The Mathematics of Love

Three Patterns in Romance | Level B2 | EnglishBridges.com

Before You Read

Discuss these questions with a partner.

1. What do people usually look for in a partner? Make a short list of three things.
2. How do people in your country usually meet partners: through friends, family, school or work, or apps?
3. How might ideas about when to choose a long-term partner differ by country, age, or personality?

Reading: The Mathematics of Love

Mathematics can seem far from romance, but mathematicians say that love is full of patterns. An economist once tried to **estimate** his own chances of finding a partner. He used a formula that astronomers use to count possible alien civilizations. With it, he **narrowed down** about thirty million women to roughly 26. It was a **stunt**, since love does not work like a spreadsheet. Still, it raises a fair question about what numbers can tell us.

The first pattern concerns online dating. One dating site compared how men rated women's looks with the number of messages the women received. The highest average score did not win. Women with the most divided ratings received the most messages. A profile that **polarizes** opinion beat one that was pleasant but **unremarkable**. The site's own guess is that people **hesitate** to approach someone everyone else wants. The result comes from one site, so it is only a hint. Even so, it suggests that people should not **downplay** what makes them different.

The second pattern concerns timing. When should a person stop looking and **commit**? A famous puzzle gives a rule. Spend the first 37 percent of your search only looking. Then choose the first person who is better than everyone before. Even the best strategy finds the very best person only about 37 percent of the time. The rule also has risks. Your ideal partner might appear too early, or you might **settle for** someone only slightly better. Real life breaks the puzzle's **assumptions**, for example, you cannot rank people on a single scale. The rule is better seen as a reminder to explore first.

The third pattern concerns staying together. The psychologist John Gottman recorded couples as they discussed disagreements. With the mathematician James Murray, he built equations that show how partners **influence** each other. One idea is the negativity threshold, which is how much irritation a person will **tolerate** before reacting. The model suggested that lasting couples have a low threshold. They speak up and **repair** small problems. Couples who stay silent can slide into a **spiral**, where each unkind remark **provokes** another. Gottman's team has claimed that its methods

predict divorce with more than 90 percent accuracy. Critics warn that such predictions often work worse on new couples.

Vocabulary: Fill in the Blank

Complete each sentence with a word or phrase from the box. Use each one once.

assumptions **settle for** **downplay** **narrowed down** **provokes** **commit** **stunt** **repair** **estimate** **hesitate** **influence** **unremarkable** **spiral** **tolerate**

1. Engineers will _____ the cost of the new bridge before work starts.
2. The police _____ the list of suspects to three people after checking the evidence.
3. The free-ticket _____ got the company a lot of attention on the news.
4. Please do not _____ to call me if you need any help.
5. The meal was _____, neither good nor bad, and I forgot it by morning.
6. Politicians sometimes _____ bad news so that people do not worry.
7. Many young people are not ready to _____ to a long relationship yet.
8. We could not afford the big house, so we had to _____ a small flat.
9. The plan fails if its _____ about customers turn out to be wrong.
10. I cannot _____ loud music late at night, so I wear earplugs.
11. Friends can strongly _____ the music that we choose to listen to.
12. After the argument, he tried to _____ the friendship with a kind message.
13. Rising prices and rising wages can send an economy into a downward _____.
14. A single rude comment often _____ an even ruder answer.

Word Partners: Collocations and Word Families

Part A. Collocations

Match the two halves to make common phrases. Write the letter on the line.

1. a rough	_____	**a.** to a long relationship
2. a publicity	_____	**b.** second best
3. hesitate	_____	**c.** stunt
4. downplay	_____	**d.** estimate
5. commit	_____	**e.** the risks
6. settle for	_____	**f.** spiral
7. a downward	_____	**g.** a damaged friendship
8. repair	_____	**h.** to ask for help

Now choose three of the phrases and write your own sentences.

Part B. Word families

Complete each sentence with the correct form of the word in brackets.

1. She answered the question without any _____. (*hesitate*)
2. Good teachers show _____ toward students who have different views. (*tolerate*)
3. She is one of the most _____ writers of her generation. (*influence*)
4. Do not _____ that everyone agrees with you. (*assumptions*)
5. His _____ comments caused an angry reply from the crowd. (*provokes*)
6. They made a serious _____ to each other. (*commit*)

Comprehension Questions

Answer in full sentences.

