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Stuck? Scan for the anchor chart

WHAT DIVISION MEANS · SET 5 · GRADE 3

Combinations: The Matching Machine

Shirts and pants make outfits. Cones and flavors make treats. When you know the matches, division finds a **missing choice**.

	pants A	pants B
red shirt	outfit 1	outfit 2
blue shirt	outfit 3	outfit 4
green shirt	outfit 5	outfit 6

every shirt meets every pants

$3 \times 2 = 6$

shirts × pants = outfits

$6 \div 3 = 2$

outfits ÷ shirts = pants

$6 \div 2 = 3$

outfits ÷ pants = shirts

The chart is just an array in disguise: shirts are the rows, pants are the columns. Set 2's tricks all work here.

Name ____________________ Date __________

Build the Matching Chart

The ice cream stand has **2 cones** and **3 flavors**.
How many different treats can it make?

1. Fill every empty box with its treat. Write it like "cake + mint". The first one is done for you.

	mint	berry	mango
cake cone	cake + mint		
sugar cone			

The stand can make ☐ different treats. 2 × 3 = ☐

2. A new flavor arrives! Now there are 4 flavors and still 2 cones. Do NOT draw the new chart. Just picture one more column. How many treats now?

2 × 4 = ☐ treats

Name ____________________ Date ___________

The Missing Choice

Now division gets its turn. You know the TOTAL of matches. You know ONE of the choices. Find the other.

1. A sandwich shop brags: **"12 different sandwiches!"** It has **3 breads**. How many fillings must it have? Finish the chart: label the bread rows, then split the 12 sandwiches evenly among them and count the columns you need.

	filling ___	filling ___	filling ___	filling ___
bread ___				
bread ___				
bread ___				

12 sandwiches ÷ 3 breads = ☐ fillings

2. A game has **10 characters** made from hats and faces. There are **5 faces**. How many hats? No chart needed if you can see it.

10 ÷ 5 = ☐ hats

Name ____________ Date ________

Branch It Out

Another way to see matches: a tree.
Each choice branches into all the next choices.

1. Trace the tree with your finger: 2 cones, each branching to 3 flavors. Count the ends.

cake cone
mint berry mango

sugar cone
mint berry mango

The tree has ☐ ends. Same 6 as the chart!

2. Draw the tree for this one: **8 outfits** come from **2 jackets**, each branching into some shirts. Start with the 2 jackets and figure out how many branches each one needs.

8 ÷ 2 = ☐ shirts

Name ____________ Date ________

Design Your Own Menu

You own a food truck. Your menu must offer **exactly 12 different meals**. You decide how.

1. Pick your two categories (like tacos and salsas, or noodles and toppings). Decide how many of each so the matches make exactly 12. Draw your menu chart with real names for everything.

2. Prove your menu works:

I chose [ ] ________ and [ ] ________ .

[ ] × [ ] = 12, and 12 ÷ [ ] = [ ]

Hint: there are three ways to hit 12 with two categories. 2 and 6, 3 and 4, or 1 and 12 (a boring truck).

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Answer Key

WHAT DIVISION MEANS · SET 5 · GRADE 3

Answer Key and Teacher Notes

Build the Matching Chart (page 2)

1. 6 treats (cake/sugar × mint/berry/mango) **2.** 2 × 4 = 8

The Missing Choice (page 3)

1. 12 ÷ 3 = 4 fillings (all four columns used) **2.** 10 ÷ 5 = 2 hats

Branch It Out (page 4)

1. 6 ends **2.** Each jacket branches into 4 shirts; 8 ÷ 2 = 4

Design Your Own Menu (page 5)

Answers vary: 2 × 6, 3 × 4, 4 × 3, 6 × 2, or the boring 1 × 12. Check the chart really shows every match and the division sentence uses their own numbers.

This closes the loop on the whole series: the combination chart IS the array from Set 2, the "how many treats now?" question is Set 3's stretch, and the menu design forces a student to run multiplication and division as one machine. A student who designs a working 3-by-4 menu and can say why 12 ÷ 3 = 4 has all five meanings in hand.