

Games to Improve Working Memory

As your child's teacher, you play an important role in helping your kids with limited working memory to learn. Adapting how you teach by using accommodations as described in class such as, speaking more slowly, chunking verbal information, and using frequent pauses to allow time for processing all help reduce the load on working memory. The purpose of the following working memory games is to help kids develop strategies to efficiently and effectively remember auditory information.

How to use these activities:

Read through the activities and begin playing a game each week for no more than 10-15 minutes per day. Ways to extend the exercises to make them even more challenging have been added. One way of adding a challenge to an activity is through the use of background noise. Play background music to build up the ability to listen in the presence of a competing sound. Also, to increase the difficulty of the task, add a time delay. You can ask your kids to do something else before carrying out an instruction. For example, you could ask them to 'Count to 10' or 'Walk around the table', so that they need to 'hold the information in their head' for a longer time before performing the task.

Group Size:

These activities can be done in groups or modified for smaller groups of just 1 or 2 kids. They are offered as an example of the kinds of activities you can do with your kids to help enhance working memory. Be creative. Adapt or expand on the activities provided or create your own versions of these games.

Let's Listen and Do

Method

1. Explain to the group that they have to listen to and follow the instructions. It is important for them to carry out the instructions in the order they are given. The instructions are short in the beginning and they will get longer. The children must not move until all of the instruction has been given and the word 'Go' indicates that they can begin.
2. Gain the children's attention before giving the instruction. Tell them to sit on the floor, cross-legged, hands in lap and to return to this position after each instruction.
3. Check that the children understand the vocabulary. Specific concepts may need to be taught, for example, 'behind', 'stretch' and 'wiggle'.
4. For children who consistently watch others for cues, it may be helpful to have some individual turns. This can help discriminate whether the child can follow the directions independently.

Instructions

One-stage directions

1. Touch your head. Go.
2. Hop on one leg. Go.
3. Rub your tummy. Go.
4. Clap your hands. Go.
5. Wiggle your fingers. Go.
6. Put your hands on your head. Go.
7. Touch your nose. Go.
8. Wave your arms. Go.

Two-stage directions.

1. Hop on one leg, then rub your tummy. Go.
2. Touch your nose, then touch your shoulders. Go.
3. Lift both hands over your head and jump up. Go.
4. Touch your toes and clap your hands. Go.
5. Put your hands behind your head and stretch your legs. Go.
6. Nod your head, then wave your arms in the air. Go.
7. Touch your ears, then wiggle your fingers. Go.
8. Clap your hands, then turn around. Go.

Three-stage directions.

1. Hop, stretch and turn around. Go.
2. Touch your toes, knees and shoulders. Go.
3. Rub your tummy, nose and knees. Go.
4. Stretch, yawn and clap your hands. Go.
5. Hop on one foot, rub your tummy and say 'Hello'. Go.
6. Wriggle your fingers, jump and turn around. Go.
7. Touch your ears, touch your nose and hop. Go.
8. Stamp your feet, open your mouth and wave. Go.

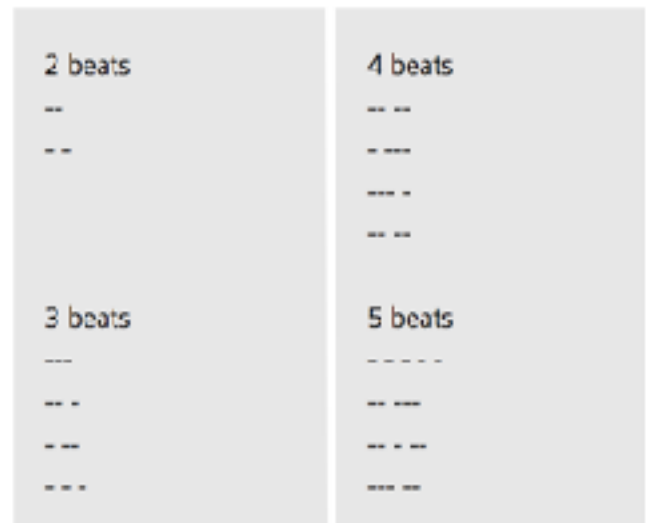
Four-stage directions.

