

# 12 Core Competencies you must test in 2019

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# 12 Core Competencies

## 1) What is 'Competency'?



In order to measure intelligence, we need to identify the cluster of abilities or skills, in the form of which intelligence manifests itself. These skills and abilities cluster is called a *'competency'*.

We have identified the key competencies that help in accurate measurement of our fluid intelligence, crystallized intelligence and core cognitive brain functions.

By measuring the level of these competencies in a candidate, HR's can easily decide if the candidate is right for a job role or not.

## Benefits of Basing Assessments on 'Competencies'

Basing cognitive assessments on competencies help in customizing them for different job roles and job levels. It also helps in standardizing and structuring hiring process.

It also helps in identifying training needs in employees as cognitive assessments help in identifying the cognitive competencies that an employee is weak in or lacks.

On the flip side, by helping identify employees who are strong in certain cognitive competencies, they can be selected for advanced training and even help in the identification of high potentials for succession planning and leadership development.

Advanced Training

Learning Agility

Job Performance

Growth

### BENEFITS OF BASING ASSESSMENTS ON 'COMPETENCIES'

Ability Testing

High Potential Identification

Learning & Development

Hiring



### Fluid Intelligence

- Abstract Reasoning
- Spatial Reasoning
- Creativity

### Crystallized Intelligence

- Numerical Ability
- Verbal Ability
- Data Analysis
- Logical & Critical Reasoning
- Decision Making
- Problem Solving

### Core Brain Function

- Attention to Detail
- Memory
- Perceptual Speed
- Visualization

# Core Competencies to Measure Cognitive Intelligence at Work

## 2) Measuring Fluid Intelligence

### ABOUT

*Abstract reasoning* evaluates lateral thinking skills or fluid intelligence of a candidate's to swiftly identify logical rules, patterns and trends to formulate meaningful information for solving problems. Candidates with strong Abstract Reasoning ability are likely to be creative while solving novel problems. They are likely to be capable of integrating data logically to arrive at decisions.

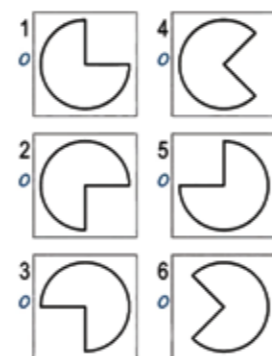
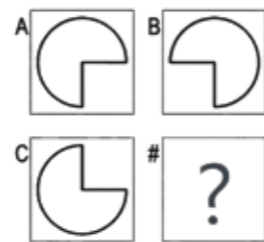
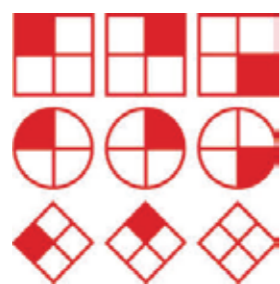
It assesses an individual's capability to reason logically and identify patterns and similarities between shapes, figures and data.

### ON-THE-JOB APPLICATION

- Helps in identifying logical rules, patterns and trends to formulate meaningful information for solving problems.
- Enhances the ability to solve novel problems.
- Increases the capability of integrating data logically to arrive at decisions.

### TOOLS TO MEASURE COMPETENCY

The Raven's Progressive Matrices



# Abstract Reasoning



## ABOUT

*Spatial Reasoning* is the ability of a candidate to visualize and manipulate two-dimensional and three-dimensional shapes or patterns or designs. Candidates with strong spatial reasoning abilities are able to quickly analyze and work on complex set-ups in designs and spatial elements in jobs.

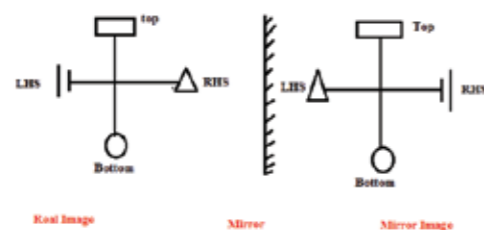
Spatial Reasoning involves creating a mental image of an object in order to reach a certain conclusion.

## ON-THE-JOB APPLICATION

- Triggers innovative discovery and simple problem-solving.
- Enhances the ability to visualize and reason spatially.
- Displays the ability to draw conclusions about an object with limited information.

