

Cognitive Training through Language

Class 5



Slides @ BiJian.com/Brain

Memory Training: Mind Palace

#1

#2

#3

#4

#5

Vocalize, Visualize, and Act

Leg

Coal

Bank

Tulip

Purple

Leg

Coal

Bank

Tulip

Purple

RandomWordGenerator.com

5 words per day!

Serial Subtractions of 7 from 100

93

86

79

72

65

Serial Subtractions of 7 from 89

82

75

68

61

54

Serial Subtractions of 7 from 94

87

80

73

66

59

Serial Subtractions of 6 from 100

94 88 82 76 70

Serial Subtractions of 8 from 96

88 80 72 64 56

Recall those 5 words

Leg

Coal

Bank

Tulip

Purple

Verbal Fluency (11/min)

FAS Test: Name maximum number of words in 1 minute that begin with letter **F (no proper noun, no number, no past tense)**

Strategy:

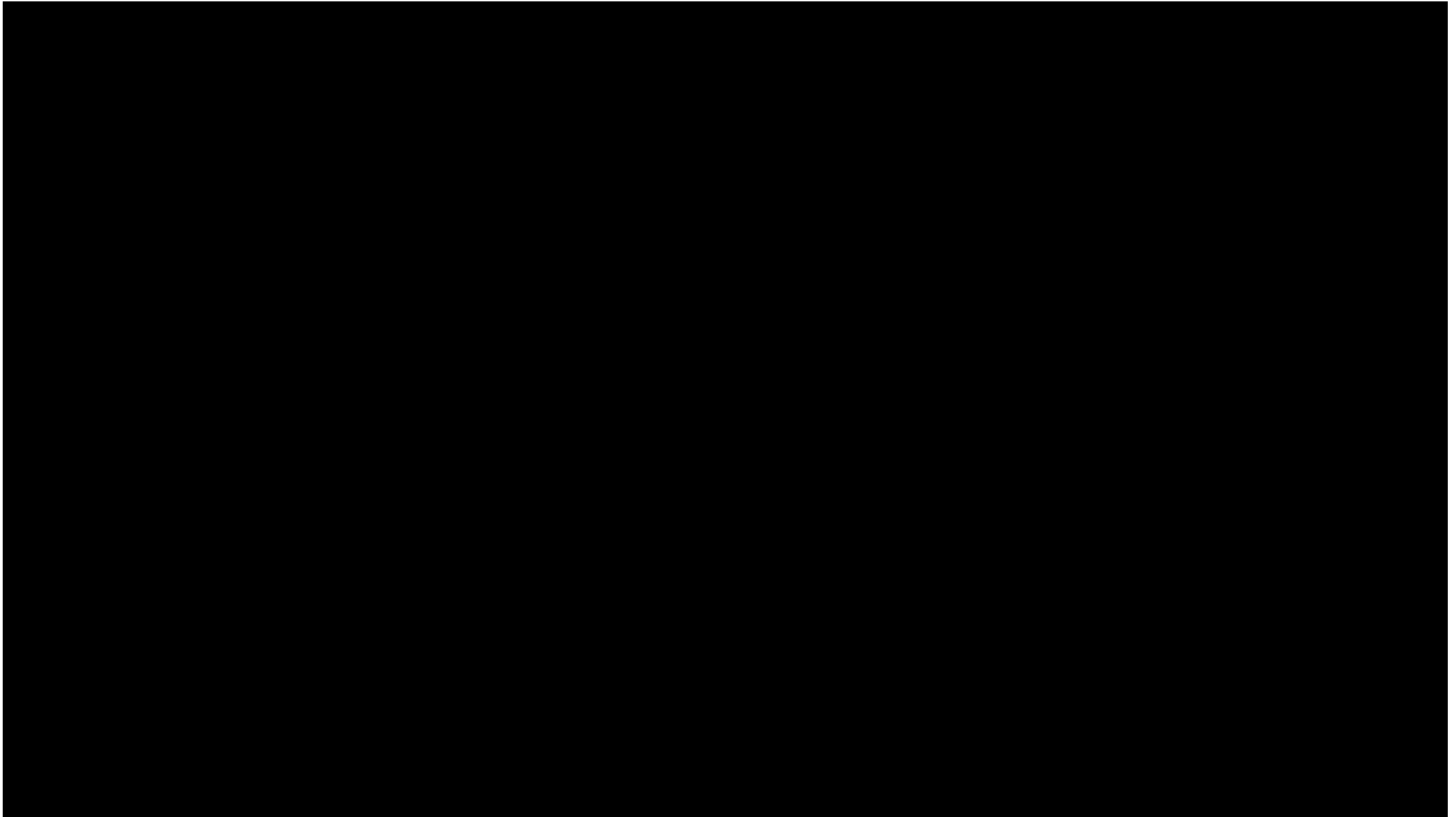
For consonant letter *f*: seek words through vowels

fa..., fe..., fi..., fo..., fu...

