

CREATIVITY

2020



INNOVATION

CRITICAL



THINKING

PARTICIPANT'S WORKBOOK NAME:

DESIGNED & DELIVERED BY:

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For



PRE-WORK

Please click the link and complete the questionnaires prior to the start of the class.
This exercise is all about discovering your best learning or thinking style.

<https://forms.office.com/Pages/ResponsePage.aspx?id=8pTDkfv8P0SrD2IabM6I9E4oNE164U9AqSNtxsjio6lUQ0RTM1ZPRIBYMjBVTE1URFAxVFQyNlZXOS4u>

EXERCISE 1: CASE STUDY ON CRITICAL THINKING & PROBLEM SOLVING

Two newly hired customer service representatives have decided to room together. Things have been going well, both on the job and in their personal lives. But approximately two months after the two women moved in together, a tragedy occurred. Detective Joe Saturday was called to the scene in response to a 9-1-1 call at about six in the morning. Here's what happened when he got to the scene.

Janice Huerrerra, visibly shaken, let the detective in. Her roommate, Veronica Barclay, lay on the floor, a long-handled knife protruding from her chest. When the detective examined the body, he found that Veronica had been dead for several hours. He gave the apartment a cursory inspection, knowing the forensic technicians were on their way. He saw a knife missing from a rack of kitchen knives, bloody towels on the bathroom floor, and two raincoats on a chair. The top one had a .38 caliber gun sticking out of the pocket.

Before he could even ask about it, Janice admitted that the gun belonged to her but claimed she had a permit for it. Saturday then asked Janice about the events that led to her phone call to 9-1-1. She explained that she had been out on a date and returned about 10.30 p.m. She went right to bed after finding a note from her roommate saying she would not be in until 1.00 a.m. or 2.00 a.m.

The next thing she remembered was hearing Veronica come in, complaining about the rainstorms. She vaguely recalled hearing Veronica throw her raincoat on a chair and whisper to someone Janice assumed was her boyfriend. Then she heard Veronica in the bathroom. Just before she dozed off again, Janice heard Veronica's bedroom door close. She is certain, however, that she heard a man's laughter coming from Veronica's bedroom.

When Janice arose early the next morning, she found the body on the floor. In response to the detective's question, she assures him that she has not touched a thing, other than the phone to call 9-1-1.

The detective decides Janice is a suspect. On what basis?

EXERCISE 2: COFFEE MUG CHALLENGE



1. _____
2. _____
3. _____
4. _____
5. _____

EXERCISE 3: CREATIVITY SELF-ASSESSMENT ACTIVITIES

The left side of your brain handles analytical thinking: logical, rational, linear, numerical, precise. Many aspects of your job call for analytical thinking: planning a project, preparing a budget, learning a procedure, solving a problem, studying alternatives and making decisions.

The right side of your brain handles creative thinking: expansive, visionary, intuitive, spatial, artistic. Whenever you come up with new ideas or create products, procedures, forms, programs, or plans that are new (or, at least, have never been generated by you before), you are drawing on the right side of your brain.

These self-assessment activities will help you to get a quick measure of your creativity. There are fifteen questions. Each is timed. We suggest you get your timer on, since you are likely to become absorbed in the exercises and forget to keep track of time.

For each activity, read the instructions. Then immediately start the clock.

ACTIVITY 1

FIVE MINUTES. In the space below (and on a separate sheet of paper if you need more space), list all the words you can think of that begin with the letter **C**. **Start timing now!**

ACTIVITY 2

The local soft drink bottling company has a fleet of trucks whose drivers make daily deliveries at the same supermarkets, drug stores, and beverage distributors. That is, the drivers visit all outlets on the routes every day.

This July, the company noticed a higher than normal absenteeism on Fridays and Mondays. The drivers call in sick. This has meant that the route supervisors have had to drive the routes themselves.

Since many drivers have exceeded their allowance sick days, the company is docking the drivers (i.e. not paying them) for absent days. But this has not reduced the absenteeism.

- a.) **THREE MINUTES.** In the space below, list all the reasonable explanations you can think of as to why the drivers are calling in sick on Mondays and Fridays. **Start timing now!**

- b.) **THREE MINUTES.** Assuming the explanations you just listed are valid, use the space below to list all the possible actions the bottling company might take to correct the problem. **Start timing now!**

ACTIVITY 3

THREE MINUTES. A friend of yours manufactures peanut butter and other peanut products. Peanut shells are a by-product, and your friend has been carting them to the dump for use as landfill; they are, of course, biodegradable.