## TOOLS TO MEASURE COMPETENCY

Mirror and Water Image questions



### Water image of small letters

a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z
u	o	b	d	l	z	f	n	λ	m	x	λ	z

# Spatial Reasoning



## ABOUT

*Creativity* tests measure specific cognitive processes such as thinking divergently, making associations, constructing and combining broad categories, or working on many ideas simultaneously. However, they are best thought of as measures of creative potential because creative achievement depends on additional factors not measured by creativity tests, such as technical skill, knowledge of a field, mental health, or even opportunity.

## ON-THE-JOB APPLICATION










- Create and manipulate models such as process models or data models
- Think outside the box to solve business problems and strategize
- Interpret data in a way that helps in achieving business goals



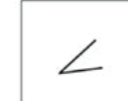


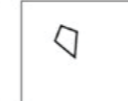


## TOOLS TO MEASURE COMPETENCY

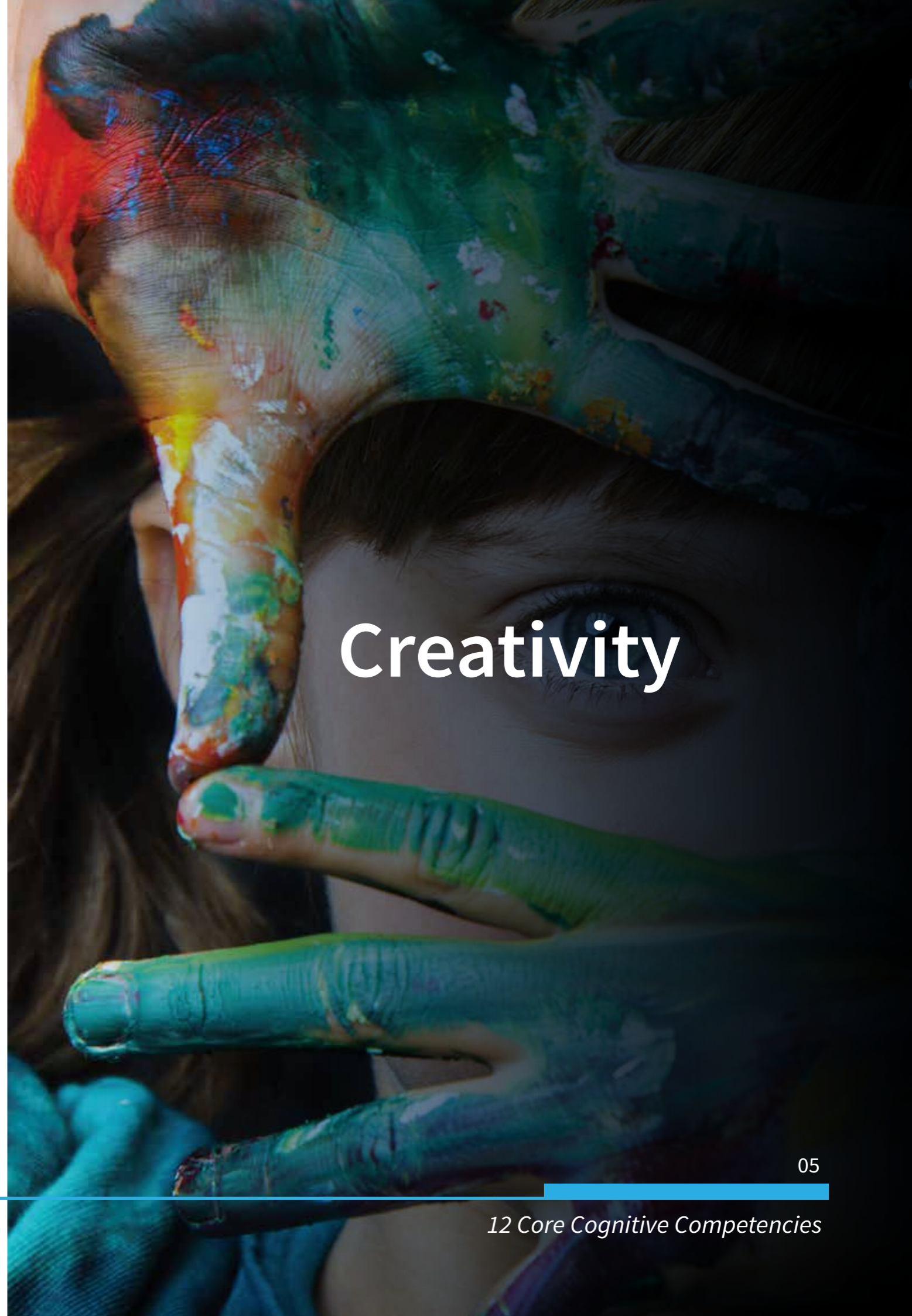
Guilford's test of Divergent Thinking – Alternative Uses Task, Remote Associates

