

Math Lesson Plan

Seonhak Middle School 3 rd Year, Class 4							Teacher	Cha Min-jung
Subject	mathematics	Unit Title	V. Statistics 2. Correlation	Session	7 / 9	Date	2026.10.16.(Fri)	

Class Topic	Will water-related accidents decrease if ice cream sales decline?	
Achievement Standard	[9Math05-08] Represent data on a scatter plot and describe the correlation.	
Teaching and Learning Methods and Considerations	Cover correlation by dividing it into three types: positive, negative and no correlation.	
Unit	Lesson 1: Which Size of Indoor Slippers Should We Buy? (Mode) Lesson 2: Which Company Should I Join? (Median) Lesson 3: Which representative value is appropriate to use? (Mean, Mode, Median) Lesson 4: Which Apple Box to Choose? (Measure of dispersion) Lesson 5: Let's find the Variance and Standard deviation. Lesson 6: How can we find the difference in data with the same mean? How can we tell the difference between data sets with the same mean? Lesson 7: If ice cream sales decline? (Scatter Plot, Correlation) Lesson 8: Unit Review Lesson 9: Test (Descriptive Performance Assessment)	
Lesson flow	Activity 1: Drawing scatter plots to find correlations Finding correlation by drawing scatter plots Activity 2: Determining correlation and interpreting data Activity 3: Exploring the Difference Between Correlation and Causation (Ice Cream Consumption and the Number of Water-Related Fatal Accidents) Activity 4: Exploring Spurious Correlations (Margarine Consumption in the United States and the Divorce Rate in Maine)	
Teacher's perspective on the lesson	V. The 2. Correlation section of the statistics unit is a simple topic that presents data as scatter plots and determines whether there is a "positive correlation," "negative correlation," or "no correlation." However, I think this is a dangerous aspect because failing to teach the weaknesses of correlation can lead to flawed judgments in real life. I studied the problem about the correlation between ice cream consumption and water-related accidents from the math textbook (Cheonjae Publishing / Lee Jun-yeol) by looking up various materials. I taught this class last year as well, but while preparing for it again this year, I learned a lot of new things. The fact that truth and falsehood are determined probabilistically, and the sensitive content of language, is unfamiliar to me as a math teacher and still difficult. Although big data was abundant, there was just as much false data, and because the variables in the real world are not simple, preparing appropriate data was challenging. Among the math subjects, the statistics unit is the one most closely related to real life and the content that influences judgments in everyday situations. As data volumes and AI continue to grow beyond imagination, I hope students will develop an attitude to 'question, think critically, and make comprehensive judgments.' I have prepared four activities for this lesson. In Activity 1, students draw scatter plots to learn what correlation is; in Activity 2, they observe and interpret scatter plots to understand what correlation is and how it differs from proportionality. In Activity 3, they	

explore the difference between correlation and causation while identifying hidden third variables; in Activity 4, They explore spurious correlation.

The students of Class 4, 3rd grade at Seonhak Middle School are very lovely. Since I am not their homeroom teacher, I only see them in math class for four hours a week, so I do not know them deeply. However, seeing them support one another with kindness despite their individual difficulties warms my heart. Third-year middle school students are currently very busy , finalizing assessments and writing high school applications. With their final middle school exams approaching on October 26 to 28. I feel both sorry and grateful to hold this open class during such a hectic period. I hope this class becomes a meaningful learning experience and a cherished memory for the students.

I first encountered the concept of a 'School as Learning Community(SLC)' through a remote training program I attended while on parental leave in 2014. I started learning by attending various training sessions and monthly meetings and observing other teachers' classes. After returning to work in 2015, I began striving to create learning community classes by making worksheets and rotating desks. Teaching remains difficult, and I still talk a lot and tend to be impatient. Still, I am amazed and delighted when students show learning that goes beyond my expectations. I am constantly trying to build a mindset that respects students' learning. Encountering 'School as Learning Community(SLC)' allowed me to continue my teaching career, which I had once thought of quitting, and I began to enjoy my teaching time. With gratitude, I prepared this lesson with the help of several teachers at Seonhak Middle School.

