

# WHAT'S YOUR WINGSPAN ACTIVITY SHEET PART A

Work with a partner. Take turns measuring your wingspans and heights.

1. Have your partner spread his/her arms out straight from the shoulders on each side of the body.
2. Using a tape measure, measure the distance in inches or centimeters (decide which you will use with your group) from the tip of the longest finger on one of your partner's hands to the tip of the longest finger on the other hand. This is your wingspan.
3. Write down your names and wingspans in the boxes below. Round your answers to the nearest inch (or centimeter).

Name	Wingspan	Height

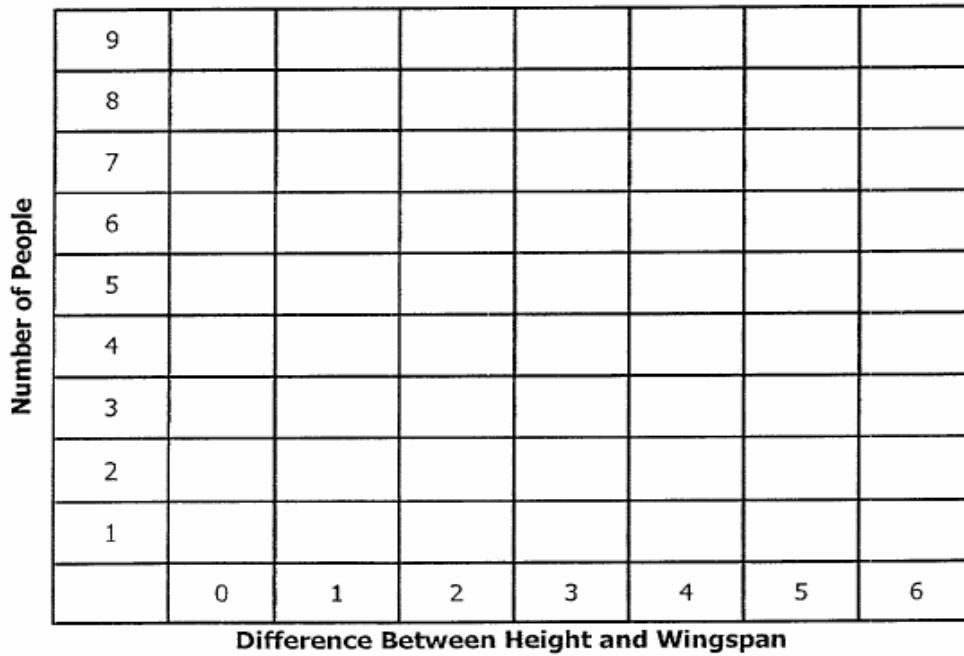
4. Measure your partner's height from the bottom of their heel to the top of their head. Don't measure their shoes. Your partner may want to remove their shoes before you measure their height. Write their height down in the correct box above. Round to the nearest inch (or centimeter).
5. Now, let your partner measure you.
6. Share the information, or **data**, that you collected with the others in your group.
7. Have someone record all the data on a big chart or a chalkboard for all to see.
8. How many people have the same wingspan and height measurement?
9. How many people have a wingspan measurement that is one inch different from their height measurement? Two inches?

## WHAT'S YOUR WINGSPAN ACTIVITY SHEET PART B (For Grades 3-6)

11. Follow steps 1-10 from Part A. Record your data from steps 1 to 5 on the following chart:

Name	Wingspan	Height	Difference

12. Share the group data you have developed with others by making a group graph that is large enough for everyone to see. Make the graph like the one below. Have each person add their own data by making an X in the column describing the difference in his or her wingspan and height.



13. What conclusions can you draw about your group's data?
14. Which column has the most X's? This is called the **mode**. How many modes does your group's chart have?

## WHAT'S YOUR WINGSPAN ACTIVITY SHEET PART C (For Grades 6-12)

15. Follow steps 1-10 in Part A. Record your data from steps 1 to 5 on the following chart. If your wingspan is less than your height, record the difference in column A next to the minus sign. If your wingspan is more than your height, record the difference in column C next to the plus sign. If there is no difference, record a zero in column B. There will be only one entry to the right of the double line for each person.

Name	Wingspan	Height	A Wingspan Less Than Height	B Wingspan Same As Height	C Wingspan More Than Height
			-		+
			-		+

16. Share the data you have developed with your group.

17. Make a Group Analysis chart like the sample below that is big enough for everyone to see.

Sample Group Analysis														
Number of People	6													
	5													
	4													
	3							X						
	2							X	X					
	1					X		X	X				X	
	0	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6
Difference in Wingspan and Height (inches or cm)														

18. Each person in the group records their minus, plus, or zero data on the Group Analysis chart by putting an X in the empty box closest to the bottom row above the appropriate number. The chart above shows you how your chart **might** look after a few entries.

19. Look at the graph of your group's data. What kinds of conclusions can you draw?
20. Which of your columns has the most entries? This is called the **mode**.
21. Draw a line connecting the top X in each column. What is the shape of the line? Your line **may** look something like a bell, high in the middle, and low at the ends. If it does, your data have formed what scientists and mathematicians call a **bell curve**. It is a very common shape for data such as these to make.
22. Half of the entries fall above, and half below, the point known as the **median**. Try to determine the median difference for your group's data.
23. The **mean** is found by adding up all the entries and dividing by the number of entries. Determine the mean. Don't forget that you will be calculating with negative numbers.

Group Analysis Chart													
Number of People	6												
	5												
	4												
	3												
	2												
	1												
	0	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
Difference in Wingspan and Height (inches or cm)													