1. Hands up, touch your nose, wriggle your fingers and touch your tummy. Go.
2. Touch your knee, shake your head, stand on your toes and clap. Go.
3. Blink, touch your head, nod and stamp your feet. Go.
4. Jump, touch your ear, shake your hands and nod your head. Go.
5. Touch your toes, rub your tummy, jump, then hands on head. Go.
6. Touch your nose, rub your tummy, jump, nod. Go.
7. Stand up, turn around, take a bow, sit down. Go.
8. Stand up, sit down, shake your hands, close your eyes. Go.

Copycats

Method

1. 'We are going to play a game like follow the leader—where everyone has to copy what the leader does. We are going to have a "clapping band" and we'll have to copy the leader of the band.'
2. 'First of all, I'll be the leader and you can all be the clappers in the clapping band.' Leader claps out a sequence of claps. Children copy each clapping sequence.
3. 'Listen for this tune':
4. Children copy the band leader.
5. Children have turns at being the leader.



Scavenger Hunt

Method

1. Arrange an obstacle course.
2. Hide 'goodies' around the room.
3. Each child in turn needs to listen to the instruction in order to reach the 'goodie'. For example, 'Joel, go under the table, through the tunnel and around the desk. Go.'
4. Begin by giving one instruction and increase the length of the instructions as the children have success at each level.

Adaptation

Children can be extended by being instructed to carry out the direction 'slowly' or 'quickly'. More difficult prepositions can be introduced such as 'left', 'right', 'below', 'beside', 'the second', 'the first'.

Suggested instructions for Scavenger Hunt Game

Under the table
Between the chairs
Over the chair
Behind the desk
In front of the book case
Around the fish tank
Over the cushions
Through the tunnel

Threading

Method

1. Give each child a thread and a pile of colored beads.
2. Explain 'We are going to make matching strings of beads'.
3. Children put hands on heads while the leader says two colors (for example 'red—blue').
4. The leader says, 'Go' and children find the beads and thread them.
5. Each child has a turn at saying two colors for the group to find and thread.
6. Increase the number of colors the children need to find.

Press the Buttons

Method

1. Discuss the strategy of rehearsal with the kids. Also discuss that when there are lots of numbers to remember, they can be grouped. For instance, five numbers can be remembered as three and then two numbers—76391 can be said as 763–91.
2. The task for each child is to remember a series of numbers to key into a calculator.
3. Write the numbers on a card, saying each number aloud as an individual entity, with the child watching. For example, 9–1–4; or 3–8; or 7–0–1–9.
4. The child is given the card and asked to remember the number sequence. He has to hold the card with the writing face down.
5. The child needs to say the series of numbers, repeat it and then keep repeating it as he walks across the room to the leader who has a calculator.
6. When the child reaches the leader he gives her the card and recites the numbers. The leader presses the number sequence into the calculator.
7. An alternative way to play this would be to have your child walk across the room, pick up a calculator and enter the numbers himself.

Adaptation to Press the Button

- Challenge the children to rehearse the numbers but remember them in reverse order. This is quite a difficult task. For example, 6–9–3 becomes 3–9–6.
- Speed it up.
- Slow it down.

Now you say it

Method

1. Discuss the technique of rehearsal with your kids. ‘One way you can remember things is to say it over and over, either out aloud or to yourself. If I say ball, brush, you say ... ball, brush. If I say sock, fork, you say ...’
2. Objects or pictures are spread over the table.
3. A child is asked to retrieve one, two, three or four items. First the teacher says the words then, ‘Now you say it!’ The child is expected to repeat the names of the items several times.
4. When the child can competently say the series of items (for example, book, cup, button), he retrieves the items and returns them to the table.
5. Repeat procedure with next child.

Silly Soup

Adapt this to not be magic but soup. Have the kids make silly soup by choosing objects to put in,

Method

1. Set the scene that the children are cooks and they are making a pot of soup.
2. Show the children picture cards with food items (or any items making the soup silly) with the choice of ingredients to go into the pot.
3. Children choose ingredients they wish to use and then repeat them over and over.
4. Encourage the children to make a 'picture in their head' to aid their short-term auditory memory. It may help if they close their eyes.
5. Remove the picture cards.
6. With success, increase the number of ingredients to remember for each child.

