

Remember to show your thinking through your work.

1. The data below were gathered on a random sample of 5 basking sharks, swimming through the water and filter-feeding, i.e. letting the water bring food into their mouths.

Mean speeds for basking sharks

Body Length (meters)	Mean speed (meters/second)
4.0	0.89
4.5	0.83
4.0	0.76
6.5	0.94
5.5	0.94

Construct a scatterplot of the data and answer the following questions:

- (a) What is the label for the horizontal axis?

<type answer here>

- (b) What is the label for the vertical axis?

<type answer here>

- (c) Interpret the scatterplot (comment on association, form, strength, and outliers).

<type answer here>

2) The Challenger Disaster

On January 28, 1986 the space shuttle Challenger exploded. Seven astronauts died because two large rubber O-rings leaked during takeoff. These rings had lost their resiliency because of the low temperature at the time of the flight. The air temperature was about 0° Celsius, and the temperature of the O-rings about 6 degrees below that.

The link between O-ring damage and ambient temperature had been established prior to the flight. The engineers at Morton Thiokol, Inc had recommended that the flight be delayed. Unfortunately their argument wasn't persuasive enough, and the launch proceeded with disastrous consequences.

The engineers had failed to display the link between ambient temperature and O-ring damage in a clear and unambiguous fashion. All that was needed was a simple scatterplot. The data is given below.

Data from Previous Flights	
Temperature ($^{\circ}$ C)	Damage Index
12	11
14	4
14	4
17	2
19	0
19	0
19	0
19	0
19	0
20	0
21	4
21	0
21	4
21	0
21	0
22	0
23	0
24	4
24	0
24	0
26	0
26	0
27	0

Draw a scatterplot from the data.

- (a) Interpret the scatterplot (comment on association, form, strength, and outliers).

<type answer here>

- (b) Based on this graphic, what recommendation would you have made for a flight if the forecast was for below 0° Celsius?

<type answer here>