I don't think all students need to understand everything this time. : Learning is not like entering data into a computer. I believe that real learning happens when students think, connect, and build concepts themselves. I will continue discussing the difficulties encountered in class next time. I'm glad there is still time left with the students.

3rd Grade, Class 4 Seating Chart (October)

Group 5	Kim Yoo-hwan	Group 4	Ahn Se-eun	Group 3	Yeba
Jang Junho	Kang Gyuri	Lee Da-eun	Yoon Yunseo	Dominica	Lee Dong-hoon
Lee Tae-yoon	Kim Ga-eun			Eom Seung-min	Shin Hyun-ah
Chae Yoon-hee	Jang Sung-min	Group 6	Group 2	Park Seo-yeon	Vladie
Lee Dohyun	Choi Hyo-min			Yoon Seo-jun	Oh Ji-woo
Yana	Jung Jin-woo	Group 7	Group 1	Jeon Su-bin	Jeon Ui-chan
12 male students / 13 female students					Teacher's desk

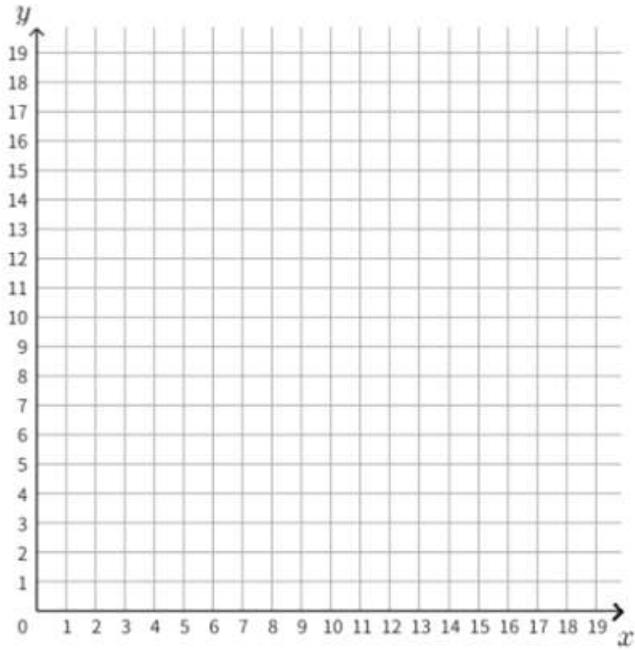
Ask, Listen, and think Statistics 8	Student ID	3 rd Year () Class () Number Name:	
	Class Topic	If ice cream sales decline?	

1. The given table shows the number of medals and rankings for the 2024 Paris Olympics.

	Number of gold medals	Number of silver medals	Ranking
Australia	18	19	4
Republic of Korea	13	9	8
Italy	12	13	9
Canada	9	7	12
Hungary	6	7	14
Kenya	4	2	17

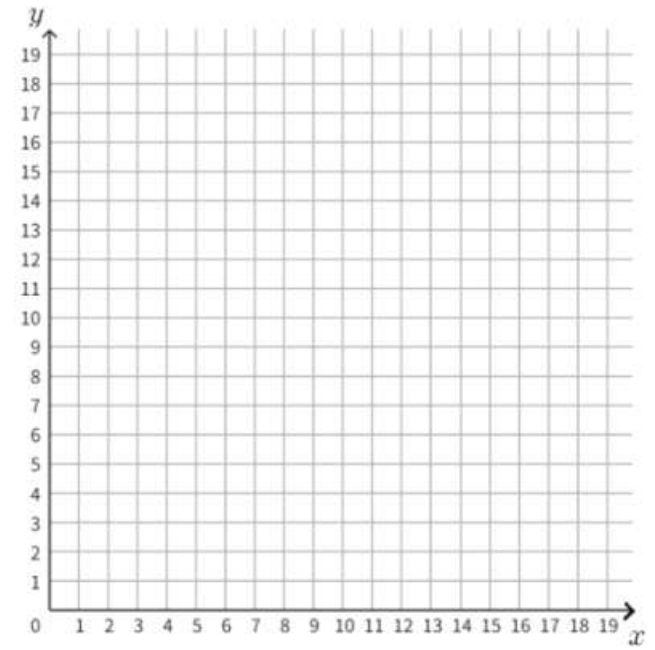
(1) Let the number of gold medals be x and the number of silver medals be y .

