



FIREFIGHTER COMPETENCY TESTING

BLAssociates
CORPORATE PSYCHOLOGISTS INC.

INFORMATION PACK
TO HELP CANDIDATES PREPARE FOR THEIR TESTING SESSION

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BL Associates [BLA] use **psychometric testing** to assess competency in firefighter candidates.

Unlike the physical tests and interviews, many candidates are not familiar with psychometric testing and may be nervous about completing this part of a hiring process.

The following information pack provides an overview of the BLA firefighter competency testing process and what a candidate can expect to experience during a testing session.

This testing may be done in person or online.

PART 1:

Psychometric Testing for Firefighter Competency



The tests we use result in numerical scores in three areas:

Intellectual scores index a candidate's learning and problem-solving strengths as they relate to firefighting. Research has shown that firefighters need four intellectual strengths to perform effectively:

VERBAL // MATHEMATICAL // REASONING // MECHANICAL

Character scores index a candidate's personal and interpersonal strengths as they relate to firefighting. Research has shown that firefighters need nine characteristics to perform effectively:

RESPONSIBILITY // TEAMWORK // DESIRE TO LEARN // GETTING
ALONG WITH OTHERS // STRESS RESISTANCE // COURAGE //
ACTIVITY // CLEANLINESS // SOCIALIZATION

Interest scores index a candidate's work interests as they relate to firefighting. Research has shown that firefighters need to have an interest in two kinds of work activities to be effective:

CONSTRUCTION // MEDICAL

These 15 intellectual, character, and interest competencies were identified through job analyses. They have been updated over time to reflect changes in the role with the advent of new technology and have been customized to meet the demands placed on firefighters in specific fire departments.



WHAT IS PSYCHOMETRIC TESTING?

The term “psychometric” comes from a combination of the Greek word *psyche* (“mind”) and the English word *metric* (“a standard system of measurement”); the word literally means “mind measurement.” A psychometric test, then, is a test used to measure a quality, state, or process of the mind.

(For more detailed discussion, follow this link: <https://en.wikipedia.org/wiki/Psychometrics>.)

Test Administration – In Person



Testing takes place over 3.5 hours. Most candidates are able to complete the questionnaires in about 3 hours but, as not all questionnaires are timed, some candidates take longer to complete the questionnaires than others.

When candidates arrive at the testing location, they are checked-in by representatives of the municipality to which they have applied. (Candidates should contact the municipality directly if they have questions about the documentation to be presented at check-in.)

Candidates are tested in groups of up to 150 people. Candidates are encouraged to arrive early to ensure they have enough time to find parking and to check in.

All the materials candidates will need to complete the testing is provided during the administration.

Here are some examples of the type of **personality** items candidates can expect (with a true or false response):

- I like to play practical jokes on people
- When things go wrong, I sometimes blame the other person
- The most important things to me are my duties to my job and to other people
- Even when I have gotten into trouble, I was usually trying to do the right thing

Test Administration - In Person (cont.)

Depending on the municipality for which candidates are being tested, they will complete 5-6 separate questionnaires. The demands placed on firefighters are not the same from department to department and this is reflected in the questionnaires completed by candidates for any given administration.

At the beginning of a testing session but before responding to the actual questionnaires, candidates are required to read and sign a form that gives consent for BLA to submit their personal information and test results to the municipality to which they have applied.

Problem solving question examples:

Example 1: The day before two days after the day before tomorrow is Saturday. What day is it today?

Example 2: Five people were eating candies. A finished before B, but behind C. D finished before E, but behind B. What was the finishing order?

Example 3: All of the following are ways to write 25 percent of N EXCEPT

- A. $0.25 N$
- B. $25N / 100$
- C. $\frac{1}{4} N$
- D. $25 N$

(see answers on following page)



Problem solving question examples continued:

Example 4: Sarah is twice as old as her youngest brother. If the difference between their ages is 15 years. How old is her youngest brother?

- A. 10
- B. 15
- C. 20
- D. 25
- E. 30

Example 5: Choose the pair of words that best completes the sentence: The ----- of the timetable caused some -----

- A. revision/inconvenience
- B. revision/inconvenience
- C. revision/inconvenience
- D. revision/inconvenience

The problem-solving questionnaires are administered earlier in the session, followed by the more lengthy questionnaires focused on character and interests. The problem-solving questionnaires have time limits for completion ranging from 5 to 25 minutes each.

The questionnaires focused on character and interests are not timed but can be completed in 30 to 40 minutes each.

There are no scheduled breaks during a testing session. However, once the problem-solving questionnaires have been completed and the character-interest questionnaires have been started, candidates are free to leave the room and return. During such breaks, candidates must leave all test materials at their testing station/seat.

There is no restriction on the amount of time a candidate may be absent during such a break but **all questionnaires must be completed and returned to the administrators within the time frame set for the session.**

ANSWERS TO PROBLEM SOLVING EXAMPLE QUESTIONS

Example 1: Friday. (The “day before tomorrow” is today; “the day before two days after” is really one day after. So if “one day after today is Saturday,” then it must be Friday).

