

Unit 7: The Bernoulli Principle



Who is Daniel Bernoulli?

What is the Bernoulli's Principle?

<https://www.youtube.com/watch?v=DW4rltB20h4&t=666s>

(P.82-83) Readings

-Bernoulli, Swiss mathematician

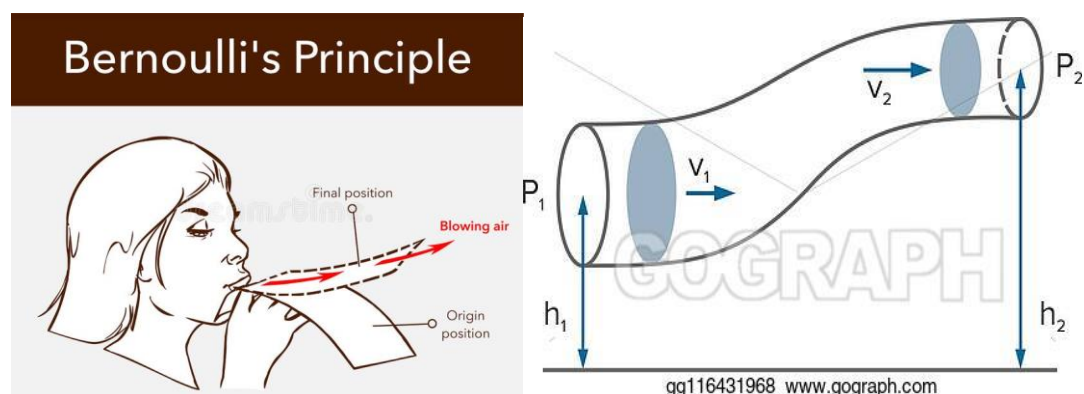
-theory: "when a fluid particle moves from one position to another,

If its speed increases, then the pressure will decrease."

If its speed decreases, then the pressure will increase.

-conclusion: There is an **inverse relationship** 反向關係 between speed and pressure.

-Conservation of Energy: (1) pressure 壓力能 (2) kinetic 動能 (3) potential 位能



-It is an ideal model which does not fully reflect realistic situations but is helpful for figuring out the relationship between (1) pressure 壓力, (2) speed 速度 and (3) elevation 高度.

-assumptions: (1) under a steady flow 穩流, (2) on a streamline 線流, (3) no friction 無摩擦 and (4) fluid is incompressible 液體不可壓縮.

Extra Questions:

**(A) remarkable (B) principle (C) conservation (D) elbowed (E) friction
(F) subject to (G) justified (H) pressure (I) behavior (J) emphasized**

- (1) As an employee of this company, I'm _____ company rules 規則 and policies 政策.
- (2) By rubbing 摩擦 her hands together, she creates _____ which generates 製造 heat 熱力.
- (3) Newton's Law is a very important physics _____.
- (4) Tom's dangerous driving is unacceptable 不可被接受的 _____.
- (5) Water _____ is an important issue, especially during summer months.
- (6) The Bernoulli's principle is concerned 有關 with the conservation 儲存 of three types of energy— _____, kinetic and potential energy.
- (7) My arm is bruised 瘀青 because my brother _____ me forcefully 用力的.
- (8) Lying 說謊 to your close friends can never be _____.
- (9) Marie Curie 居禮夫人 was a _____ chemist who was awarded the Nobel Prize in Chemistry in 1911.
- (10) Sally's boss _____ that being punctual 準時 is top priority 優先考慮. She will be penalized 懲罰 if she shows up late to work.

(P. 84) Listening: Vocabulary

(A) except (B) pessimistic (C) available (D) flunk (E) headache (F) optimistic

- (11) Are you _____ this Monday afternoon? We need to discuss 談論 our group project.
- (12) Rebecca is going to _____ her finals if she doesn't study this weekend.
- (13) Everyone is invited to Jack's birthday party, _____ Betty, whom no one likes.
- (14) Greg is the most _____ I know. He is always anxious 焦急, stressed out and afraid that the world will end soon.
- (15) Do you think taking an aspirin 阿斯匹靈 would help alleviate 減輕 your _____?

Links:

Hangman

<https://www.youtube.com/watch?v=cGOeiQfjYPk>

Passive v.s. Active Voice

<https://www.youtube.com/watch?v=W1IRU6zx9g>

<http://web.uch.edu.tw/ccheng123/images/download/toEIC4.pdf>