For vowel letter *a*: seek words alphabetically

ab..., ac..., ad...

How to Remember Names ?



Reasoning with Language

Tanya is older than Eric,
Cliff is older than Tanya.

Eric is older than Cliff **X**
Cliff > Tanya > Eric

✓ True

X False

? Uncertain

Tanya is older than Eric,
Cliff is older than Tanya

Cliff is older than Eric ✓

2. Mara runs faster than Gail.

Lily runs faster than Mara.

Gail runs faster than Lily X

Lily < Mara < Gail

3. Blueberries cost more than strawberries.

Blueberries cost less than raspberries.

Raspberries cost more than strawberries and blueberries ✓

Raspberries > Blueberries > Strawberries

4. Josh saw more movies than Stephen.

Stephen saw fewer movies than Darren.

Darren saw more movies than Josh?

Josh > Stephen
Darren > Stephen

Reasoning - Number

7, 10, 8, 11, 9, 12, ?

3, -2, 3, -2, 3, -2, =10

Odd/Even

20, 19, 17, ?, 10, 5

-1, -2, -3, -4, -5, =14

1, 4, 9, 16, 25, ?

3, 5, 7, 9, 11, =36

2, 1, 1/2, 1/4, ?

1/2, 1/2, 1/2, 1/2, =1/8

4, 9, 13, 22, 35, ? *

+, +, +, +, =57

0.5, 0.55, 0.65, 0.8, ?

0.05, 0.10, 0.15, 0.20, =1

9, 12, 11, 14, 13, ?, 15

3, -1, 3, -1, 3, -1 =16

5, 11, 17, 25, 33, 43, ?

6, 6, 8, 8, 10, 10, = 53

1, 3, 7, 15, 31, ?

2, 4, 8, 16, 32, =63

2, 7, 14, 23, ?, 47

5, 7, 9, 11, 13 =34

Reasoning - Number

3, 7, 15, 31, 63, ?

4, 8, 16, 32, 64, =127

2, 6, 12, 20, 30, ?

4, 6, 8, 10, 12, =42

14, 28, 20, 40, 32, 64, ?

14, -8, 20, -8, 32, -8, =56

5, 9, 17, 29, 45, ?

4, 8, 12, 16, 20, =65

1, 9, 25, 49, 81, ?

8, 16, 24, 32, 40, =121

A photograph of a cemetery with rows of white crosses on a green lawn. A single red rose is placed on the ground in front of one of the crosses. The text "Where have all the flowers gone" is overlaid on the image in a large, black, sans-serif font.

Where have all
the flowers gone

Executive Function



Inhibitory Control

Self-control to achieve goals by suppressing impulses & temptation

Working Memory

Cognitive Flexibility

Open to different perspectives and strategies to solve problems

Verbal Fluency (11/min)

FAS Test: Name maximum number of words in 1 minute that begin with letter **F**

(no proper noun, no number, no past tense)

Inhibitory control, working memory, flexibility

Strategy:

For consonant letter *f*: seek words through vowels

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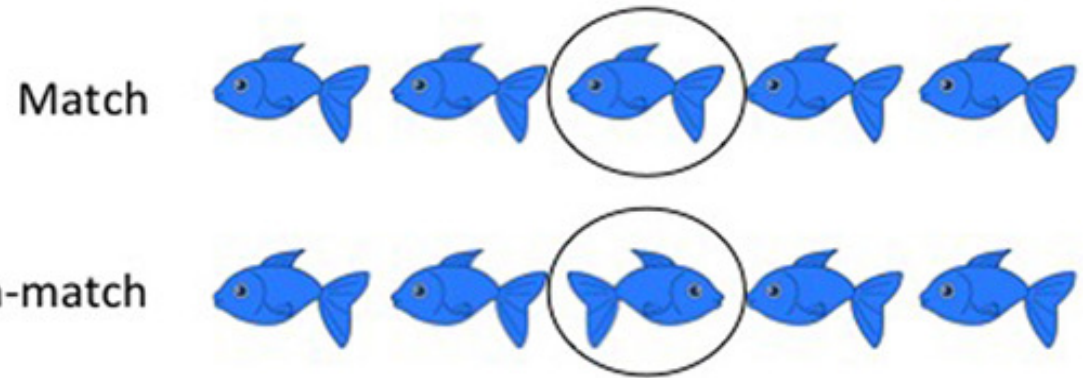
Working Memory & Cognitive Flexibility