You are convinced that the shells will have some commercial value if ways can be found to use them and not merely bury them. In the space below, list all the possible uses that you feel should be explored for their practicality. **Start timing now!**

ACTIVITY 4

THREE MINUTES. Many fruits find their names used in figures of speech. For example, we refer to an unreliable automobile as a “lemon”, or the boss or lead performer as the “top banana”. In the space below, list all the figure of speech you can think of that include the name of a fruit. **Start timing now!**

ACTIVITY 5

THREE MINUTES. It's scrabble time. Here are your seven letters. In the space below, see how many words you can assemble by using some of these letters (and no other letters except the below). A letter may be used **ONLY ONCE** in each word that you made. **Start timing now!**



ACTIVITY 6

FIFTEEN MINUTES. There are *10 challenges*. Complete as many of these challenges as you possibly can. Don't spend too much time on any that stump you. Move on to another. You can always return to an item if a new strategy or fresh insight comes to you. The activity/exercise continues on to the next pages. **Start timing now!**

Challenge No 1:

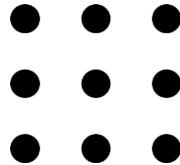
Describe how you could cut this piece of cheese into eight equal pieces with only three cuts.



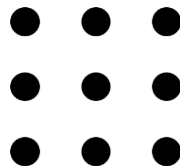
Answer:

Challenge No 2:

Join the nine dots shown below by drawing four straight lines without lifting your pencil from the paper:



Then do the same for the nine dots shown below by drawing three straight lines without lifting your pencil:



Challenge No 3:

By drawing **ONE** line, convert this odd number into an even number:

IX

Challenge No 4:

You have a 5-minute hourglass and a 3-minute hourglass. You want to measure 7 minutes. How?



Answer:

Challenge No 5:

How many squares are there in this figure?

1	5	9	13
2	6	10	14
3	7	11	15
4	8	12	16

Answer: _____

Challenge No 6:

What do the following words have in common?

**canopy, deft, first, laughing,
hijack, stupid, calmness, labcoat**

Answer: _____

Challenge No 7:

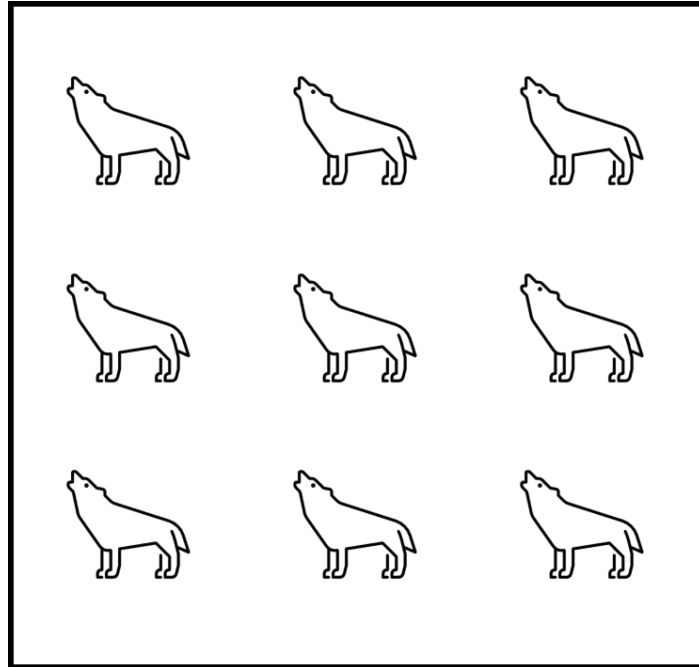
Add lines to the two identical figures on the right to convert them into three-letter abbreviations for two world-famously known entities.



These organizations are: _____

Challenge No 8:

Nine wolves are in this square enclosure at the zoo. Draw two more square enclosures that will put each wolf in a pen by itself.



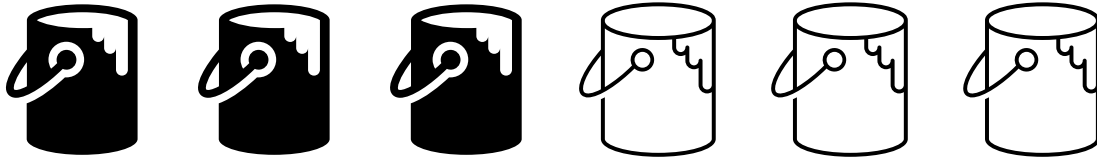
Challenge No 9:

What is the logic behind this sequence of the numbers one through nine?