Represent the points (x, y) , which are ordered pairs of these two variables, on the coordinate plane below.



(2) Let the number of gold medals be x and the rank be y .

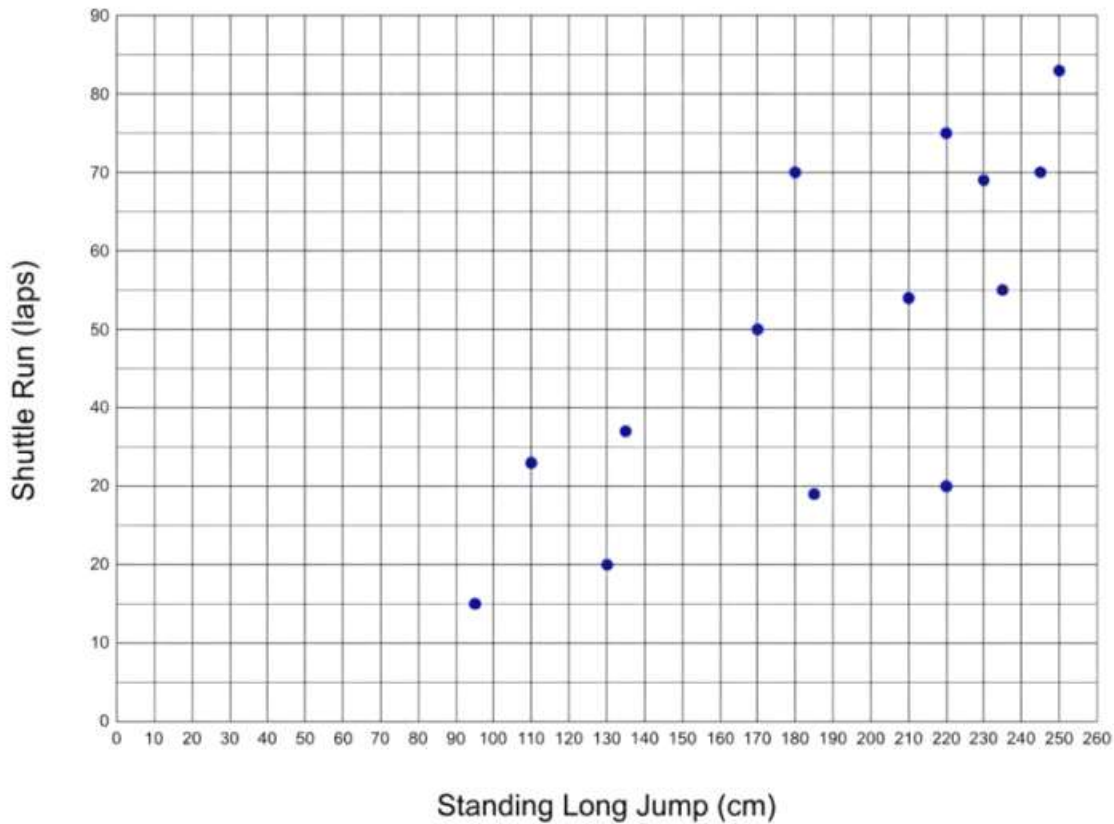
Represent the points (x, y) which are ordered pairs of these two variables, on the coordinate plane below.



