

# Working Memory Exercises



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## **A Friendly Reminder**

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# Working Memory Exercises

## Introduction

The efficient use of working memory skills is fundamental to a child's capacity to learn new information within the classroom environment. The working memory exercises eBook contains several pages of challenging exercises which are specifically designed to force students to use their working memory skills to mentally arrange and organize information, before responding verbally.

### **The exercises are in three separate sections:**

**Digit Recall:** These tasks progress from easy to difficult. Students are required to repeat numbers, both forward and backward. Repeating numbers backward places considerable strain on working memory resources.

**Word Sequence – Attributes:** Students are required to mentally arrange familiar animals and objects from, for instance, from smallest to largest. These activities prompt students to use their working memory abilities just long enough to place the objects into a logical order.

**Temporal Sequence Exercises:** Students are read a challenging sentence that requires them to mentally organize the information briefly before responding.

# Working Memory Exercises

## Digit Recall (2 digits)

**Instructions:** I'm going to read out some numbers. I want you to listen carefully and then repeat the same numbers back to me.

2 – 3

5 – 9

2 – 8

4 – 7

6 – 1

**Instructions:** I'm going to read out some more numbers. But this time it's a bit different. I want you to listen carefully and then repeat the same numbers back to me, but backwards. So if I say 2 – 8, you say 8 – 2.

4 – 2      (2 – 4)

6 – 1      (1 – 6)

7 – 3      (3 – 7)

5 – 8      (8 – 5)

2 – 9      (9 – 2)

## Digit Recall (3 digits)

**Instructions:** I'm going to read out some numbers. I want you to listen carefully and then repeat the same numbers back to me.

2 – 5 – 7

5 – 4 – 1

9 – 2 – 5

6 – 1 – 8

2 – 4 – 1

**Instructions:** I'm going to read out some more numbers. But this time it's a bit different. I want you to listen carefully and then repeat the same numbers back to me, but backwards. So if I say 2 – 8 - 3, you say 3 - 8 – 2.

4 – 8 – 1            (1 – 8 – 4)

7 – 2 – 4            (4 – 2 – 7)

8 – 4 – 9            (9 – 4 – 8)

1 – 6 – 5            (5 – 6 – 1)

9 – 2 – 4            (4 – 2 – 9)

## Digit Recall (4 digits)

**Instructions:** I'm going to read out some numbers. I want you to listen carefully and then repeat the same numbers back to me.

6 – 5 – 4 – 1

7 – 4 – 8 – 2

2 – 4 – 9 – 1

3 – 6 – 1 – 8

6 – 1 – 8 – 4

**Instructions:** I'm going to read out some more numbers. But this time it's a bit different. I want you to listen carefully and then repeat the same numbers back to me, but backwards. So if I say 2 – 8 – 3 – 7, you say 7 – 3 – 8 – 2.

6 – 4 – 8 – 7                      (7 – 8 – 4 – 6)

4 – 1 – 9 – 2                      (2 – 9 – 1 – 4)

7 – 3 – 6 – 1                      (1 – 6 – 3 – 7)

7 – 4 – 6 – 9                      (9 – 6 – 4 – 7)

1 – 6 – 2 – 8                      (8 – 2 – 6 – 1)

## Word Sequence – physical attributes (animals)

**Instructions:** I'm going to read out a list of animals to you. I want you to listen carefully and then say them in order from **smallest** to **largest**. So for instance if I was to say **cat, ant, cow** you would say *ant, cat, cow*.

### Smallest to Largest

#### Category – Farm Animals



- |            |       |       |
|------------|-------|-------|
| a. horse   | dog   | mouse |
| b. pig     | cow   | cat   |
| c. chicken | sheep | rat   |

#### Category – Insects



- |                |             |                |
|----------------|-------------|----------------|
| d. butterfly   | flea        | fly            |
| e. caterpillar | ladybug     | goliath beetle |
| f. fly         | grasshopper | midge          |

#### Category – Birds



- |             |         |             |
|-------------|---------|-------------|
| g. eagle    | seagull | sparrow     |
| h. duck     | condor  | hummingbird |
| i. starling | swan    | albatross   |

#### Category – African Animals



- |            |         |          |
|------------|---------|----------|
| j. lion    | meerkat | elephant |
| k. giraffe | hyena   | leopard  |
| l. warthog | monkey  | buffalo  |

## Word Sequence – physical attributes (foods)

**Instructions:** I'm going to read out a list of foods to you. I want you to listen carefully and then say them in order from smallest to largest. So for instance if I was to say *grape, watermelon, apple* you would say *grape, apple, watermelon*.