8, 5, 4, 9, 1, 7, 6, 3, 2

Answer: _____

Challenge No. 10:

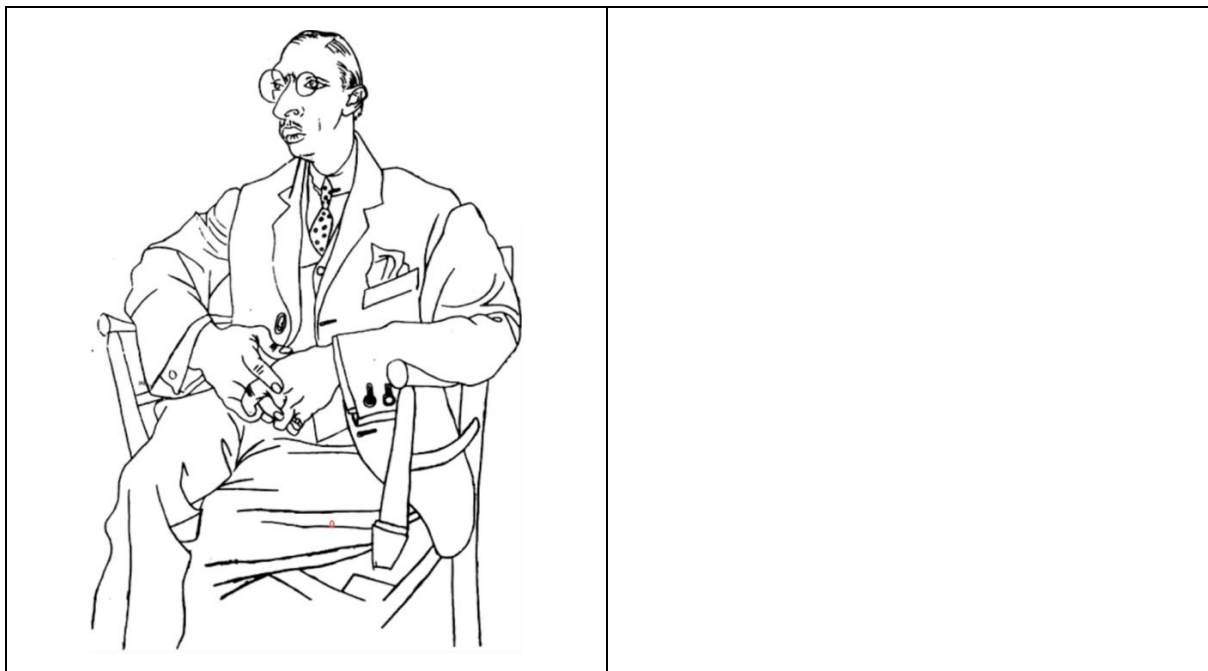


Three cans are full and three are empty. By moving only one can, see if you can end up with full and empty cans alternating.