(3) Discuss and write down the facts that can be learned from the graph above within your group.

2026 3rd Grade PAPS Records

Standing Long Jump (cm) and Shuttle Run (laps)



2. The graph above is a scatter plot showing the standing long jump (cm) and shuttle run (laps) records of 14 3rd-year students at Seonhak Middle School.

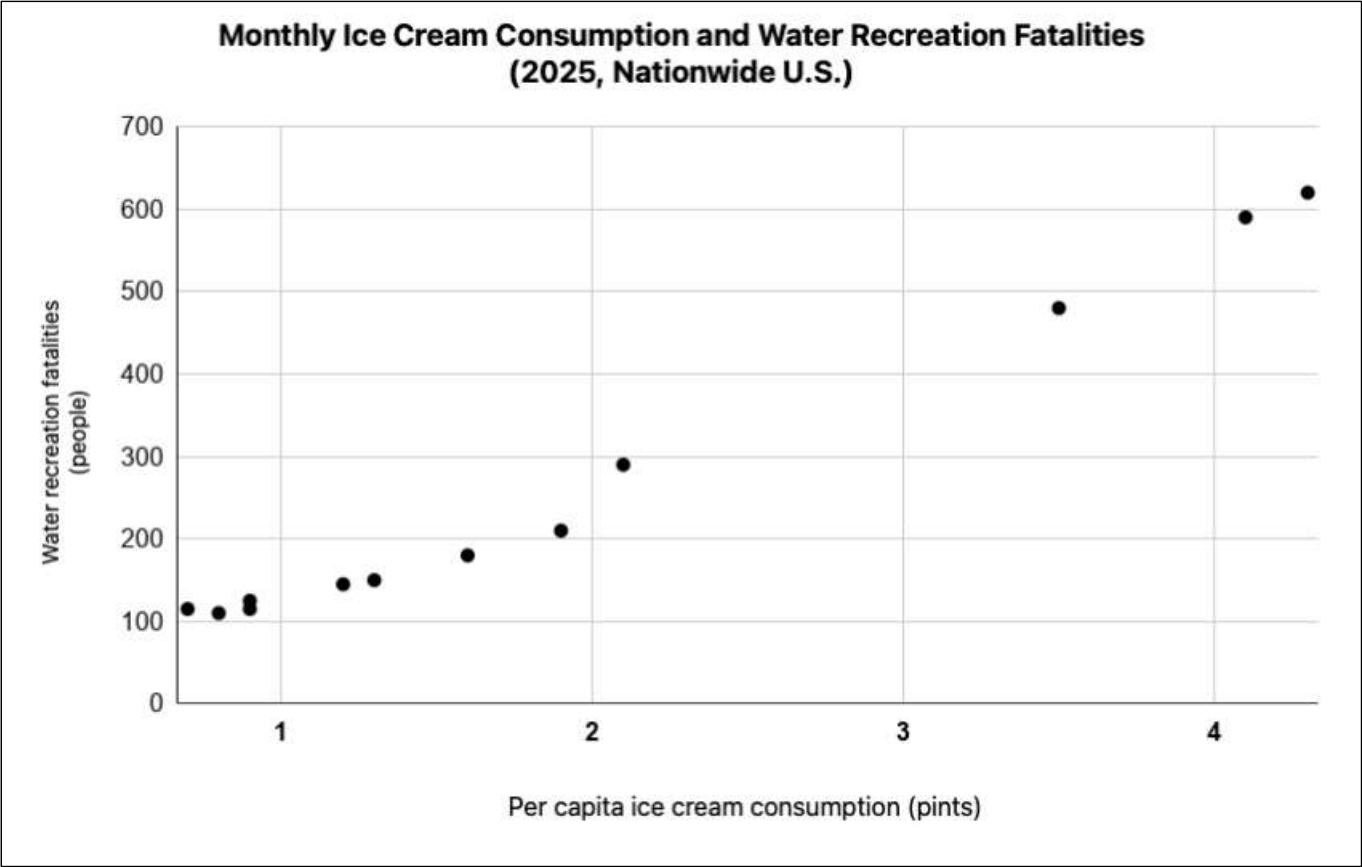
(1) What is the correlation between the standing long jump (cm) and the shuttle run (laps) records?

