Nectar's Brain Boosts for Dyscalculia and Math Struggles

Complete these activities daily to build the underlying cognitive skills needed for learning and using math.

1. Quantitative Reasoning

(Understanding quantity, number relationships, patterns, logic with numbers)

Activity 1: Estimation Jar

- Fill a jar with beans, coins, Lego pieces.
- Child estimates → then groups into 5s or 10s to calculate.

Add challenge:
"Is your estimate closer to 100 or 200? Why?"

Why it works: Develops magnitude sense and proportional reasoning.

Activity 2: Grocery Budget Game

Step 1: Set a Budget

Parent says:

"We have $20 to spend on these 5 items."

Give the child the list.

Example:

- Milk
- Apples
- Bread
- Yogurt
- Peanut butter

Step 2: Estimate Before Adding

Before using a calculator, ask:

- "Do you think we'll go over or under $20?"
- "About how much do you think this will total?"
- "What is your rough estimate?"

Encourage rounding:

- $3.79 → about $4
- $2.49 → about $2.50

This builds number sense, not exact math.

Step 3: Mental Running Total

As each item goes in the cart:

Child says the new total out loud.

Example:

- Milk $4
- Apples $3
  → "That's about $7 so far."
- Bread $3
  → "Now about $10."

The child must **hold the previous total in working memory** and update it.

Step 4: Reflect

After checkout, compare:

- Estimate vs. actual
- Were they close?

- What threw them off?

Ask:

“Next time, how could we estimate better?”

2. Visual Processing

(Spatial awareness, visual discrimination, visual closure, mental rotation)

Activity 1: Block Copy Challenge

Build a small Lego structure.
Child studies it for 20 seconds.
Hide it.
Child recreates from memory.

Variation: Rotate the model and have them copy orientation.

Activity 2: Map Builder

Skill Targeted: Visual processing
Also supports: spatial awareness, visual memory, organization, part-to-whole thinking

What the parent does

The parent makes a simple “map” of a familiar space, such as:

- the child’s bedroom
- the living room
- the kitchen
- the backyard

The map does **not** need to be artistic. It can be a very simple top-down sketch using basic shapes.

Example:

- rectangle = table
- square = chair
- small rectangle = bed

- circle = lamp

How to do the activity

Step 1: Draw a simple map

Parent draws a basic overhead view of the room on paper.

Include:

- walls
- door
- window
- 4 to 6 major objects

Keep it simple at first.

Step 2: Look and study

Let the child study the map for about 20 to 30 seconds.

Tell them:

“Look carefully at where everything is placed.”

Step 3: Rebuild it

Give the child:

- a blank sheet of paper, or
- a simple grid, or
- cut-out paper shapes representing furniture/items

Then ask the child to recreate the map from memory.

They should try to place the items in the correct locations:

- near the wall
- next to the bed
- across from the door
- in the corner
- between two objects

Step 4: Compare and discuss

Put the original map next to the child's version and talk through it.

Ask:

- "What did you get exactly right?"
- "What was hard to remember?"
- "Which object helped you figure out the others?"

This helps the child become more aware of spatial relationships.

3. Short-Term Memory (Working Memory)

Activity 1: Backward Repetition

Say:

- apple– cat – house
  Child repeats backward.

Increase to:

- 4 words
- 5 words
- Add numbers

Activity 2: Instruction Builder

Start simple:

- "Touch your head, spin once, clap twice."

Increase complexity gradually.

4. Long-Term Memory

Activity 1: Personal Association Building

Step 1: Choose Something to Remember

Start with a small piece of information such as:

- A vocabulary word
- A science fact
- A historical date
- A spelling word
- A person's name
- A concept from school

Example:
Vocabulary word – **"fragile"**

Step 2: Create a Personal Connection

Ask the child to connect the new information to **something they already know or something personal to them**.

You can guide them with questions like:

- "What does this remind you of?"
- "Have you ever seen something like this?"
- "Can you picture something fragile?"
- "What is something fragile in our house?"

Example:
The child might say:

“My mom always says the glass ornaments are fragile.”

Now the word has a **real-life anchor**.

Step 3: Add a Strong Mental Image

Encourage the child to create a **clear mental picture**.

Ask them:

- “What picture could you imagine to help remember this?”
- “Make the picture funny or exaggerated.”

Example:

“I imagine a giant ornament falling and shattering everywhere.”

Funny, unusual, or exaggerated images are easier for the brain to remember.