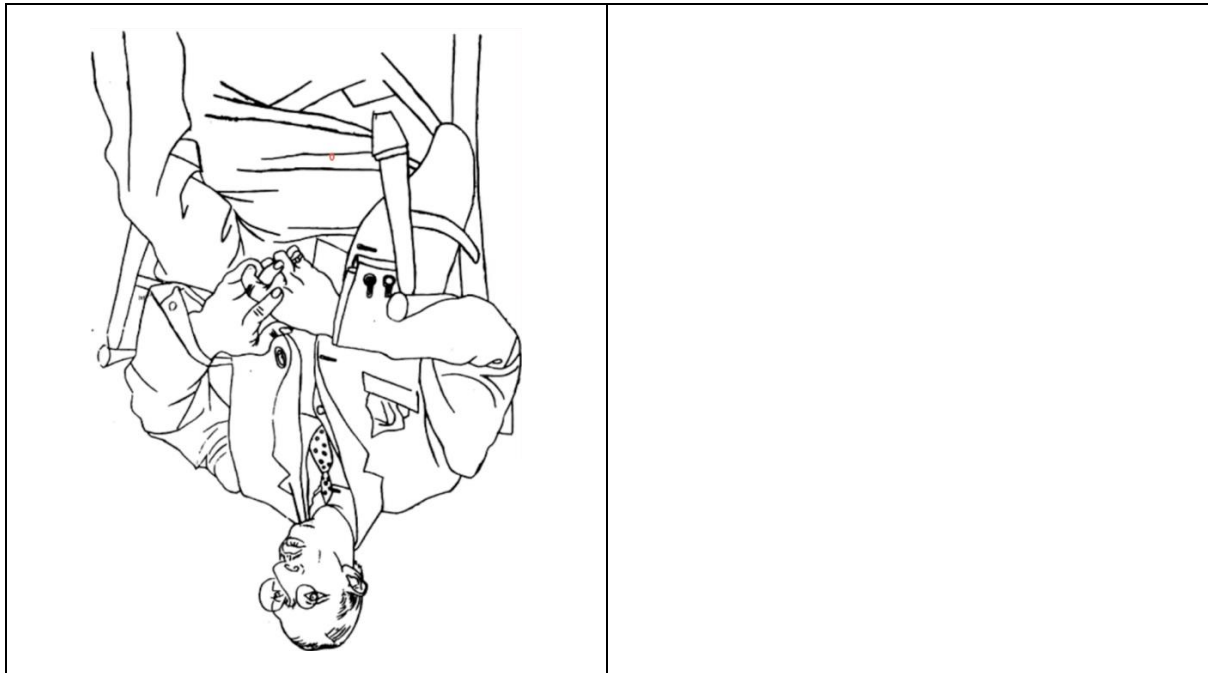
Answer: _____

EXERCISE 4: RE-DRAWING

You have **5 minutes**. Re-draw exactly the figure below in the space right next to it:



You have **5 minutes**. Let's try again! This time with the same image upside-down.



EXERCISE 5: BRAINTEASER

Add a line to the equation so that the answer is CORRECT!

$$5 + 5 + 5 = 555$$

EXERCISE 6: OSBORN'S LIST (GROUP EXERCISE)

Your challenge should you choose to accept it, is..... Using Osborn's List as a guideline, come up with ***ways to improve an office stapler***.



Brainstorming pioneer Alex Osborn was a master at using perspective changes to suggest new ideas. He developed a list of seventy-three idea-spurring questions designed to create new perspectives. His list included such questions as:

- What other product (problem) is like this one (adapt)?
- How could I change this product (modify)?
- How could I add to this product (magnify)?
- What could I take away from this product (minify)?
- What could I use instead of this product or a portion of it (substitute)?
- How could I alter this product's composition (rearrange)?
- How could I turn this problem around (reverse)?
- What could I put together to make a new product (combine)?

You do not have to limit your ideas to those prompted by Osborn's list. Any changes will do – change colour, shape, smell, cost, design, texture, timing etc. Possible changes are limited only by your imagination.

EXERCISE 7: NUMBERS SLOTTING

8, 11, 15, 5, 14, 1, 7, 6, 10, 13, 3, 12, 2

EXERCISE 8: SENTENCE CONSTRUCTION

Creative thinkers are able to leave behind perfectly logical answers that, unfortunately, are not solving the problems. Instead of persevering, trying to force-fit a round solution into a square problem, such thinkers are willing to explore a different approach. Creative thinkers are risk-takers.

A simple exercise below will illustrate it further. The following combination of letters represents *a sentence* from which *one* particular vowel has been removed. If you can figure out what that vowel is and re-insert it eleven times, in eleven different places, you will be able to determine what the sentence is saying.

VR YFINXMP
LARXCDSW
HATWXPCT

Answer: _____

EXERCISE 9: STIMULUS WORDS PROBLEM CHALLENGE

LIST OF STIMULUS WORDS					
Force it	Sand it	Jiggle it	Brush it	Cushion it	Bend it
Sprinkle it	Press it	Vibrate it	Inject it	Twist it	Inflate it
Bright	Transparent	Sticky	Bounce	Spin	Pop up
Tubes	Wet	Shine	Coarse	Bubble	Zip
Balloons	Accordions	Sponges	Thermostats	Tulips	Egg shells
Mercury	Waterfalls	Syringes	Vises	Corkscrews	Gyroscopes
Funnels	Filters	Spirals	Time bombs	Bells	Waves
Mirrors	Velcro	Rhythm	Static	Turbulence	Anticipation

EXERCISE 10: BI-WORDAL CHALLENGE

Suppose you are a charitable organization that wants to generate ways to *increase* the amount of *money* it donates to community service projects.

This problem involves a combination of the words “*increase*” and “*money*”. For most people, this particular combination would simply mean: “*get more money*”. Pretty simple. But it doesn’t help us think of many ideas.

What if we now substitute a synonym for the word “*increase*”? According to Thesaurus, several options are as follows: *advance, boost, jump, raise, hike, magnify* and *snowball*.