Pack a Picnic

Method

1. The leader tells the children that they are going to have a pretend picnic and each child needs to collect the things they will need.
2. Leader tells them, 'When you are given a card, practice saying the things you need to find. You will need to say the words over and over until you remember.'
3. Each child is given a card with a list of words and told what the words are. The child says the words over three times then gives the card back to the leader and goes to collect the items.
4. When the child returns with the items, the adult checks the card and notes whether they are correct.
5. At the end, the group pretends to have a picnic.

Picture Pasting

Cut pictures out of magazines for use in this activity

Method

1. Give your child a blank sheet of paper, a glue stick, and a set of pictures
2. Ask your child to find a specific picture and instruct them about where to glue the picture, for example, 'Put the house in the middle of the page.'
3. Have your child repeat the instructions and visualize the house in the middle of the page. Then they paste the picture onto the page.
4. Increase the length of the instructions, for example, 'Put the plane in the sky and the bird in the tree.'

Suggestions for placement

above	below
under	in
next to	between
in the middle	to the right of
to the left of	near, close to

Party Invitation

Kids love this game especially if you have an old cell phone that they can use for their phone calls.

Method

1. Role-play a child who is having a birthday party and needs to call his friends to invite them. Either role-play this with another adult or using two hand puppets. Explain that the children will have turns at being the birthday child, as well as the child being invited to the party.
2. Discuss what information would be needed so a child would have enough information to attend the party. Emphasize the importance of remembering the details.
3. The leader tells the first child the details of the party (for example, Saturday, 5 o'clock at the bowling alley). The child is encouraged to rehearse the details until he feels he can remember it.
4. The first child calls another child and invites him to the party

List of party details

1. Saturday, 4 o'clock at the park.
2. Sunday, 5 o'clock at a restaurant.
3. Friday, 7 o'clock at the movies.
4. Saturday, 10 o'clock at the ice-skating rink.
5. Tuesday, 2 o'clock at the zoo.
6. Saturday, 6 o'clock at my place.
7. Wednesday, 4 o'clock at the bowling alley

Adaptation

- Instruct the child receiving the invitation to write the party details down to help him remember.
- The invited child asks a 'parent' for permission to attend and has to pass the details on to the 'parent'.

Sound Memory Race

Method

1. Explain the task: You will say three sounds (for example d-o-m) and the child will repeat the 3 sounds in the correct sequence.
2. When they repeat it accurately, you say 'go', then the child runs to touch the wall, run back and repeat the 3 sounds.

Now You See It, Now You Don't

Method

1. Gather a variety of toys or household objects.
2. Explain to the children: 'We're going to look at something special and talk about what it looks like. Then we'll cover it up, and try to remember what it looked like.'
3. Introduce the first object and encourage the children to produce words that describe its appearance. Offer choices, for example, 'Is it big or small?'; 'What color is the tail?'; 'What shape is the roof?'; 'What is it made out of?'. Think about the color, size, shape and parts of the object.
4. Cover the item with the cloth and ask the children to recall what it looked like. Remove the cloth to check details if necessary

Materials

- A number of common objects to practice visualizing. Initially, use visually simple items without too many different parts or colors. Increase the amount of detail as skills develop.
- Suggestions for objects to use:
 - Simple—blue rubber ball, a red block, a green hair ribbon, a white plate.
 - More detailed—a toy car, a doll, a toy animal, a toy human plastic figure.
- A cloth to cover the items.

Adaptation

- In this game the children need to find an item described by one of their peers.
- Discuss the objects.
- Cover the objects.
- One child describes an object.
- Remove the cover and the other children find it

Remember and Run

Explain to the children that it helps us to remember if we know how many things we need to recall. A useful way of doing this is to count items off on our fingers.

Method

1. Children sit in a circle and the picture cards are placed facing upwards in the centre of the circle.
2. One child is selected as the 'finder' and another is selected as the 'runner'.
3. The teacher says how many pictures she will name ('I'm going to say two words'). She asks the 'finder' to close his eyes and then names two pictures (for example, 'ball-house'). The 'finder' needs to repeat the two words twice while he checks them off on his fingers. When he has done this successfully the leader says 'Go!'
4. The 'runner' then runs around behind the circle of children and the 'finder' opens his eyes and attempts to find the pictures. The runner keeps running until the leader calls 'Stop!' when all the pictures are found.
5. With success, increase the number of items up to the child's short-term auditory memory capacity

Adaptation

Play this with one or two kids and ask them to go get two (and increasingly more) things. Have the child repeat the list of items, checking them off on his fingers. Then have the child run through the house gathering the items listed.

