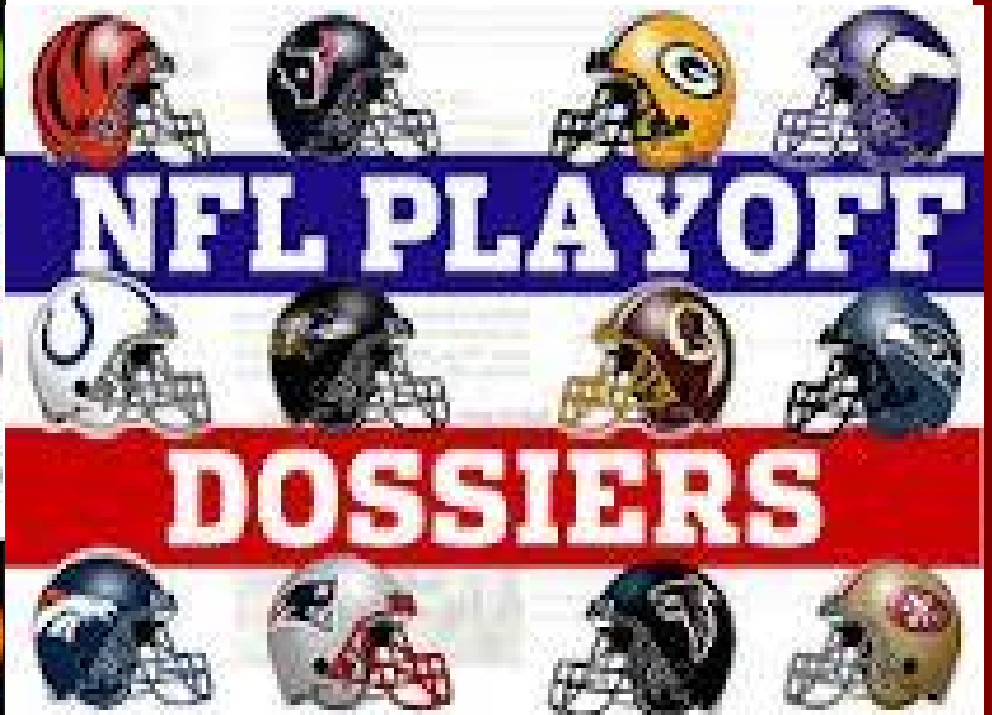
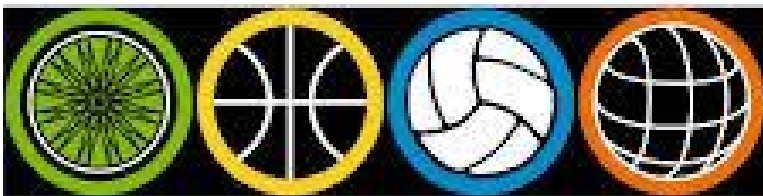
*I WILL EARN MY BODY.*

# Sports

Sports are good for you because it keeps you active and strengthens your inner-chi. It also helps you physical and mental balance.



**SPORTS**  
for Exceptional Athletes



# Laughter

Laughter increases happiness and intimacy; it is like a medicine for your mental health and it can repair that if you are happy and laughing.

**Laughter is the  
best medicine  
but if you laugh  
for no reason,**

**You need  
medicine.**



# Instructions for experiment

## Instructions

### Materials:

- Vernier Lab Quest - Vernier Heart Sensor
- Vernier Heart sensor adaptable cord - Person
- Flash drive

### Instructions:

1. Push the power button on the Lab Quest. Located on the top left of the Lab Quest.
2. Hit the Home Button located on the bottom strip of the touch screen.
3. Then push the Lab Quest App( the first option)
4. Then hit the button with the graph and line symbol in the top bar of the touch screen
5. Then take the adaptable cord and of the top of the side in one of the while slots( put the white part in)