Then, experiment with different combinations of these words with the word “*money*”. This will generate combinations such as:

“**BOOST/MONEY**” “**JUMP/MONEY**” “**HIKE/MONEY**” “**MAGNIFY/MONEY**”

The word “*MONEY*” is also substitutable, and Thesaurus provides other words for it such as *cash, currency, greenbacks, worth, dough, wampum* and *income*.

Next, combine the word “*increase*” with any of the substitute word for money and generate combinations such as:

“**INCREASE/GREENBACKS**” “**INCREASE/WAMPUM**”

These combinations can stimulate ideas. Example:

1. Employees volunteer time to help with automobile emergencies or household handyman work in exchange of service with donations as payment from those they help – this is derived from “**BOOST/MONEY**” combinations
2. Seek help from artistic employees to design and sell jewellery to raise funds – this is derived from “**INCREASE/WAMPUM**” combinations

YOUR CHALLENGE: Use any of the combinations of synonymous words above and generate ideas on how to *increase money* for your charitable organization.

EXERCISE 11: CRITICAL ANALYSIS AND PROBLEM SOLVING

Spend roughly **two minutes** to solve each of the critical problem statement:

1. **Two minutes.** At the annual industry trade show, technocrats had an opportunity to network and learn about the latest technology. Marya was telling LaTeisha that she had met a bearded man from a competing firm but she wasn't certain if he was married.

LaTeisha who knew all three of the men from the firm, decided to challenge Marya's brain. "I know who he is". She declared. "Now you figure this out. Two of them are married, tow have blue eyes, and two are clean-shaven. The one with the beard has brown eyes. Dave's wife is Paul's sister, and the bachelor is the one with the same colour eyes Jim has." ***Which man has the beard?***

Answer: _____

2. **Two minutes.** Three managers were sent on business trips but did not go together. One went to Tulsa, one went to Skokie, and one went to Boston. Harriette will be going to Tulsa for the first time next December. Denise has refused to go to Tulsa because of an unpleasant incident that occurred the last time she was there. Because she is an excellent employee, her boss has also granted her wish not to go to Boston, where her ex-husband lives. ***What city was each manager in?***

Answer: _____

3. **Two minutes.** Two colleagues went on a fishing trip together. Always competitive in sales, they were equally competitive in their sports pursuits. The first man caught a fish that weighed 18 pounds. The fish the second man caught weighed ten pounds plus half of its weight. ***Did the second man's fish weigh more or less than the first man's?***

Answer: _____

4. **Two minutes.** Arrange the numbers from 1 to 9 so that the total is 15 when three numbers are added either horizontally, vertically, or diagonally.




Answer:

5. **Two minutes.** At a well-attended ice skating exhibition, the cotton candy vendor sold half her candy before the intermission. By the end of the next skater's performance, she had sold five more cotton candy cones, leaving her with three-eighths of the original number of cones. ***How many cotton candy cones did she have to sell when she started?***

Answer: _____

EXERCISE 12: WHAT'S THEIR STORY?

Instruction: Look at each illustration, select the scenario that you feel most closely approximates what you think might be happening in the picture:

	<ul style="list-style-type: none"> a) George is an accomplished performer and has recently been hired for an off-Broadway play. He is only inches away now from his ultimate goal. b) George has organised a musical review to celebrate his company's achievement of ISO certification (an international quality standard). His team is not only performing, also serving refreshments to the assembled guests. c) George is concerned about the senior citizens at a nursing home where his aunt is a resident who never seems to have visitors. He is putting on a song-and-dance routine for them, complete with jokes he has made up.
	<ul style="list-style-type: none"> a) Cynthia's recent promotion meant a transcontinental move, but one she didn't mind making. She has packed all her valuables, fastened the seat belt around the cocker spaniel beside her, and is shoving off to Buffalo. b) As manager of a hard-working staff, Cynthia has organized a wilderness retreat in order for the staff to do some strategic planning without typical office interruptions. She has thought of everything they'll need (including laptops, projector, printer and copier) to make the session a success. c) Cynthia is on her way to a family reunion in Colorado. It has been twelve long months since she has seen her relatives, and she couldn't be more excited.
	<ul style="list-style-type: none"> a) Tony is making a sales pitch to his most important client. b) Tony is giving a pep talk to his staff, hoping to sell the concept of empowerment to them. c) At the retirement party he has organised for a fellow clerk, Tony is making a few remarks about how valuable she has been to the department.