(2) What is the standing long jump record of a student whose shuttle run record is 50 laps?

(3) What is the ~~long jump~~ shuttle run record of a student with a standing long jump record of 220 cm?

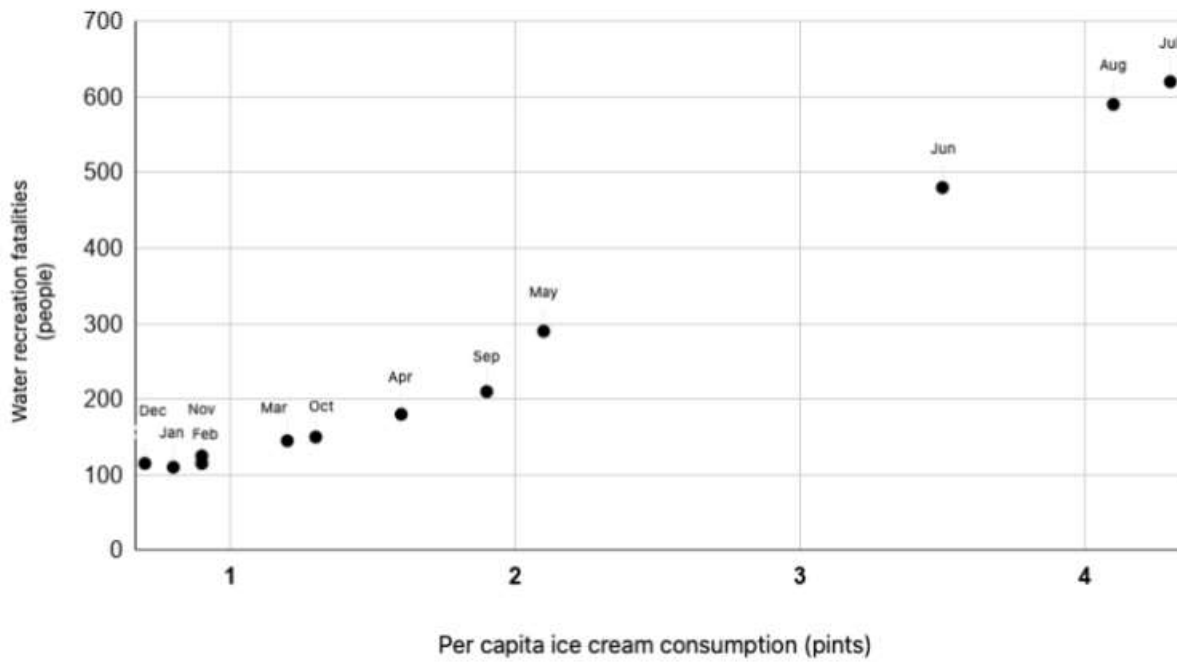
(4) Do students who are good at the standing long jump also do well in the shuttle run?
Discuss in groups, and explain the reasons for your answer.

Ask, Listen, and ~~Let's~~ think Statistics 8-1	Student ID	3 rd Year () Class () Number Name:	
	Class Topic	If ice cream sales decline?	