# Instructions Continued

6. Then take the Vernier Heart Sensor and hold it approximately 7in. apart.
  7. At the same time have another person hold the other end of the cord about 2 in. away from the sensor and have them hit the play button in the bottom right corner of the touch screen. Make sure the play button turns to an orange square.
  8. Hold the end of the cord up to it for 2 min. and do the workout(next slide, keep sensor running) 4min. workout then do the 2 min. sensing then hit the stop button(orange square).
  9. Plug in your flash drive in the flash drive slot by the white slots where the cord is plugged in
  10. Touch the file button on the top bar of the touch screen
  11. Then hit save in the listed options
  12. Then hit the USB button under the name on the top
  13. Click in the white name strip on the top of the touch screen
  14. Hit the backspace arrow which looks like this, ← , and delete all of the characters
  15. name it what you want and hit save in the middle right of the screen
- There you go! You just did the experiment! Now you know how to test your heart rate with the sensor. :)



# *Instructions for work out*

## 4 min. Workout

- Sprint up+down stairs 10 times
- Then do 10 burpees
- Then do 20 jumping jacks
- Then do 10 sit-ups
- Repeat till 4 min. are up(except stair run)
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# Testable Hypothesis

After doing exercises, people who play sports will have a lower heart rate increase than people who do not play sports.

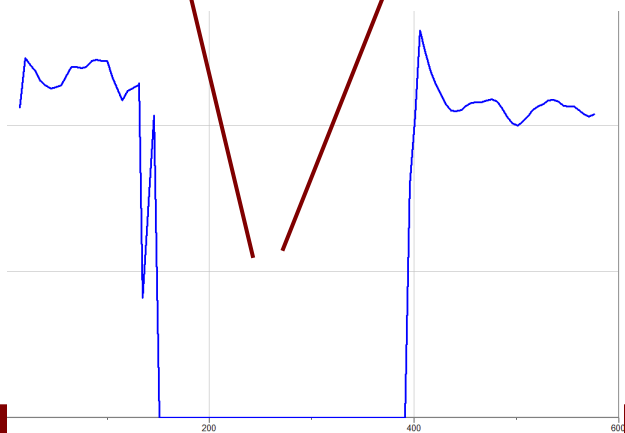
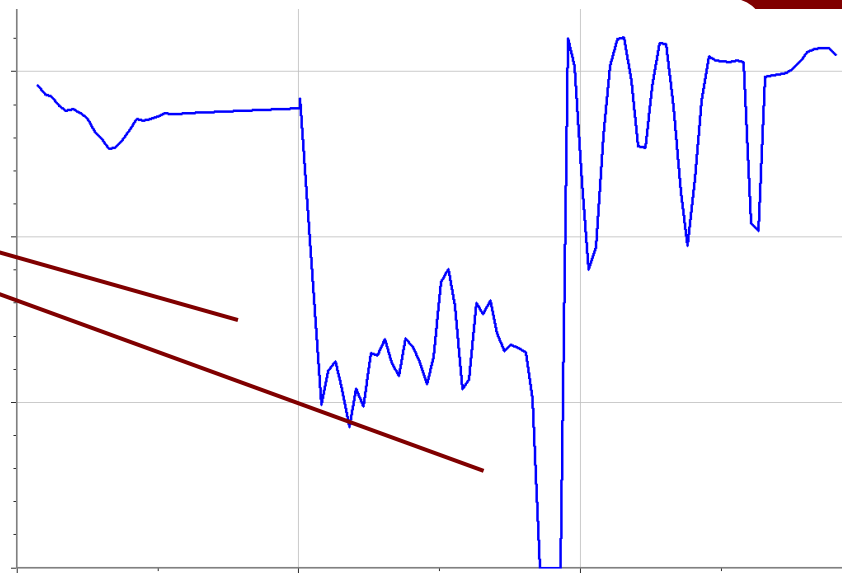
# DATA Table heart rate

People	Sports	Type of sport	BPM Lowest	BPM Highest
Anna	yes	Basketball	52 BPM	133 BPM
Rachel	yes	Dance	42 BPM	160 BPM
Tylor	no	None	72 BPM	176 BPM
Kat	No	None	70 BPM	108 BPM