Example 2: CABDE. (Putting the first three in order, A finished in front of B but behind C, so CAB. Then, we know D finished after B, so CABD. We know E finished after D, so CABDE).

Example 3: D. All the others are fractions but D represents $25 \times N$.

Example 4: B. If her youngest brother is 15, then Sarah at twice as old would be 30. 30 minus 15 is 15.

Example 5: B. all the other pairs of words are spelled incorrectly.



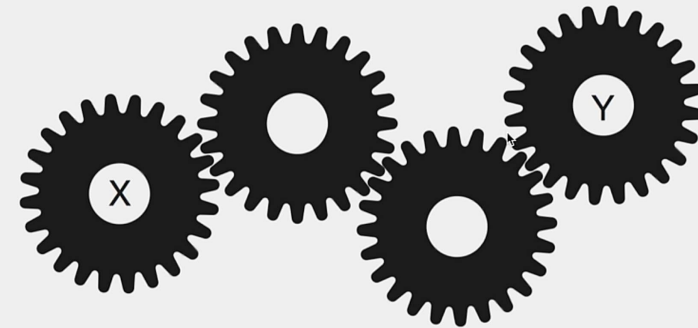


Test Administration – Online

The test battery is the same as with the in-person administration, however, the exam is completed online and is proctored remotely by a proctor organization. Candidates will be emailed information about the exam and how to schedule the exam usually around 10 days prior to the test date.

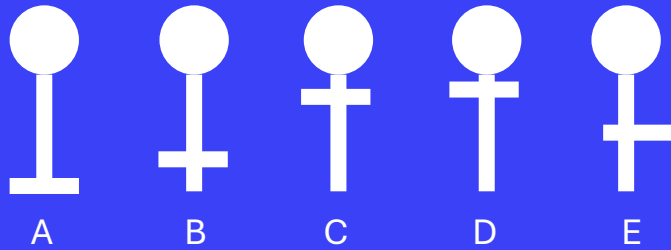
In order to take the exam online, candidates must have access to stable internet and have a working webcam and microphone. Candidates will create an account with the proctor company and will schedule their exam at their preferred time on a designated date of the department's choosing.

Mechanical Question Examples:



Example 1: If X turns clockwise, which way will Y turn?

Mechanical Question Examples:



Example 2: Which of the pendulums will swing at the fastest speed?

Answers to Mechanical example questions on page 9.
See this and more examples of Mechanical Aptitude questions on CareerVidz YouTube at:
<https://www.youtube.com/watch?v=RPvwCpaChUA>

At the start of the exam, candidates will be connected with a proctor via videoconference who will establish their identity and confirm that the test environment conditions have been met (such as no-one else being present in the room and no resources being used). The exam will then commence and must be completed within 3.5 hours. Most candidates complete the online exam in about 2.5 hours.

At the beginning of a testing session but before responding to the actual questionnaires, candidates are required to read and sign a form that gives consent for BLA to submit their personal information and test results to the municipality to which they have applied.



Test Administration - Online (cont.)

The problem-solving questionnaires are administered earlier in the session, followed by the more lengthy questionnaires focused on character and interests.

The problem-solving questionnaires have time limits for completion ranging from 5 to 25 minutes each. The questionnaires focused on character and interests are not timed but can be completed in 30 to 40 minutes each.

There are no scheduled breaks during a testing session. However, after the first 60 minutes have passed, candidates are free to leave the room and return.

There is no restriction on the amount of time a candidate may be absent during such a break but the exam must be completed within the 3.5 hours.

Mathematics Question Examples:

Example 1: An instrument store gives a 10% discount to all students off the original cost of an instrument. During a back to school sale an additional 15% is taken off the discounted price. Julie, a student at the local high school, purchases a flute for \$306. How much did it originally cost?

- A. 325
- B. 375
- C. 400
- D. 408
- E. 425

Example 2: Which of the following values is NOT equal to $34(58+9)$?

- A. $34 * 67$
- B. $58(34+9)$
- C. $34 * 58 + 34 * 9$
- D. $1,972 + 306$
- E. $(9 + 58) 34$

Answers to Mathematics questions on page 9.
See these and more examples of Mathematics questions at

Test Prep Review:

<https://www.testprepreview.com/modules/mathematics1.htm>

Obtaining Results



After candidates have completed psychometric testing for a fire department, their responses are processed and scores are generated for each candidate on each of the 13 firefighter competencies. The results are sent to the hiring department 3-10 business days after the exam.

Based on the results and in combination with other relevant criteria, such as work experience and courses completed, the municipality decides which candidates will proceed to the next stage of the hiring process and notifies candidates of their status going forward.

In line with standard employment testing practice and to help maintain a testing process that has integrity and that is fair, consistent, and equitable for all candidates, there will not be an opportunity for candidates to receive feedback on their results.

Answers to Mechanical and Mathematics example questions:

Mechanical Example 1: Anti-clockwise

Mechanical Example 2: Pendulum D

Mathematics Example 1: C: The equation, $x - 0.10x - 0.15(x - 0.10x) = 306$, may be used to solve the problem. Solving for x gives $0.90x - 0.15x + 0.015x = 306$, where $x = 400$. Thus, the original price was \$400.