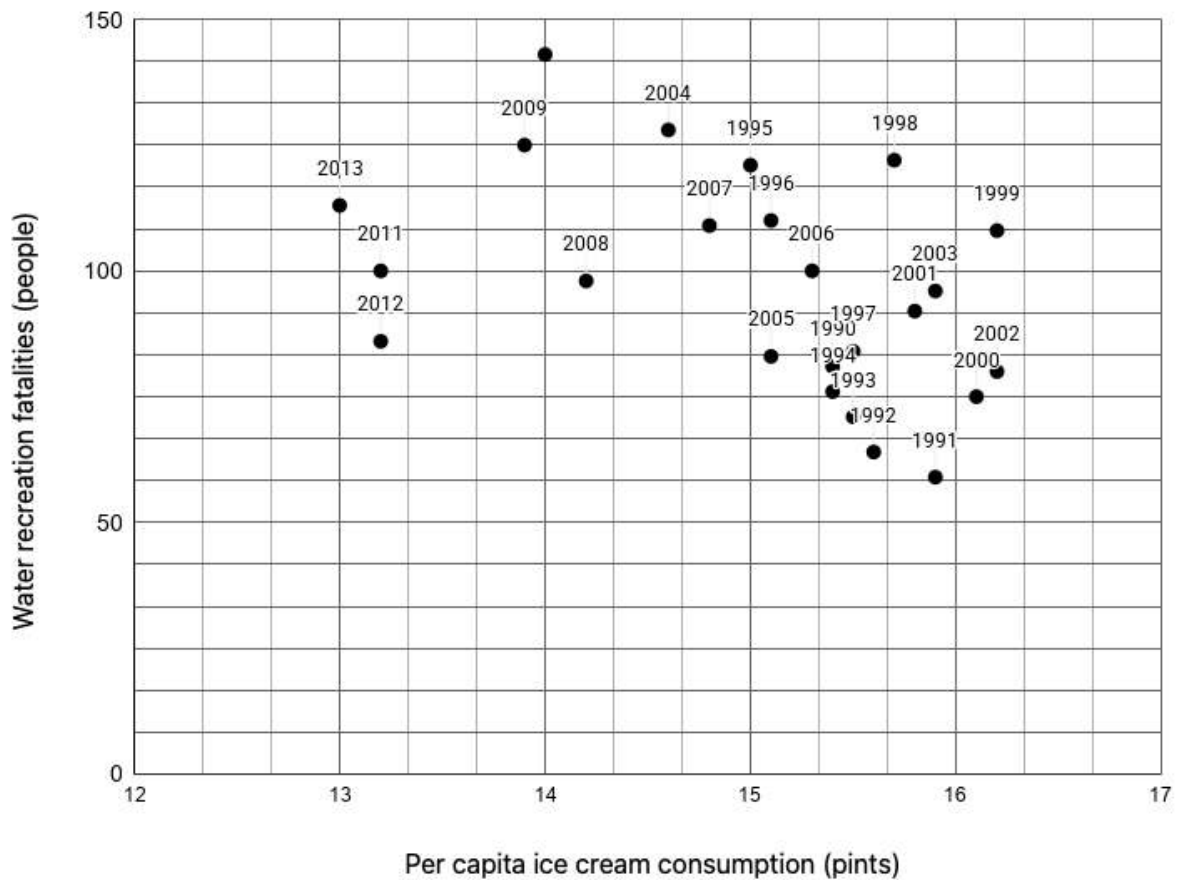


3. The scatter plot above shows the monthly per capita ice cream consumption and the number of water-related fatalities in the United States in 2025.
- (1) What is the correlation between monthly per capita ice cream consumption and the number of water-related fatal accidents?
- (2) Will the number of water-related accident fatalities increase if ice cream consumption rises?
Discuss in groups and explain the reasons for your answer.