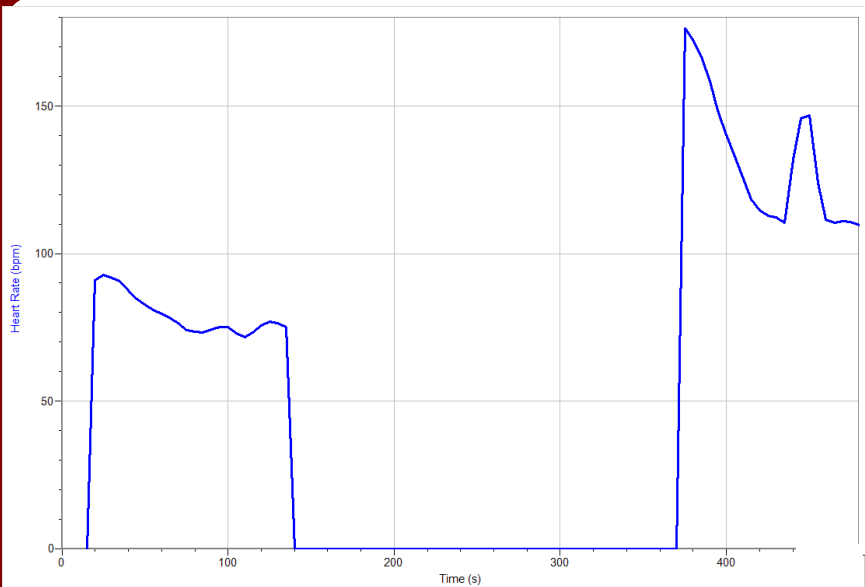
# Graph Stress Science

rachael wege stress test  
PLAYS SPORTS CURRENTLY

PLAYS SPORTS CURRENTLY  
anna gorski stress test

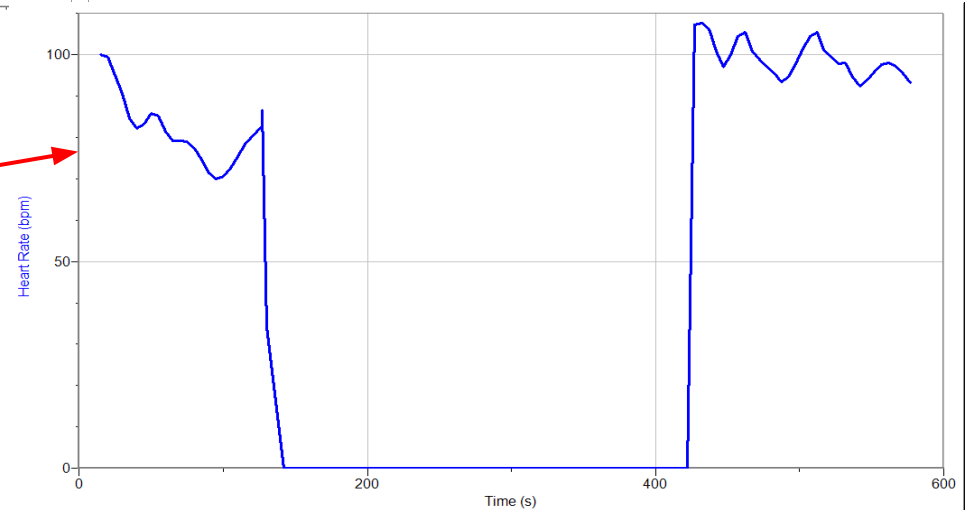