Torrance Test of Creative Thinking – Incomplete Figures, Artistic-Assessment Tests, Self-Assessment Tests

Use the circles as a prompt for drawing. Draw for two minutes.

Anna					
Benji					





### 3) Measuring Crystallized Intelligence

#### ABOUT

*Numerical Reasoning* refers to a candidate's speed and accuracy while solving simple arithmetic problems that involve the use of operations like addition, subtraction, multiplication and division.

#### ON-THE-JOB APPLICATION

- Interpreting and analyzing numerical data to draw out logical conclusions and make reasoned decisions in a business environment.
- Deriving information for a business to monitor its progress and performance.
- Efficiently collect, understand, study, and present data to solve problems.

#### TOOLS TO MEASURE COMPETENCY

Averages, BODMAS, Percentage

$$1 + 5 \times 6 - 3 + (4 - 2)$$

$$1 + 5 \times 6 - 3 + 2$$

$$1 + 30 - 3 + 2$$

I increase £200 by 50%.

Then, I increase the new amount by 10%.

What percentage of the original amount do I have now?



155%



60%



165%



330%

# Numerical Reasoning



## ABOUT

*Verbal Ability* assesses a person’s capability to understand verbal and written communication. This includes being able to understand words. This essentially means not only knowing what words mean in general but what their contextual meanings are. Verbal Ability also includes using correct grammar and punctuation while writing anything from emails to reports. Being able to process large amounts of information by possessing good reading skills is also an essential part of Verbal Aptitude.

## ON-THE-JOB APPLICATION

- Communicating with customers, clients, coworkers and management.
- Knowing how to construct grammatically correct content. Expressing oneself with ease, accurately and precisely
- Taking less time to understand and process information
- Understanding client and organizational needs and delivering them
- Managing people and relationships

## TOOLS TO MEASURE COMPETENCY

Sentence Correction, Sentence Completion, Audio Questions, Essay Writing, Precise Writing, Email Writing, Reading Comprehension, Para Jumbles, Antonyms & Synonyms, Idioms and Phrases