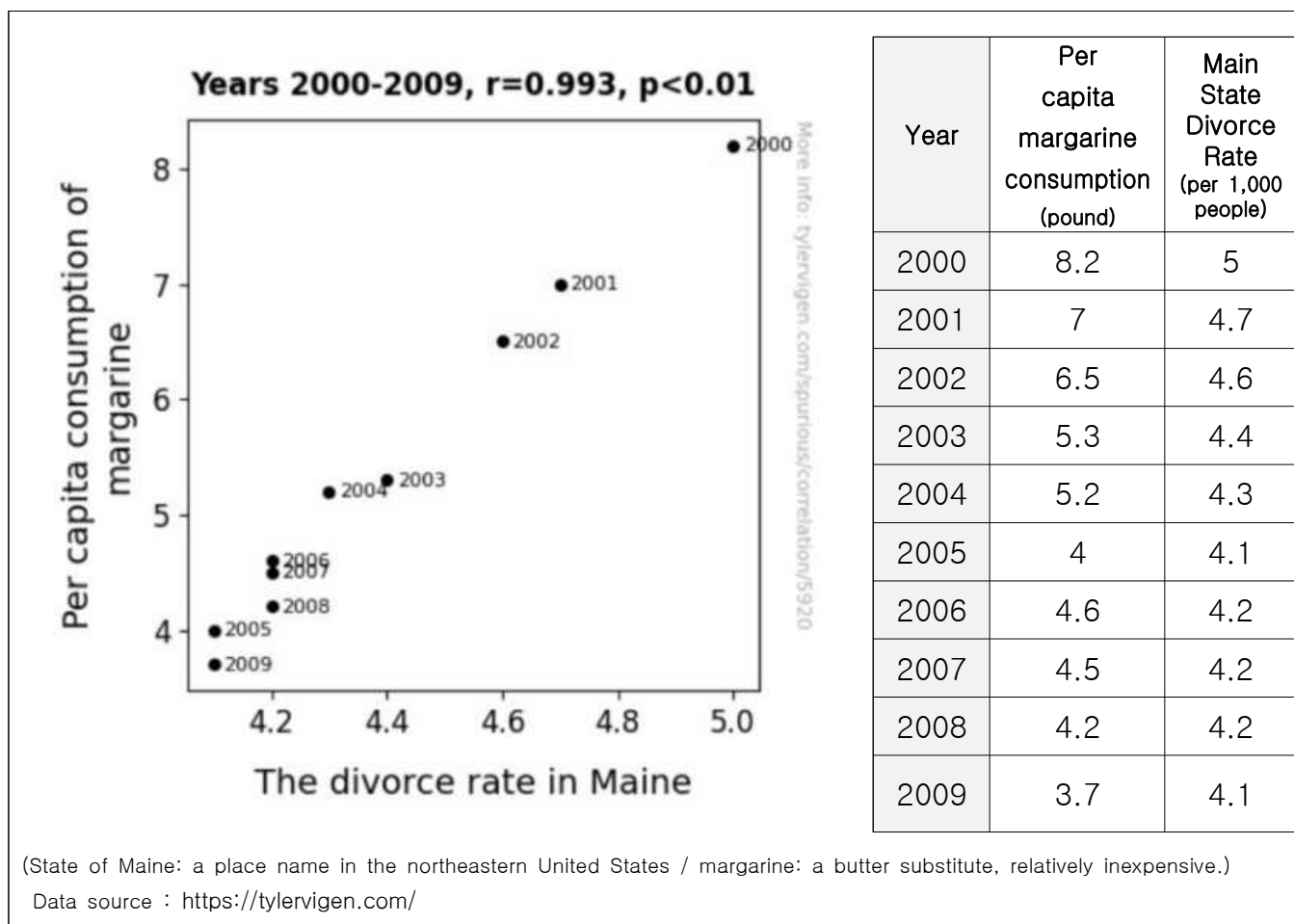
**Monthly Ice Cream Consumption and Water Recreation Fatalities
(2025, Nationwide U.S.)**



**Ice Cream Consumption and Water Recreation Fatalities
(1994–2013, U.S.)**



Ask, Listen, and Let's think Statistics 8-2	Student ID	3 rd Year () Class () Number Name:	
	Class Topic	If ice cream sales decline?	