Mathematics Example 2: B: This problem illustrates the distributive property of multiplication over addition. The factor being distributed may not change.

PART 2:

How to Prepare for the Testing Session

The best way to prepare for a firefighter competency testing session is to have a good sleep the two nights prior and to come to the testing session well rested! The problem-solving questionnaires, in particular, are susceptible to fatigue effects because of the time limits and it is important that candidates be fresh and alert to perform at their best.

Moreover, the testing takes place over a 3.5 hour period and candidates need to focus their attention for the entire time. The level of energy required to maintain concentration for the session is equivalent to that needed for a full day at work.

Once candidates know their testing date and time, they should plan their day to optimize their performance during testing time. For example, a substantial, healthy meal (i.e., containing protein and complex carbohydrates) within two hours of the start of the session in order to maintain their blood-sugar levels.

Physical exercise the morning of the session will boost blood flow and increase oxygen flow to the brain.

Also, candidates are encouraged to keep their day before the testing as stress free as possible.





Preparing for Specific Questions

The BLA firefighter competency testing process was developed to provide municipalities with a method of screening candidates that does not unfairly advantage candidates who have prior knowledge of firefighting or experience as a firefighter over those who do not.

Instead, it is focused on the skills, abilities, and other characteristics candidates need to bring to job in order to become proficient and perform effectively.

Where other approaches will test candidates for their knowledge of firefighting techniques, our approach tests candidates for their ability to learn what they need to know to fight fires effectively.

Other approaches will evaluate candidates based on the length of time they have spent as a firefighter, whereas **our process evaluates candidates on the extent to which they possess the characteristics needed to execute firefighting tasks effectively.**



Preparing for Specific Questions

Character & Interest:

We encourage candidates prepare to write the character and interest questionnaires by:

- (a) reflecting on their personal qualities, and
- (b) resolving to portray their personal qualities honestly and accurately.

When asked a question like, “I would like to belong to a book club,” candidates are encouraged to reflect on how they feel about joining a book club and respond in line with how they genuinely feel.

Some candidates will answer questions like this based on how they think firefighters would answer instead of how they, themselves, feel.

Answering on the basis of how one thinks a firefighter would answer is a bad strategy and candidates who use it tend to receive lower scores than candidates who respond in accord with how they really feel.

Preparing for Specific Questions

Intellect:

Study and review can help candidates to prepare for the problem-solving questionnaires. These questionnaires measure thinking skills that can be improved through effort and practice.

The types of intellect assessed include verbal, mathematical, reasoning (logic), and mechanical.

Verbal:

Ability to read, write, understand spoken messages, and speak fluently. The best way to build verbal skills is to read.

The following videos and websites may be helpful for verbal ability practice:

This site simulates actual testing conditions. On the site, set length to “open”, level to “35-40,” and timer to “5:00”. To practice, follow this link: <http://www.thatquiz.org/tq-D-z0/vocabulary/English/>

This site has sample verbal ability questions:
<https://www.geeksforgeeks.org/verbal-ability/>

Video tutorial:

https://www.youtube.com/watch?v=39zRq_cVDGQ&t=9s

Mathematical:

Ability to perform mathematical computations. The best way to build math skills is to do lots of computations that require different kinds of operations (i.e.: addition, subtraction, multiplication, and division).

The following videos and websites may be helpful for mathematics practice:

Test item practice: <https://www.testprepreview.com/modules/mathematics1.htm>

Video tutorials:

<https://www.youtube.com/watch?v=KmXKQD0gDyM>

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

Skill building and test practice:

<https://www.thatquiz.org/tq-1/math/arithmetic/>

(select all of the arithmetic operators (+, -, /, x) and experiment with the other options to generate a broad domain of question types. To simulate testing conditions, set length to “open”, level to “100”, and time to “100:00”).

Preparing for Specific Questions

Reasoning:

Ability to think logically in order to arrive at sound conclusions. A good way to build reasoning skills is consistently to apply formal logic to problems without allowing attitudes and feelings to affect the conclusions.

If searching the web, look for practice materials labelled “symbolic reasoning,” “abstract reasoning,” and “syllogisms”.

Video Tutorial:

https://www.youtube.com/watch?v=UD_5IXy3lpU

Mechanical:

Ability to understand mechanical systems and how they work.

A good way to build mechanical understanding is to study the mechanics of gears and pulleys together with a review of the mechanical principles of force and motion.

Video Tutorials:

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

<https://www.youtube.com/watch?v=Wkc8sFi4CsI>

The following video tutorials provide information on how to prepare for problem solving tests in general:

<https://www.youtube.com/watch?v=z18lkaAeoEs>

https://www.youtube.com/watch?v=gJJWp7q_cfY

Note: the preceding links are provided as a courtesy to assist with candidates’ preparation. We are not responsible for the content of the sites linked to and do not provide additional assistance with the materials presented on the sites. Other methods of preparation can also be helpful.



GOOD LUCK
ON YOUR
FIREFIGHTER
COMPETENCY
TEST!

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