# Graph Stress Science



Tylor heart rate graph  
DOES NOT PLAY SPORTS CURRENTLY

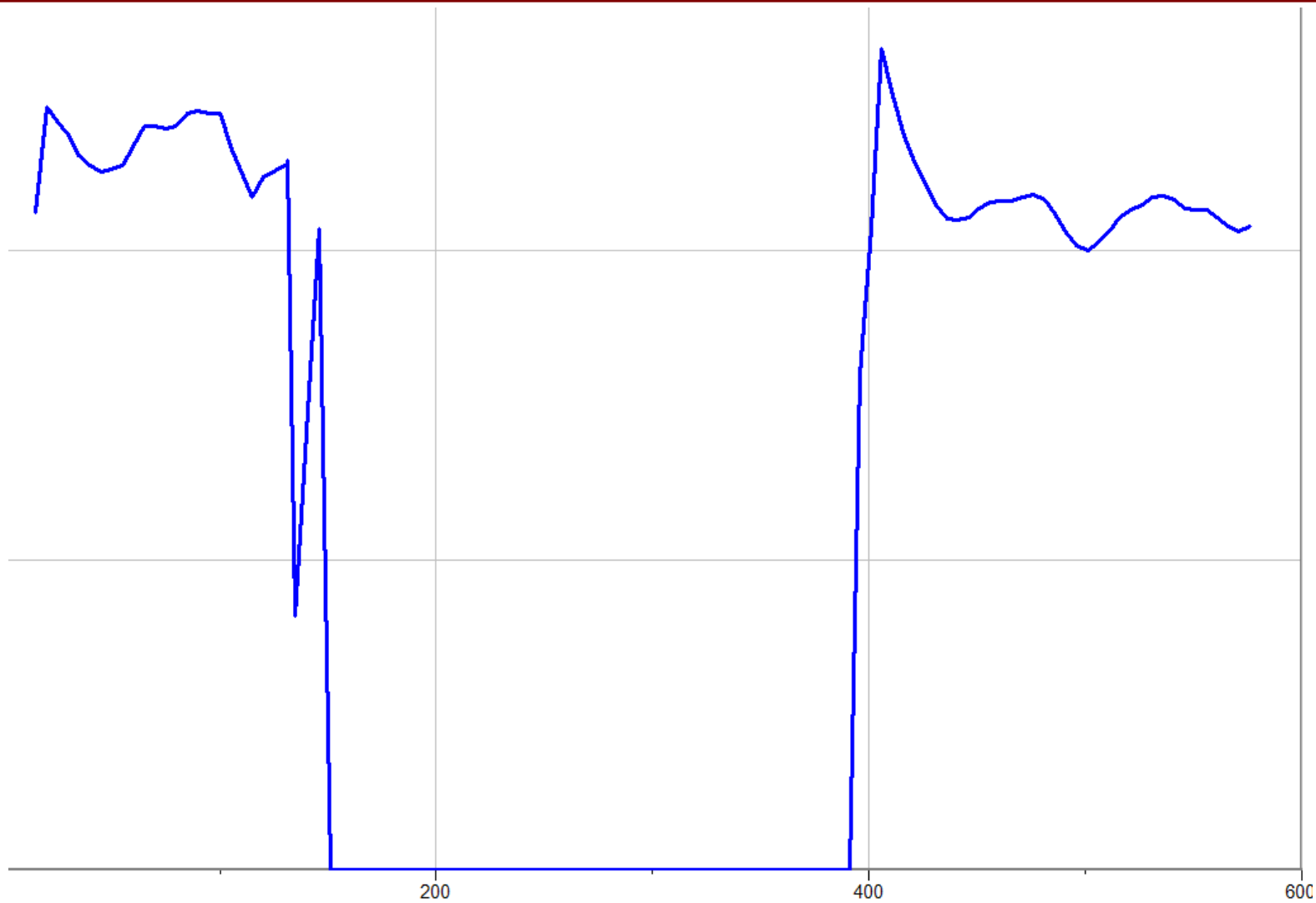
Kat Heart Rate graph  
DOES NOT PLAY SPORTS CURRENTLY