going	honey	turtle	roaring
dolls	peacocks	come	table

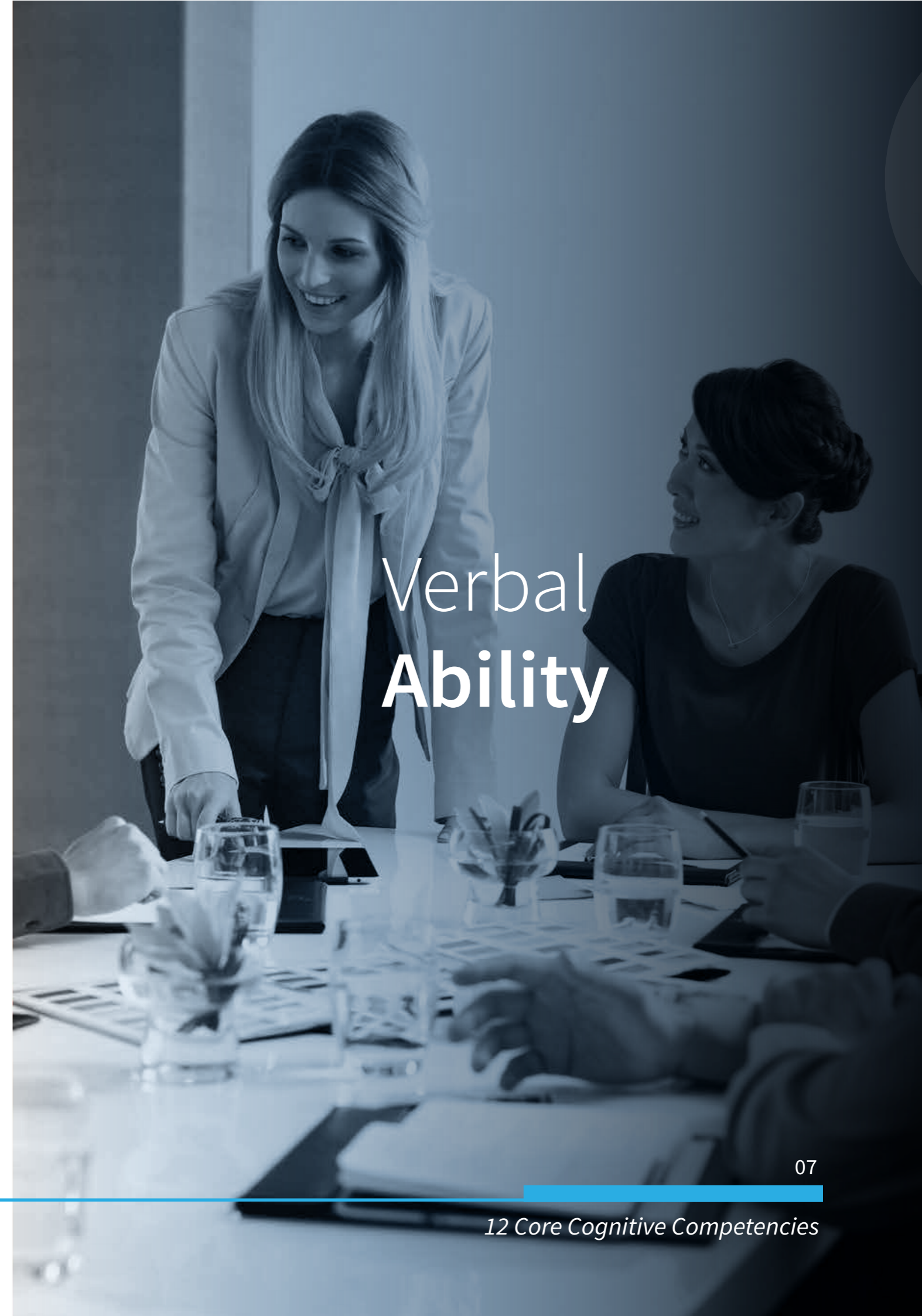
1. The red rose is on the \_\_\_\_\_.

2. I can see a little \_\_\_\_\_ in the sea!

3. Girls love playing with \_\_\_\_\_.

### SYNONYMS

throw	repair	gift
close	right	pick
great	glad	kind



# Verbal Ability



## ABOUT

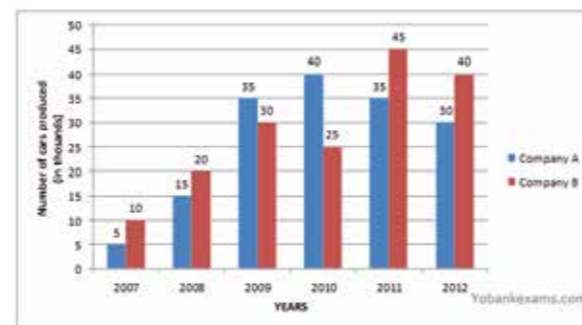
*Data Analysis* refers to the ability to structure observations that are obtained from different data sources. This skill checks whether a candidate is able to interpret a large amount of data and whether is able to draw logical conclusions from that. This skill is required to analyze data to identify trends, which can be used to take future courses of action. A candidate who is good at Data Analysis is able to logically think and identify the market demand, identify the problems that may be plaguing the organization by noticing upward and downward trends of product sales etc.