### Smallest to Largest

#### Category – Fruits

- |           |            |            |   |
|-----------|------------|------------|---|
| a. apple  | grape      | grapefruit | → |
| b. cherry | watermelon | orange     |   |
| c. banana | plum       | rockmelon  |   |

#### Category – Vegetables



- |            |          |                |
|------------|----------|----------------|
| d. pumpkin | pea      | carrot         |
| e. tomato  | cabbage  | bean           |
| f. potato  | eggplant | brussel sprout |

#### Category – Nuts & Seeds



- |             |              |               |
|-------------|--------------|---------------|
| g. peanut   | brazil nut   | macadamia nut |
| h. chestnut | almond       | sesame seed   |
| i. walnut   | pumpkin seed | peanut        |

## Word Sequence – physical attributes

**Instructions:** I'm going to read out a list of objects to you. I want you to listen carefully and then say them in order from **longest to shortest** and **tallest to shortest**. So for instance if I was to say *pen, nail, ruler* you would say, *ruler, pen, nail*.

### Longest to Shortest



- |                   |            |              |
|-------------------|------------|--------------|
| a. drinking straw | finger     | dining table |
| b. ship           | truck      | car          |
| c. fishing pole   | paper clip | spanner      |
| d. tree           | twig       | branch       |
| e. pond           | river      | lake         |
| f. whale          | sardine    | shark        |

### Shortest to Tallest



- |             |            |           |
|-------------|------------|-----------|
| a. Labrador | Great Dane | Chihuahua |
| b. Gorilla  | Marmoset   | Baboon    |
| c. Antelope | Giraffe    | Warthog   |
| d. mountain | mound      | hill      |
| e. house    | skyscraper | dollhouse |
| f. flower   | tree       | bush      |

## Word Sequence – physical attributes

**Instructions:** I'm going to read out a list of objects to you. I want you to listen carefully and then say them in order from **heaviest** to **lightest**. So for instance if I was to say tissue, *frying pan*, *apple* you would say, *frying pan*, *apple*, *tissue*.

### Heaviest to Lightest



- |                   |                |                |
|-------------------|----------------|----------------|
| a. tennis ball    | tennis racquet | tissue paper   |
| b. cannon ball    | orange         | basketball     |
| c. hairbrush      | broom          | toothbrush     |
| d. tugboat        | sailboat       | cargo ship     |
| e. bicycle        | motorbike      | skateboard     |
| f. model plane    | jet aircraft   | glider         |
| g. wasp           | fly            | sparrow        |
| h. rhinoceros     | guinea pig     | wombat         |
| i. wren           | pigeon         | eagle          |
| j. mobile phone   | computer       | flat screen TV |
| k. hardcover book | newspaper      | brochure       |
| l. cup            | saucepan       | fridge         |

## Word Sequence – physical attributes

**Instructions:** I'm going to read out a list of objects to you. I want you to listen carefully and then say them in order from **thickest** to **thinnest**. So for instance if I was to say *pencil, brick, mobile phone* you would say, *brick, mobile phone, pencil*.

### Thickest to Thinnest



- |                 |                |             |
|-----------------|----------------|-------------|
| a. pin          | crayon         | matchstick  |
| b. postcard     | dictionary     | picturebook |
| c. human hair   | rope           | string      |
| d. carrot       | spaghetti      | watermelon  |
| e. leg          | finger         | arm         |
| f. branch       | twig           | tree trunk  |
| g. cheetah      | hippopotamus   | horse       |
| h. vinyl record | steering wheel | car tire    |
| i. fridge       | lunch box      | CD cover    |
| j. dart         | harpoon        | rocket      |
| k. key          | hammer         | pin         |
| l. DVD          | cake           | barrel      |

## Word Sequence – physical attributes

**Instructions:** I'm going to read out a list of objects to you. I want you to listen carefully and then say them in order from **coldest** to **warmest**. So for instance if I was to say *hot potato, ice cube, banana*, you would say, *ice cube, banana, hot potato*.

### Coldest to Warmest



- |                     |               |                      |
|---------------------|---------------|----------------------|
| a. Sahara Desert    | Arctic        | England              |
| b. erupting volcano | Siberia       | beach in Fiji        |
| c. Summer           | Winter        | Spring               |
| d. apple            | hot soup      | icy pole             |
| e. ice cube         | chilli        | tomato               |
| f. jam              | hot donut     | ice-cream            |
| g. sauna            | ice rink      | concert hall         |
| h. mountain top     | rainforest    | desert               |
| i. cold milk        | hot tea       | tap water            |
| j. backyard pool    | frozen lake   | heated swimming pool |
| k. snow skiing      | water skiing  | desert trek          |
| l. hot springs      | sea in Winter | lagoon               |

## Temporal sequence exercises

**Instructions:** I'm going to read a sentence that requires you to listen carefully to a sequence of steps and then work out what happens in which order. Explain your answer.