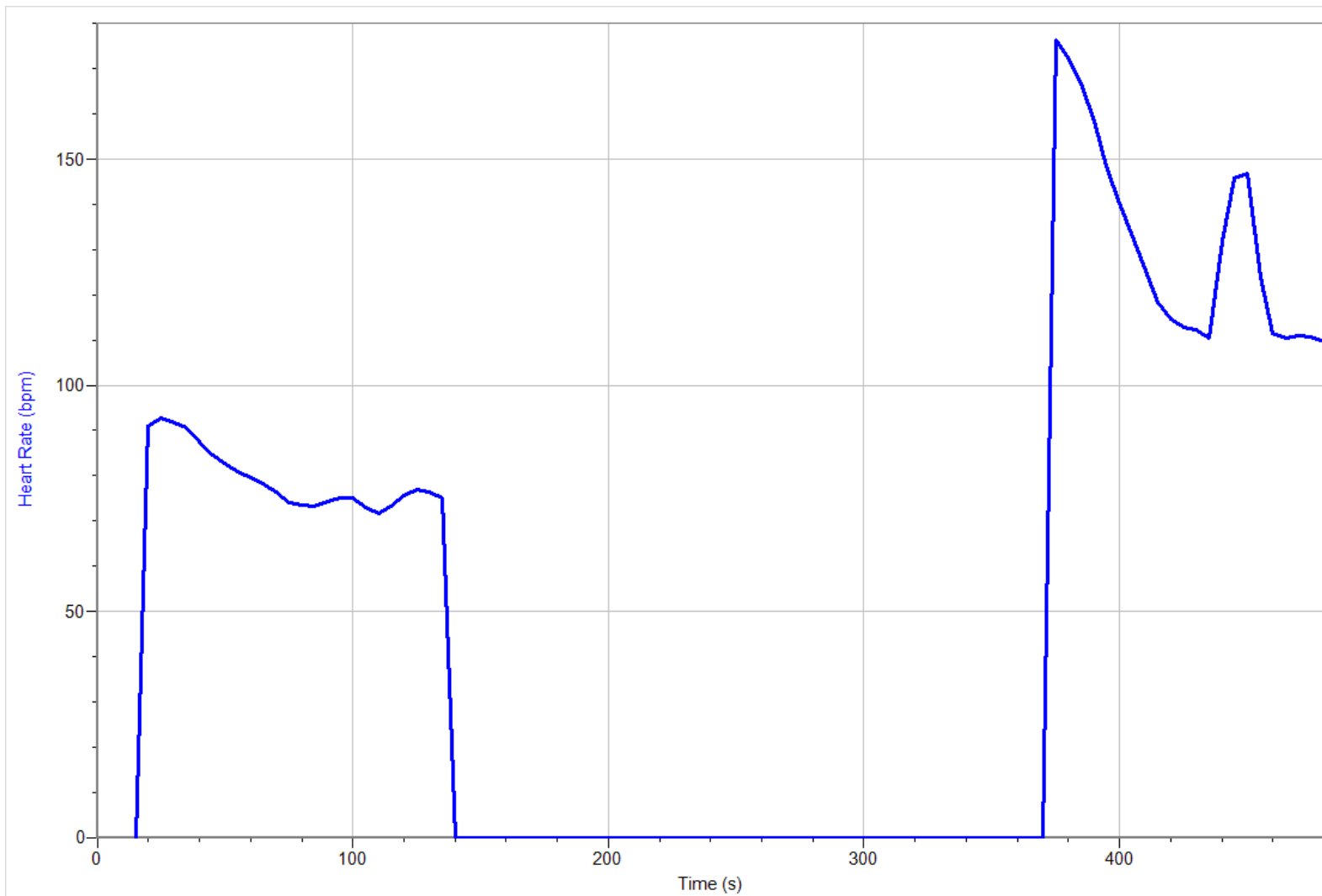
# Rachel Heart rate



# Anna Heart Rate Graph

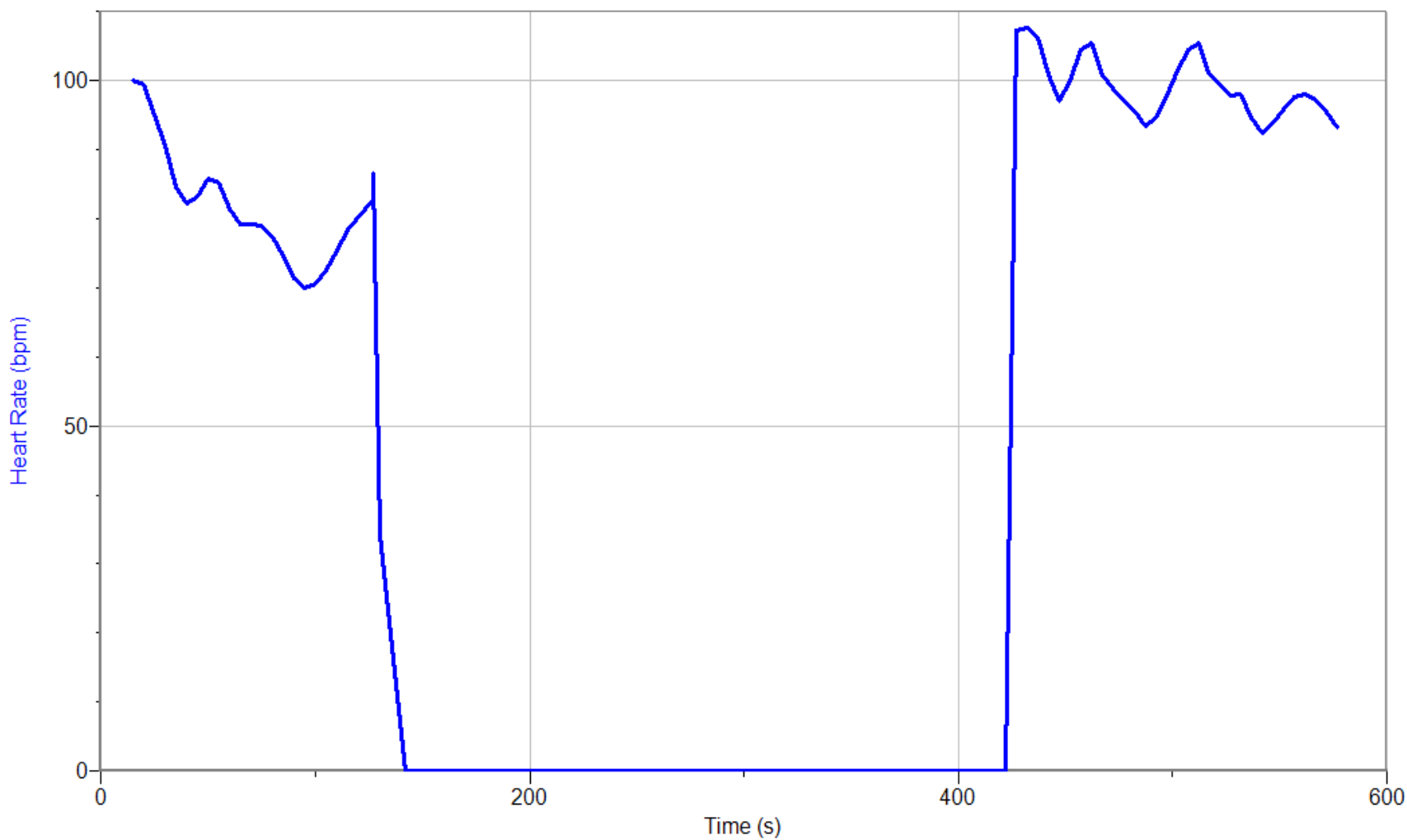


# Taylor Heart Rate Graph





# Kat Heart Rate Graph



# Survey Results

15 people took a survey on stress, these are their scores:

15 people are stressed

5 people are stressed about Family

2 people are stressed about Home

9 people are stressed about School

5 people are stressed about Other things

7 people listen to music/TV to get rid of stress

1 person eats to get rid of stress

7 people play sports to get rid of stress

5 people do other things to get rid of stress

7 people hang out with friends to get rid of stress

# Survey Results Continued

3 people do yoga as an exercise for stress

3 people stretch as an exercise for stress

8 people do other things as exercises for

15 people **DON'T** take medicine for stress

# Questions:

What is stress? **Fatigue; strain; accent or emphasis.**

What are three emotional symptoms of stress? **Anxiety; anger; depression.**

What are three physical symptoms of stress? **Faster heart rate; muscles tighten; breath quickens**

What are three behavioral symptoms of stress? **Over eating/under eating; Crying; drugs/alcohol**

What are four ways your heart is affected by stress? **Heart rate increases; Blood flow speeds up; under chronic stress the continued release of cortisol has effect on where fat is deposited in the body most often in the abdomen**

What are four chronic effects on the heart caused by stress? **Heart attack; stroke; heart disease; increased oxygen demand**

What is the normal range for a resting heart rate? **60-100 beats per minute**

What is tachycardia? **excessively rapid heart rate**

What are the top ten ways to relieve stress? **Bathe; massage; yoga; stretching; music; exercise; tea; sleep; vacation; organize; read**

What are three ways teens can relieve stress? **free time, exercise, sleep**

Stress management plan- <img alt="QR code linking to a stress management plan article" data-bbox="100 735 930 785"/>  
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# Conclusion

So as you can see, from the data shown it doesn't matter if you play sports or not to get a higher heart rate, it just depends on the person who is doing it.

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*That's all Folks!*

**Thank you for watching!!  
Hope you enjoyed it!!**