Step 4: Say the Connection Out Loud

Have the child explain their association.

Example:

“Fragile means something that breaks easily. I remember it because I imagine the fragile Christmas ornament breaking.”

Speaking the connection strengthens the memory pathway.

Step 5: Recall Later

After some time has passed, ask the child:

- “What does fragile mean?”
- “What picture did you make to remember it?”

If they recall the picture, the meaning usually follows.

This reinforces **retrieval practice**, which strengthens long-term memory.

Activity 2: Spaced Recall Game

After being introduced to something new, ask the child to state back the information:

- Immediately
- 10 minutes later
- Next day
- 3 days later

This builds durable memory consolidation.

5. Processing Speed

(Speed + accuracy under mild pressure)

Important: Always emphasize **accuracy first, then speed**.

Activity 1: Sort It

- Sort cards by suit.
- Sort coins.
- Sort colored paper clips.

Repeat weekly to see improvement.

Activity 2: Visual Hunt

Create or print a page filled with random letters, numbers, or simple symbols. The child’s job is to scan the page as quickly and accurately as possible to find a specific target.

Example:

- Circle all the **A's**
- Cross out all the **7's**
- Highlight all the **stars**

You can make the page by writing rows of mixed letters or numbers on paper.

Example row:
A M T A P L A R N A T

How to do the activity

Step 1: Choose one target

Start with just one target, such as:

- all the letter **B**
- all the number **4**
- all the triangles

Tell the child exactly what to look for before beginning.

Step 2: Explain how to scan

Teach the child to move:

- **left to right**
- one row at a time
- without skipping around the page

You can say:

"Start at the top left, move across the row, then go down to the next line."

This is important because many children scan randomly, which lowers both speed and accuracy.

Step 3: Set a short time limit

Use a timer for about **30 to 60 seconds**.

The child works to find as many targets as possible before time is up.

Make sure they understand:

“Go as quickly as you can, but do not guess or rush so much that you miss a lot.”

Step 4: Check accuracy

When time is over, quickly review the page together:

- How many targets did they find?
- How many did they miss?
- Did they mark anything incorrectly?

The goal is **fast and careful**, not just fast.

Nectar's Math Minutes
M&M's

Complete these activities daily to build math skill.

🔷 1. Math Vocabulary

(Understanding math language and symbols)

🟢 Activity 1: "Math Translator"

How it works:

- Parent says a word: "product."
- Child explains what it means.
- Then gives an example.

Reverse it:

- Parent gives equation: 6 × 4
- Child says: "The product of 6 and 4 is 24."

Why it works:
It strengthens understanding of language, not just calculation.

Make it fun:
Keep score for correct explanations.
Let child stump the parent.

🟢 Activity 2: "Word Swap Challenge"

Give a word problem.
Child rewrites it in math symbols.

Example:
"The difference between 18 and 7."
Child writes: 18 – 7

Or:
Parent writes equation.
Child creates a sentence using correct vocabulary.

Why it works:
It builds flexibility between language and symbols — critical for applied math later.

🔷 2. Computation / Doing Math

(Carrying out procedures correctly at any level)

🟢 Activity 1: "Beat Your Best"

Choose 5–10 mixed problems appropriate for level:

- Adding fractions
- Multi-digit multiplication
- Perimeter calculation
- Algebra simplification

Time the student completing these.
Focus on accuracy first.
Try to improve smoothness over time.

Why it works:
Builds automaticity without high-pressure.

🟢 Activity 2: "Fix the Mistake"

Parent intentionally solves a problem incorrectly.

Example:
3/4 + 1/4 = 4/8

Child must:

- Identify error

- Explain it
- Correct it

Why it works:
Error analysis deepens procedural understanding and reduces passive learning.

🔷 3. Applied Problem Solving

(Using math in context)

🟢 Activity 1: "Real Life Math Detective"

Use everyday situations:

- "We need to triple this recipe."
- "If gas is $3.50 per gallon and we need 12 gallons…"
- "This room is 12 by 15 feet — what's the area?"

Ask child:

1. What is the problem asking?
2. What operation should we use?
3. Why?

Why it works:
Builds reasoning, not just computation.

🟢 Activity 2: “Create the Problem”

Give child an answer.
They must invent a real-life problem that equals that answer.

Example:
Answer = 36

Child might create:
“The area of a 6 by 6 square is 36.”

Or:
“Four friends each saved $9.”

Why it works:
Reverses the thinking process — deepens conceptual understanding.