

Hermione created three magic potions to convert muggles into wizards; Gryphon's Blood, Scorpion Sting, and Bat Wings Tonic. Does one work better than the other? To find out, she gives each potion to a different group of muggles and records whether the potion worked or not for each person. **Which test will solve this mystery?**

- a. single-sample t-test
- b. independent t-test
- c. dependent t-test
- d. one-way independent ANOVA
- e. one-way repeated ANOVA
- f. two-way independent ANOVA
- g. two-way repeated ANOVA
- h. two-way mixed ANOVA (the first factor mentioned in the write-up is between-subjects)
- i. two-way mixed ANOVA (the first factor mentioned in the write-up is within-subjects)
- j. Pearson's Correlation
- k. Chi-Square Goodness of Fit
- l. Chi-Square Test of Independence



Is confidence level when citing a spell related to how successful that spell is? To find out, 50 Hogwarts' students are asked to cast the same spell. Their voice is analyzed for confidence level (0-20 based on decibel level and tonality) and how well the spell worked (0-7 Likert Scale). **Which test will solve this mystery?**

- a. single-sample t-test
- b. independent t-test
- c. dependent t-test
- d. one-way independent ANOVA
- e. one-way repeated ANOVA
- f. two-way independent ANOVA
- g. two-way repeated ANOVA
- h. two-way mixed ANOVA (the first factor mentioned in the write-up is between-subjects)
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- l. Chi-Square Test of Independence



Who fears Hagrid most: male, female, or non-binary wizards? Does ancestry (pure blood, half-blood) also make a difference? A total of 200 Hogwarts students are seated in front of Hagrid while he stares menacingly into their eyes for 5 minutes. Each student has their heart rate measured before and after the stares. What is analyzed is each student's change in heart rate. **Which test will solve this mystery?**

- a. single-sample t-test
- b. independent t-test
- c. dependent t-test
- d. one-way independent ANOVA
- e. one-way repeated ANOVA
- f. two-way independent ANOVA
- g. two-way repeated ANOVA
- h. two-way mixed ANOVA (the first factor mentioned in the write-up is between-subjects)
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- j. Pearson's Correlation
- k. Chi-Square Goodness of Fit
- l. Chi-Square Test of Independence



All students at Hogwarts are allowed to bring one pet; an owl, cat, or toad. Does the strength of a student's magical powers depend on which pet they chose to bring? To find out, 30 students within each pet category have their magical powers tested to determine how strong they are on a very sophisticated and accurate magical power meter.

Which test will solve this mystery?

- a. single-sample t-test
- b. independent t-test
- c. dependent t-test
- d. one-way independent ANOVA
- e. one-way repeated ANOVA
- f. two-way independent ANOVA
- g. two-way repeated ANOVA
- h. two-way mixed ANOVA (the first factor mentioned in the write-up is between-subjects)
- i. two-way mixed ANOVA (the first factor mentioned in the write-up is within-subjects)
- j. Pearson's Correlation
- k. Chi-Square Goodness of Fit
- l. Chi-Square Test of Independence



Is Ron Weasley a better than average quidditch game player? The number of points he scored in one season was 16. The average number of points scored in a single season by a player is 12. **Which test will solve this mystery?**

- a. single-sample t-test
- b. independent t-test
- c. dependent t-test
- d. one-way independent ANOVA
- e. one-way repeated ANOVA
- f. two-way independent ANOVA
- g. two-way repeated ANOVA
- h. two-way mixed ANOVA (the first factor mentioned in the write-up is between-subjects)
- i. two-way mixed ANOVA (the first factor mentioned in the write-up is within-subjects)
- j. Pearson's Correlation
- k. Chi-Square Goodness of Fit
- l. Chi-Square Test of Independence



Mandrake Root cries can cause a person to faint, especially if it is plucked from the nutrients it loves. Which soil does it love most: soil fertilized with frog warts, or soil fertilized with the expelled blood from troll bloodsuckers? To find out, 20 students stand in front of a Mandrake Root potted in frog warts soil, and 20 stand in front of a Mandrake Root potted in the blood soil. Each Mandrake is plucked from its soil and the number of students who faint and not faint are recorded. The researcher reasons that the more students who faint, the more that Mandrake must have loved its soil. **Which test will solve this mystery?**

- a. single-sample t-test
- b. independent t-test
- c. dependent t-test
- d. one-way independent ANOVA
- e. one-way repeated ANOVA
- f. two-way independent ANOVA
- g. two-way repeated ANOVA
- h. two-way mixed ANOVA (the first factor mentioned in the write-up is between-subjects)
- i. two-way mixed ANOVA (the first factor mentioned in the write-up is within-subjects)
- j. Pearson's Correlation
- k. Chi-Square Goodness of Fit
- l. Chi-Square Test of Independence



Ron Weasley and Dobby are both high stress individuals with unique challenges. Do people feel more empathetic towards Ron or Dobby? To find out, 30 people who know both of them are asked how much empathy they generally feel towards Ron and towards Dobby on a 7-point Likert scale. **Which test will solve this mystery?**