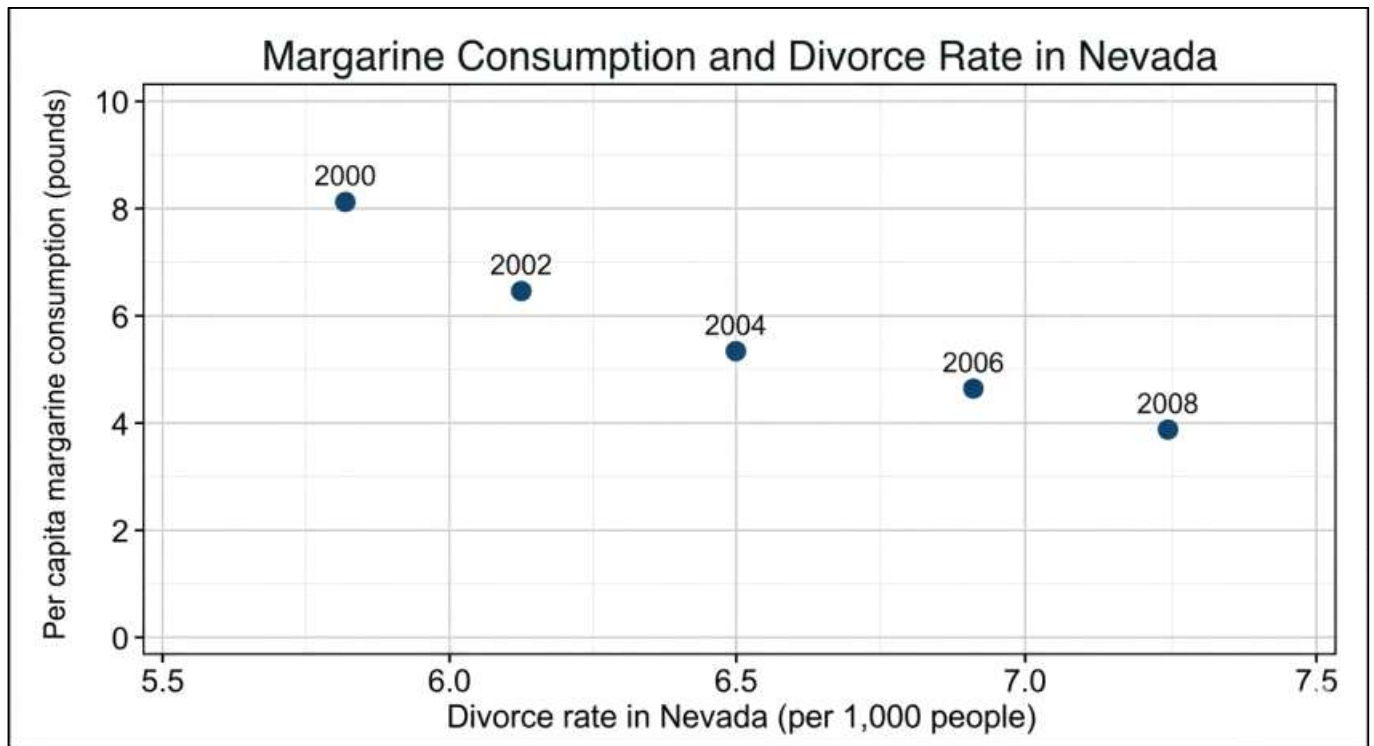


3. The scatter plot above represents the divorce rate in Maine, USA, and per capita margarine consumption in the United States.

(1) What is the correlation between Maine's divorce rate and margarine consumption?

(2) Does an increase in margarine consumption lead to a higher divorce rate?

Discuss in groups and explain the reasons for your answer.



Year	U.S. Margarine Consumption (per person/pound)	Nevada state divorce rate (per 1,000 people)	U.S. divorce rate (per 1,000 people)	U.S. marriage rate (per 1,000 people)
2000	8.2	5.8	4.0	8.2
2002	6.5	6.1	3.9	8.0
2004	5.4	6.5	3.7	7.8
2006	4.7	6.9	3.7	7.5
2008	3.9	7.2	3.5	6.8

(Data source: CDC/NCHS National Vital Statistics System)

Homework :