## ON-THE-JOB APPLICATION

- Structure observations that are obtained by different data sources
- Be skilled in breaking down a big problem into smaller parts for better understanding of the problem
- Follow a structured approach to solve the problem efficiently
- Accurately measure and monitor the business growth

## TOOLS TO MEASURE COMPETENCY

Graphs, Charts, Tables



# Data Analysis



**ABOUT**

*Critical Thinking & Logical Reasoning* refers to the ability to analyze a situation in order to form a judgement. It is based on logical reasoning and evidence. A candidate’s ability to think out-of-the-box to arrive at innovative solutions to a problem. The sub-skills required for critical thinking include the ability to evaluate arguments, draw inferences, interpret information, recognize assumptions etc.

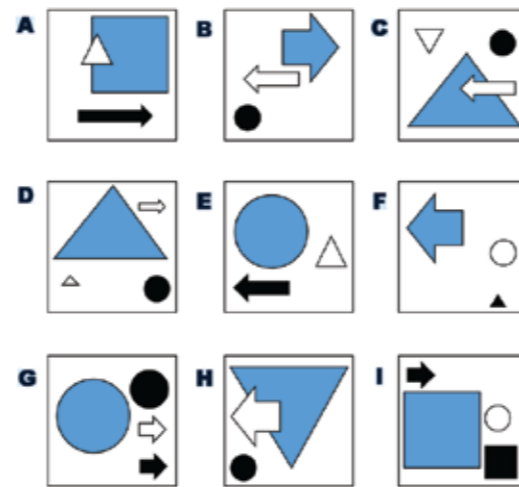
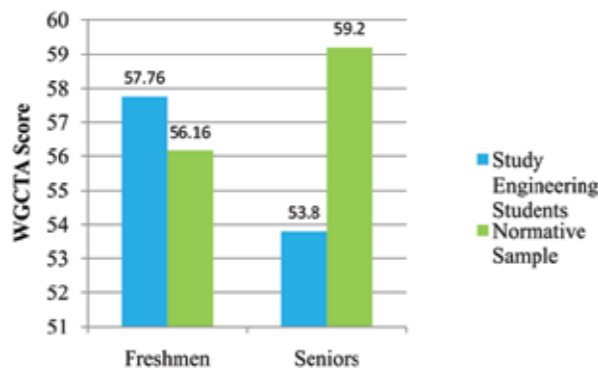
**ON-THE-JOB APPLICATION**

- Have the ability to use steady and consistent approach to arrive at a conclusion
- Be good at structuring problems, situations and facts in order to conceive a solution
- Have a strong thinking and understanding process

**TOOLS TO MEASURE COMPETENCY**

Watson Glaser Critical Thinking Appraisal, Critical Reasoning

Study Critical Thinking Scores Versus Normative Data



# Critical Thinking & Logical Reasoning

## ABOUT

*Decision Making* refers to the ability of the person to take right decisions. It identifies the ability of a candidate to choose between a given set of alternatives. It tests whether a candidate can take the most rational decision when faced with difficult choices. The sub-skills include identifying the cause and effect, drawing conclusions and identifying the best course of action.

## ON-THE-JOB APPLICATION

- Making better usage of resources
- Facing the organizational challenges and problems
- Dealing with business growth
- Increasing overall efficiency
- Achieving objectives
- Innovating new ideas
- Motivating the employees

## TOOLS TO MEASURE COMPETENCY

Statement Conclusion, Statement- Course of Action

$$L \geq V, P > D, V < D$$

$$\Rightarrow P > D > V \leq L$$

Conclusion: I.  $P > L$  (×)

II.  $P \leq V$  (×)

Thus, neither conclusion I nor II follows.

# Decision Making



## ABOUT

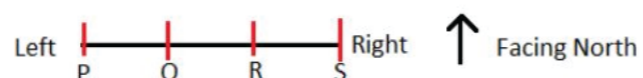
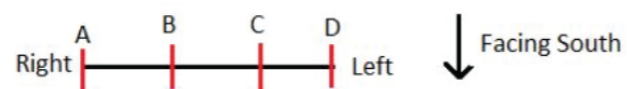
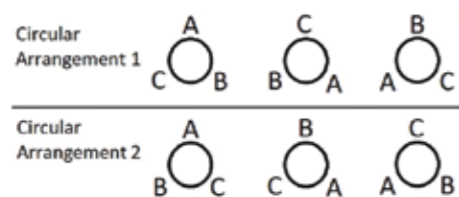
*Problem Solving* refers to a person's ability to reason and provide systematic solutions to a given problem. Effective problem solving involves four basic steps: identifying the problem, looking for suitable replacements, substitutes or solutions, evaluating and finalizing solutions and executing the best solution.