Executive Function Training

Stroop Test

BLUE	RED	YELLOW	ORANGE
GREEN	BLUE	PURPLE	RED
PURPLE	YELLOW	RED	BLUE
ORANGE	BLUE	YELLOW	RED
RED	GREEN	ORANGE	BLUE
PURPLE	YELLOW	BLUE	ORANGE

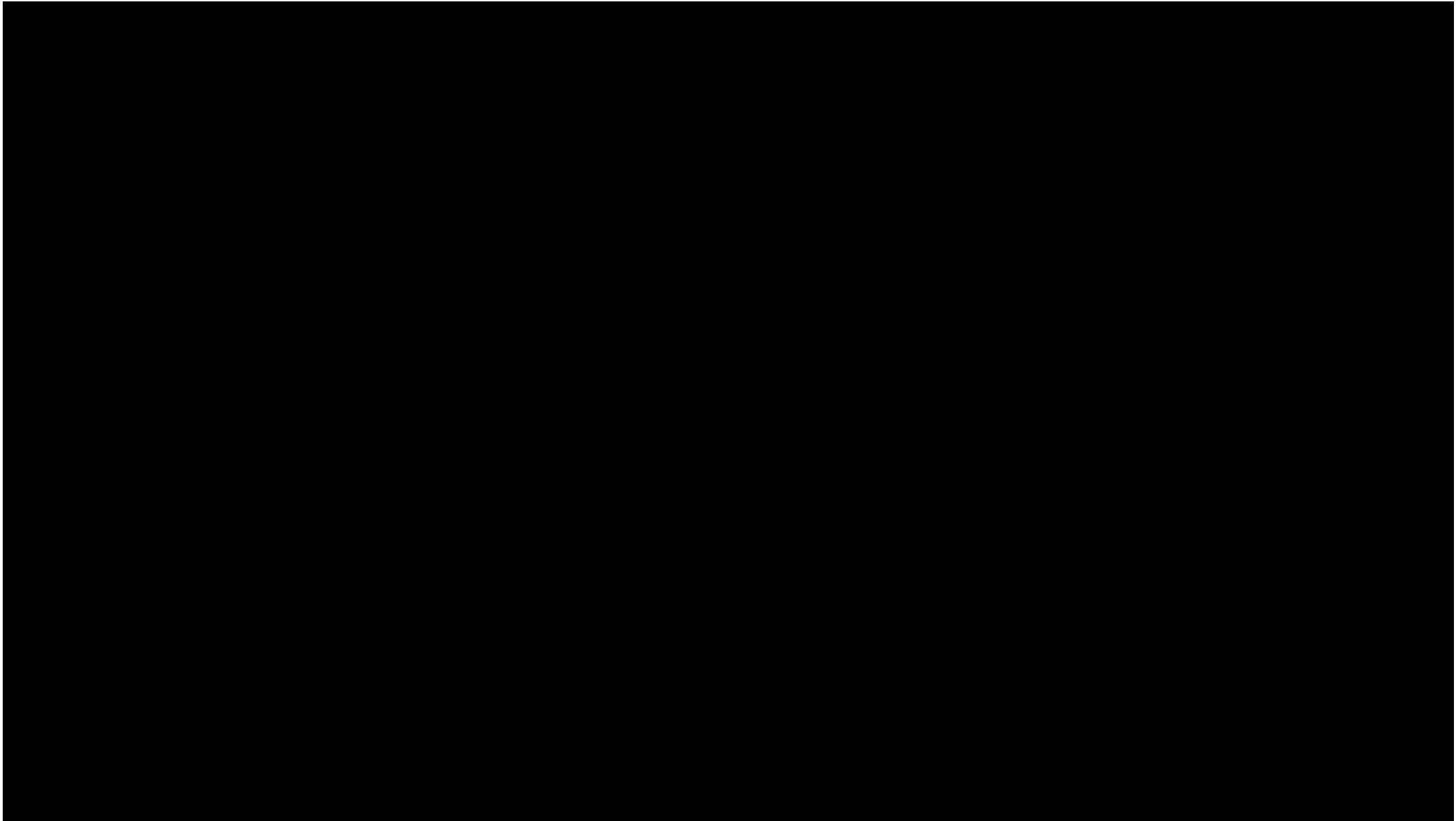
Flanker Test



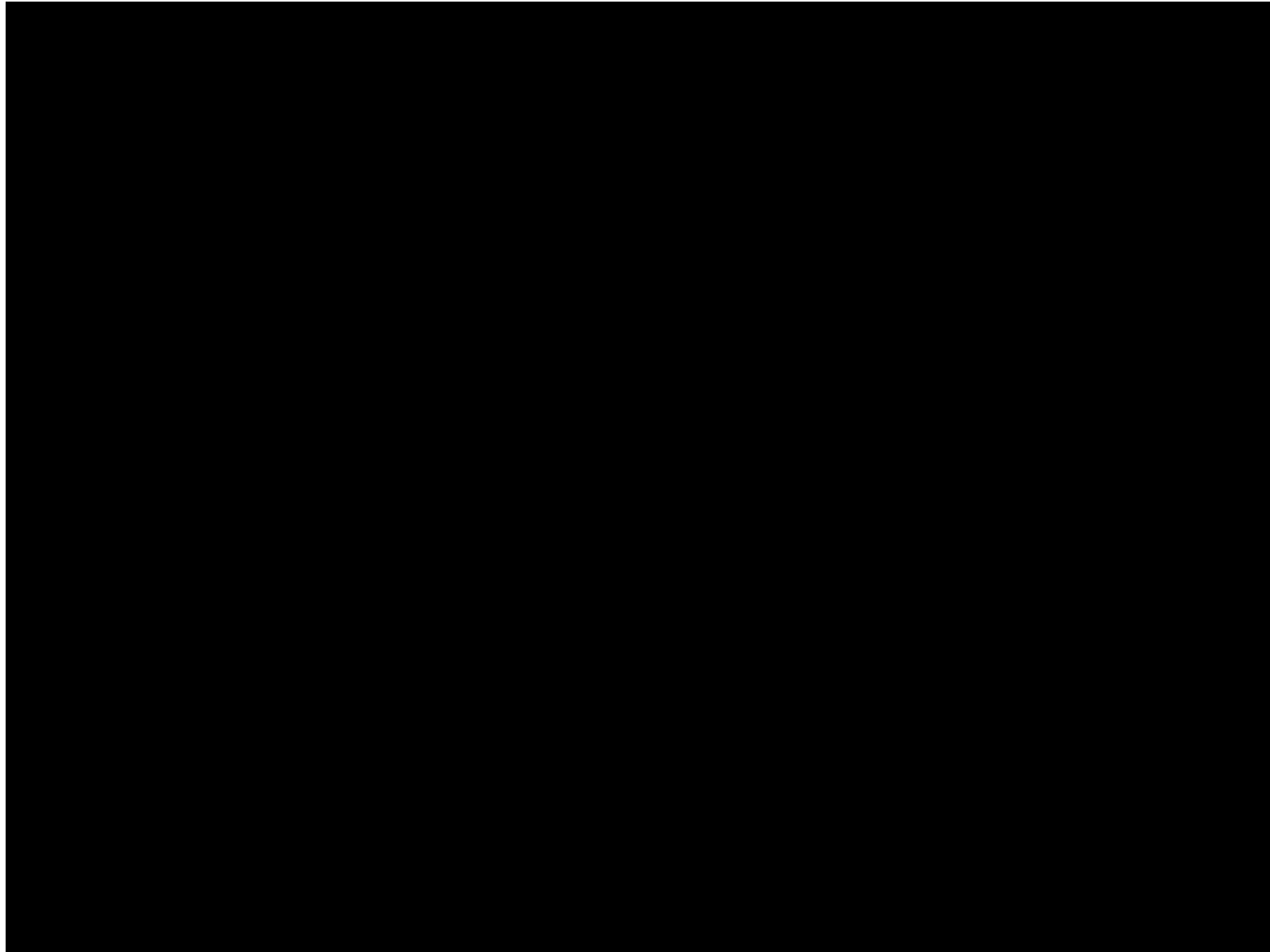
Perspective training

1 & 2

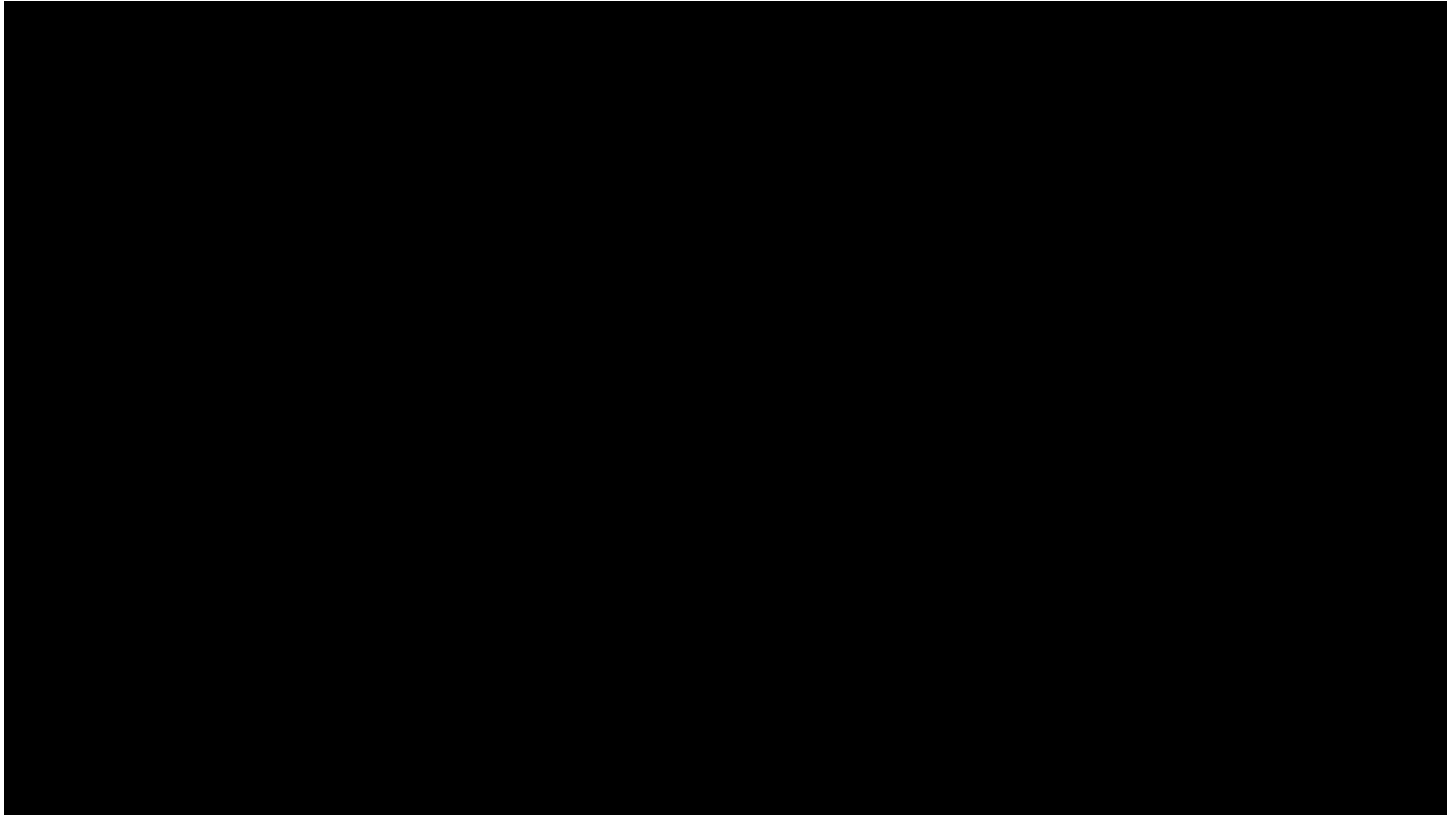
Executive Function Training - Stroop



Executive Function Training - Flanker



Executive Function Training – Flexibility 1



Executive Function Training – Flexibility 2 0:27