Key Words

Method

1. The aim of this activity is for children to listen to a sentence, to identify the key words and remember the sentence. Explain that often when people tell us information there are key words or important points to remember.
2. Let's listen to this sentence and work out what the key words are: It's time to pack your bag, brush your teeth, and go to bed. The key words are: pack your bag, brush your teeth, and go to bed.
3. Give the child a sentence beginning with one key word and work up to their short-term auditory memory capacity
4. Ask the child to identify the key words.
5. Ask him to recall the sentence.
6. Cue the child in if he is having difficulty with recall. For example 'I hurt my ...'

Sentences

I hurt my arm.

I hurt my arm and wrist.

I hurt my arm, wrist, and finger.

I hurt my arm, wrist, finger, and hand.

I hurt my arm, wrist, finger, hand, and leg.

At the movies I ate popcorn.

At the movies I ate popcorn and candy.

At the movies I ate popcorn, candy, and cake.

At the movies I ate popcorn, candy, cake, and an ice cream.

At the movies I ate popcorn, candy, cake, an ice cream, and an apple.

In the sky you can see the sun.

In the sky you can see the sun and the moon.

In the sky you can see the sun, moon, and stars.

In the sky you can see the sun, moon, stars, and clouds.

In the sky you can see the sun, moon, stars, clouds and birds.

I like to eat bananas.

I like to eat bananas and cherries.

I like to eat bananas, cherries, and grapes.

I like to eat bananas, cherries, grapes, and watermelon.

I like to eat bananas, cherries, grapes, watermelon, and strawberries.

I can hop.

I can hop and skip.

I can hop, skip, and jump.

I can hop, skip, jump, and run.

I can hop, skip, jump, run, and walk.

At the zoo I saw a tiger.

At the zoo I saw a tiger and a monkey.

At the zoo I saw a tiger, monkey, and a giraffe.

At the zoo I saw a tiger, monkey, giraffe, and a zebra.

At the zoo I saw a tiger, monkey, giraffe, zebra, and a platypus.

My mom likes to drink water.

My mom likes to drink water and orange juice.

My mom likes to drink water, orange juice, and coffee.

My mom likes to drink water, orange juice, coffee, and tea.

My mom likes to drink water, orange juice, coffee, tea, and milk.

My favorite cars are blue.

My favorite cars are blue and red.

My favorite cars are blue, red, and white.

My favorite cars are blue, red, white, and gold.

My favorite cars are blue, red, white, gold, and black.

The shape is a triangle.

The shapes are a triangle and a square.

The shapes are a triangle, square and a diamond.

The shapes are a triangle, square, diamond, and rectangle.

The shapes are a triangle, square, diamond, rectangle, and a circle.

On sandwiches I like ham.

On sandwiches I like ham and tomato.

On sandwiches I like ham, tomato, and cheese.

On sandwiches I like ham, tomato, cheese, and pickles.

On sandwiches I like ham, tomato, cheese, pickles, and lettuce.

My hobby is painting.

My hobbies are painting and reading.

My hobbies are painting, reading, and knitting.

My hobbies are painting, reading, knitting, and cooking.

My hobbies are painting, reading, knitting, cooking, and gardening.

On my holiday I went to Japan.

On my holiday I went to Japan and Africa.

On my holiday I went to Japan, Africa, and Spain.

On my holiday I went to Japan, Africa, Spain, and New Zealand.

On my holiday I went to Japan, Africa, Spain, New Zealand, and China.

In my jewelry box I have a ring.

In my jewelry box I have a ring and a bracelet.

In my jewelry box I have a ring, bracelet, and a necklace.

In my jewelry box I have a ring, bracelet, necklace, and a brooch.

In my jewelry box I have a ring, bracelet, necklace, brooch, and earrings.

In the band I heard a clarinet.

In the band I heard a clarinet and drums.

In the band I heard a clarinet, drums, and a trumpet.

In the band I heard a clarinet, drums, trumpet, and a piano.

In the band I heard a clarinet, drums, trumpet, piano, and a flute.