- a. When you draw a picture and you want to correct a mistake, do you use the eraser/rubber before or after you create a drawing?
- b. When you ride your bike, do you start pedalling before or after you put your helmet on?
- c. What happens first in a game of golf, you walk down the fairway to the green or you hit the ball off the tee?
- d. What happens first when you watch a movie, you push 'play' or you put the DVD in the DVD player?
- e. Which happens first when you brush your teeth, you put toothpaste on your toothbrush or you rinse your mouth with water?
- f. When you go to sit in a car, which happens first, you put on your seatbelt or you open the car door?
- g. What happens first when you play a computer game, you start the game or start the computer?
- h. Which happens first when eating ice-cream, you take the ice-cream out of the freezer, or you scoop the ice-cream into a bowl?

- i. What happens first when you send a birthday card, seal the envelope or write a greeting on the card?
- j. Which do you do first when putting on shoes, tie up your shoelaces or put your socks on?
- k. What happens first in the morning, you have breakfast or you go to school?
- l. What is the first thing that happens when you do the dishes, put the plug in the sink or fill the sink with water?
- m. When you buy groceries from the supermarket, do you put the groceries in the car before or after you pay at the checkout?
- n. What is the first thing you do when eating toast, spread butter on the toast or take the toast out of the toaster?
- o. Which do you do first when making a salad, pour on the salad dressing or arrange the lettuce leaves and tomatoes?
- p. Which do you do first when catching a bus, sit down or pay the driver the bus fare?
- q. Which do you have first, the dessert, the entrée or the main meal?
- r. What should you do first when vacuuming, turn on the vacuum cleaner, vacuum the carpet, plug in the power cord?
- s. When riding a bike, what is the first thing you must do, start pedalling, put your helmet on, or hold the handle bar

# Answer Section

## Smallest to Largest

a. mouse – dog – horse      b. cat – pig – cow      c. rat – chicken  
sheep

d. flea – fly – butterfly    e. ladybug – caterpillar – goliath beetle    f. midge –  
fly - grasshopper

g. sparrow – seagull - eagle    h. hummingbird – duck - condor    i. starling –  
swan – albatross    j. meerkat – lion – elephant    k. hyena – leopard – giraffe  
l. monkey – warthog - buffalo

## Smallest to Largest

a. grape – apple - grapefruit    b. cherry – orange - watermelon    c. plum –  
banana - rockmelon    d. pea – carrot - pumpkin    e. bean – tomato -  
cabbage    f. brussel sprout – potato - eggplant    g. peanut – macadamia nut  
– brazil nut    h. sesame seed – almond - chestnut    i. pumpkin seed –  
peanut - walnut

## Longest to Shortest

a. dining table – drinking straw - finger    b. ship – truck - car    c. fishing pole  
– spanner – paper clip    d. tree – branch - twig    e. river – lake – pond    f.  
whale – shark – sardine    g. tree – bush tree

## Shortest to Tallest

Chihuahua – Labrador – Great Dane b. Marmoset – Baboon – Gorilla c. Warthog – Antelope – Giraffe d. mound – hill – mountain e. dollhouse – house – skyscraper f. flower – bush - tree

## Heaviest to Lightest

a. tennis racquet – tennis – tissue paper b. cannon ball – basketball – orange c. broom – hairbrush - toothbrush d. cargo ship – tugboat – sailboat e. motorbike – bicycle – skateboard f. jet aircraft – glider – model plane g. sparrow – wasp – fly h. rhinoceros - wombat – guinea pig i. eagle – pigeon – wren j. flat screen TV – computer – mobile phone k. hardcover book – newspaper – brochure l. fridge – saucepan - cup

## Thickest to Thinnest

a. crayon – matchstick - pin b. dictionary – picturebook - postcard c. rope – string – human hair d. watermelon – carrot - spaghetti e. leg – arm - finger f. tree trunk – branch - twig g. hippopotamus – horse – cheetah h. car tire – steering wheel – vinyl record i. fridge – lunchbox – CD cover j. rocket – harpoon – dart k. hammer – key – pin l. barrel – cake - DVD

## Coldest to Warmest

- a. Artic – England – Sahara Desert
- b. Siberia – beach in Fiji – erupting volcano
- c. Winter – Spring Summer
- d. hot soup – apple – icy pole
- e. chilli – tomato – ice cube
- f. hot donut – jam – ice-cream
- g. ice-rink – concert hall – sauna
- h. mountain top – rainforest – desert
- i. hot tea – tap water – cold milk
- j. frozen lake – backyard pool – heated swimming pool
- k. snow skiing – water skiing – desert trek
- l. sea in Winter – lagoon – hot springs

## Temporal Sequence Exercises

- a. after
- b. after
- c. hit the ball
- d. put the DVD in the player
- e. put toothpaste on toothbrush
- f. open the car door
- g. start the computer
- h. ice-cream out of freezer

i. write a greeting j. put your socks on

k. have breakfast l. put the plug in

m. after

n. take toast out of toaster

o. arrange lettuce leaves

p. pay the far

q. the entrée

r. plug in power cord

s. open word program