- a. single-sample t-test
- b. independent t-test
- c. dependent t-test
- d. one-way independent ANOVA
- e. one-way repeated ANOVA
- f. two-way independent ANOVA
- g. two-way repeated ANOVA
- h. two-way mixed ANOVA (the first factor mentioned in the write-up is between-subjects)
- i. two-way mixed ANOVA (the first factor mentioned i
- j. Pearson's Correlation
- k. Chi-Square Goodness of Fit
- l. Chi-Square Test of Independence



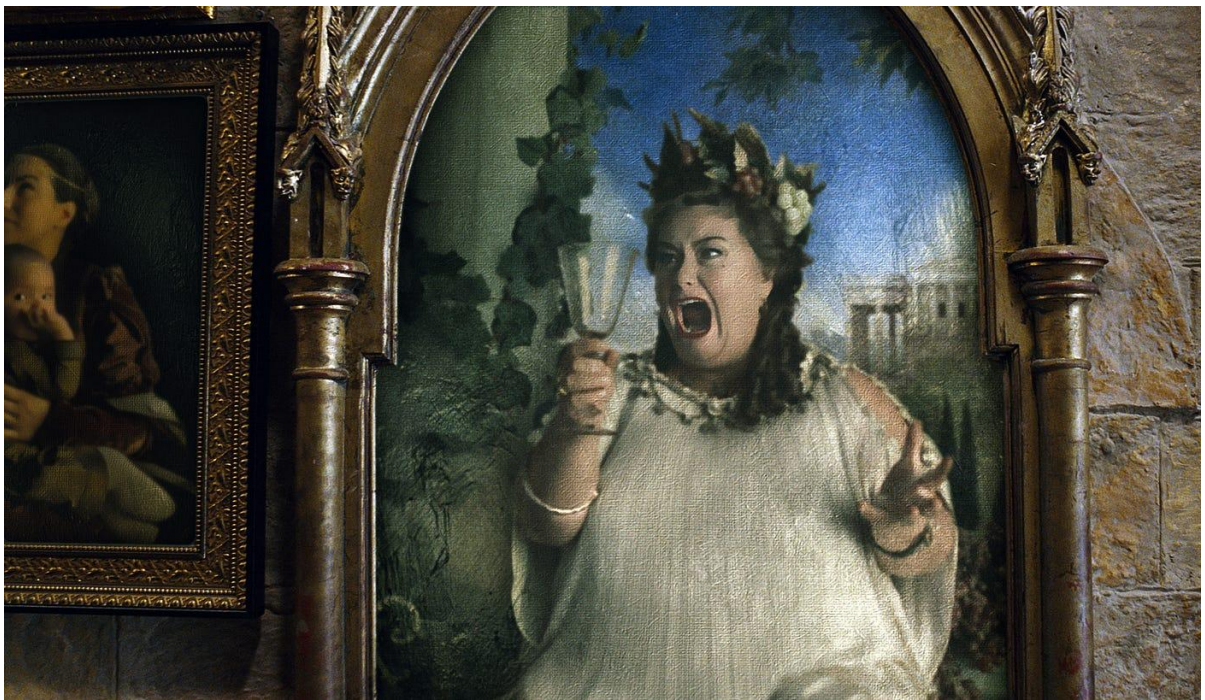
What does it take to let Buckbeak fly him? Raw meat? Brutal force? Kindness & respect? To find out, 20 wizards give him raw meat, 20 use brutal force, and 20 use kindness and respect. Within each condition, how long each wizard was able to fly on Buckbeak's back (in seconds) is recorded. **Which test will solve this mystery?**

- a. single-sample t-test
- b. independent t-test
- c. dependent t-test
- d. one-way independent ANOVA
- e. one-way repeated ANOVA
- f. two-way independent ANOVA
- g. two-way repeated ANOVA
- h. two-way mixed ANOVA (the first factor mentioned in the write-up is between-subjects)
- i. two-way mixed ANOVA (the first factor mentioned in the write-up is within-subjects)
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Who stole the fat lady? Did one of Hogwarts' houses conspire to commit the crime? To find out, every student in Hufflepuff, Gryffindor, Ravenclaw, and Slytherin take a polygraph test. Within each house, the number of students who passed and failed the test is recorded. **Which test will solve this mystery?**

- a. single-sample t-test
- b. independent t-test
- c. dependent t-test
- d. one-way independent ANOVA
- e. one-way repeated ANOVA
- f. two-way independent ANOVA
- g. two-way repeated ANOVA
- h. two-way mixed ANOVA (the first factor mentioned in the write-up is between-subjects)
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In the Triwizard Tournament game there are six 40-tile paths to the snitches circle. The facilitators and hazards appear at different locations. Is one path easier than the other? Six people play the game. The total number of cards each student attempted to answer before they reached the circle is recorded. **Which test will solve this mystery?**

- a. single-sample t-test
- b. independent t-test
- c. dependent t-test
- d. one-way independent ANOVA
- e. one-way repeated ANOVA
- f. two-way independent ANOVA
- g. two-way repeated ANOVA
- h. two-way mixed ANOVA (the first factor mentioned in the write-up is between-subjects)
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- j. Pearson's Correlation
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