## ON-THE-JOB APPLICATION

- Problem-solving skills have a deep impact on our career as a fundamental part of every job is to identify ways and means to solve various problems
- Problem-solving skills of a candidate are also essential for maintaining interpersonal relationships.
- It helps measure decision making ability, reasoning skills and numerical reasoning skills of candidates.

## TOOLS TO MEASURE COMPETENCY

Arrangements (Ranking, Circular, Linear), Analogies (Verbal, Semantic, Number and Letter)



# Problem Solving

## 4) Measuring Core Brain Functions

### ABOUT

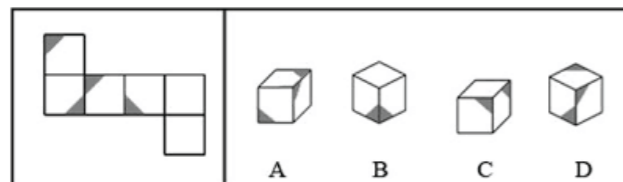
In business aspect, *Attention To Detail* definition includes the ability to concentrate on every minute detail of a task. It is very critical for organizations to recruit resources with good attention to detail ability, especially for profiles that require one to work on huge data maintaining concentration level, and sustain focus in order to ensure quality work without any errors.

### ON-THE-JOB APPLICATION

- Reduce errors in the job that requires high level of concentration
- Ensures that the employee does not make too many mistakes with details and cross check their work

### TOOLS TO MEASURE COMPETENCY

Comparison based questions on texts, number, images and visuals.



13	54	?
7	45	32
27	144	68

# Attention To Detail



## ABOUT

*Memory tests* measure how strong our short term and long term memory is by making us observe a variety of objects, texts, shapes and other objects and then assessing how much of that information we were able to accurately retain and recall later.

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## ON-THE-JOB APPLICATIONS

Memory tests are important in jobs where an employee has to observe a large plethora of things on a daily basis and retain and recall them accurately later. E.g. Police force, Doctors

## TOOLS TO MEASURE COMPETENCY

Visual images



# Memory Test

## ABOUT

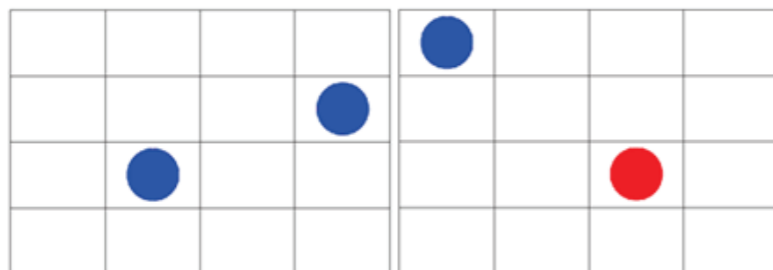
*Perceptual Speed* is defined as the time it takes an individual to complete a mental task. It is linked to the speed at which an individual can understand and react to the information they receive, whether it be auditory (language), visual (letters and numbers) or motor (movement). In simple words, processing speed is the time taken to receive and respond to a stimulus.

## ON-THE-JOB APPLICATIONS

- The faster the processing speed, the more efficient a person is in their ability to think and learn.
- If a person's processing speed is poor, it adversely impacts their ability to make decisions, behave rationally, and carry out instructions correctly.

## TOOLS TO MEASURE COMPETENCY

Classic Connors (CPT) test and the direct and indirect digits test from the Wechsler Memory Scale (WMS)



# Perceptual Speed Test





Cognitive intelligence is an amalgamation of fluid, crystallized and core brain functions. While fluid competencies demonstrate an individual's ability to learn new things and adapt to new surroundings, crystallized competencies exhibit the ability to recall things from memory and applying pre-learned knowledge in various ways, while core brain functions power the functioning of fluid and crystallized intelligence. Together these 12 competencies determine how well an individual can gain, store and apply knowledge to succeed at work and life in general. It's imperative to ensure that your talent pool is proficient in these competencies to ensure their sustained high performance in the long run

# Conclusion



## ABOUT MERCER | METTL

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