1. What did the economist do with his formula, and why does the writer call it a stunt?
2. What did the dating site compare, and what did it find?
3. What explanation did the site offer for its finding?
4. Why should we be careful with this result?
5. What does the 37 percent rule tell you to do, and how often does it find the very best person?
6. What risks does the 37 percent rule have?
7. What does the reading say about real life and the puzzle's assumptions?
8. What is the negativity threshold, and what did the model suggest about a low threshold?
9. Why do critics doubt the divorce predictions, and do you find their point convincing? Give a reason.
10. **True, False, or Not Given:** *"The economist later found a partner."* Explain your answer using the reading.
11. **Yes, No, or Not Given:** *"The writer believes that the dating site's explanation has been proved."* Explain your answer using the reading.
12. **Author's purpose:** Why does the writer begin with the economist's formula? Is it (a) to introduce a playful example before the serious findings, (b) to prove that astronomers are good at dating, or (c) to explain how dating apps work?

True or False

Circle T (true) or F (false). Be ready to correct the false sentences.

1. The economist used a formula that astronomers use. **T / F**
2. The economist found that thousands of women matched his wishes. **T / F**
3. The highest average score brought the most messages. **T / F**
4. Women with the most divided ratings received the most messages. **T / F**
5. The site's explanation is its own guess. **T / F**
6. The result comes from many sites in many countries. **T / F**
7. The rule says to spend the first 37 percent of the search only looking. **T / F**
8. The 37 percent rule always finds the very best person. **T / F**
9. Gottman recorded couples as they discussed disagreements. **T / F**
10. Recent US estimates say half of first marriages end in divorce. **T / F**

Language Focus: Approximating Numbers and Amounts

Approximation words show that a number is **not exact**. Put them **before** the number.
about, around, roughly, approximately: the real number is close to this one. *about 40 minutes*
nearly, almost: a little less than this number. *nearly 100 people*
more than, over: a little more than this number. *more than 90 percent*
closer to: nearer to one number than another. *closer to four in ten than five in ten*
From the reading:
"...narrowed down **about** thirty million women to **roughly** 26."
"...finds the very best person **only about** 37 percent of the time."
Tip: Use only one approximation word for each number. Say *about 40*, not *about nearly 40*.

Part A. Sentence starters

Finish each sentence with a number and any other words, so that it is true for you.

1. I sleep about _____

2. It takes me roughly _____
3. I have nearly _____
4. My phone has more than _____
5. The place where I live has about _____

Part B. Questions

Answer each question in a full sentence. Try to answer using about, roughly, nearly, or more than. Then ask a partner.

6. How many hours do you usually spend on your phone each day?
7. How far is it from your home to the nearest station or bus stop?
8. How many messages do you send on a normal day?
9. How much does a cup of coffee cost where you live?
10. How many people are in your class?

Discussion Questions

Discuss with a partner or in a small group. Give reasons and examples.

1. Have you ever used a dating app or website, or do you know someone who has? What was the experience like?
2. Do you prefer to meet new people through friends, at work or school, or online? Why?
3. What would you put in an online profile to show what makes you different?
4. Do you tend to speak up when something small bothers you, or stay silent? What usually happens next?
5. Why might a profile that divides opinion get more attention than one that everyone likes?
6. Many people choose their best photo for a profile. Is that honest, or does it give a false picture?
7. Does the idea of exploring first and choosing later sound sensible to you? Why or why not?
8. At what age do people in your country usually start looking for a long-term partner, and has this changed?
9. In experiments, people tend to stop searching too early. What pressures might push them to do that?
10. Would you want a mathematician to calculate your chances in love? What would be the benefit and the risk?
11. In some cultures, families help people meet partners. How might the 37 percent rule apply, or not apply, there?
12. Can numbers ever capture something like love? What might they miss?
13. Predictions that work on old data can fail on new data. Where else have you seen this problem?
14. Is it fair for dating sites to analyze their users' data and publish the results? Where should the limits be?

Online Practice

Scan the code or visit **englishbridges.com/lessons/mathematics-of-love** for the full reading, vocabulary activities, the Speed Challenge, typing practice, and AI conversation prompts.