

Graphing Hormone Levels Lab

Name _____
Section _____ Date _____

INTRODUCTION

A hormone is a chemical substance secreted by one tissue and travels by way of body fluids to affect another tissue in your body. In essence, hormones are "chemical messengers." Many hormones, especially those affecting growth and behavior, are significant to both men and women. The onset of puberty begins when the pituitary gland starts producing large amounts of hormones, usually around age 12. The main hormone in boys is testosterone, and in girls it is estrogen.

TASK

You work for a family doctor that has asked you to graph the testosterone levels that have been recorded in medical charts for two male patients over the last few years. You will then need to compare their results to the norms, and determine if each male patient is progressing normally through puberty into adulthood.

PROCEDURE

1. Read the information in **Chart 1**, it shows the testosterone level for patient A and B.
2. Both patients were born in 1990, and their current age is 22. The dates provided are the dates the testosterone level was tested.
3. Create a **line graph** using the data provided. Be sure to include a title, appropriate scale, labels and key for your graph.



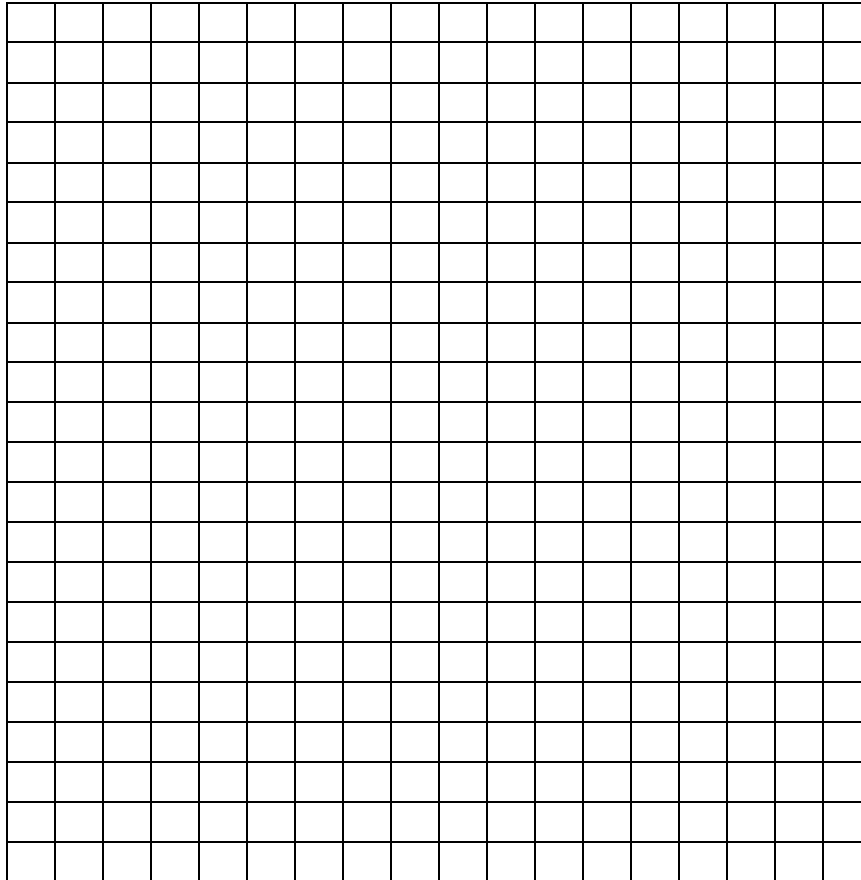
Chart 1 – Testosterone Data

Date of Testosterone Test	Patient A	Patient B
Jan 1995	24 ng/dL	8 ng/dL
Jan 1998	22 ng/dL	18 ng/dL
Jan 2001	40 ng/dL	24 ng/dL
Jan 2004	55 ng/dL	80 ng/dL
Jan 2007	285 ng/dL	125 ng/dL
Jan 2010	375 ng/dL	225 ng/dL

Chart 2 – Average Testosterone Levels in Developing Males

Stage of Puberty	Average Age	Amount of Testosterone
Pre-puberty	0-12	under 30 ng/dL
Early puberty	12-13	30-100 ng/dL
Mid-puberty	13-18	100-300 ng/dL
Adulthood	18+	300+ ng/dL

Title: _____



ANALYSIS

1. What are hormones? _____

2. What are the main sex hormones produced to start puberty in males and females? _____

3. Using **Chart 2** and your graph, did patient A and B have normal testosterone levels as they developed? Explain. _____

4. Why are graphs an important way to present information? _____

