

PMG Notice Relationships & Patterns Activities

Use What You Know to Figure Out What You Don't

NUMBER SENSE | AGES 5-8 | PRINTABLE ACTIVITY

PARENT NOTE

You do not need to teach a strategy before your child begins. Let your child look for a relationship first.

Simple questions such as “What do you notice?” or “What do you already know that could help?” are often enough.

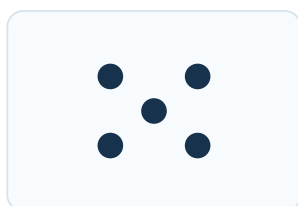
The goal is not speed. The goal is to see connections so unfamiliar problems begin to feel more familiar.

PART 1

What Changes?

Look at each pair. Tell what stayed the same and what changed.

1.



Which has one more? _____



Which has one less? _____

2.



What stayed the same? _____

What changed? _____

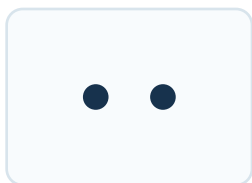
Ready to move on? ■ Keep going. ■ Pause here and return later.

PART 2

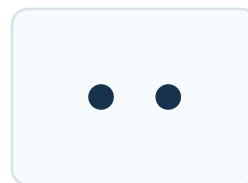
Doubles

A double has two equal parts.

1.



and



How many altogether? _____

$2 + 2 = \underline{\hspace{2cm}}$

2.



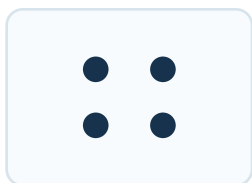
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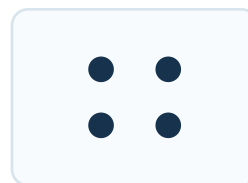
How many altogether? _____

$3 + 3 = \underline{\hspace{2cm}}$

3.



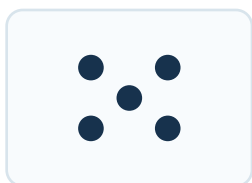
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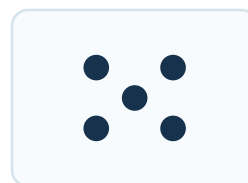
How many altogether? _____

$4 + 4 = \underline{\hspace{2cm}}$

4.



and



How many altogether? _____

$5 + 5 = \underline{\hspace{2cm}}$

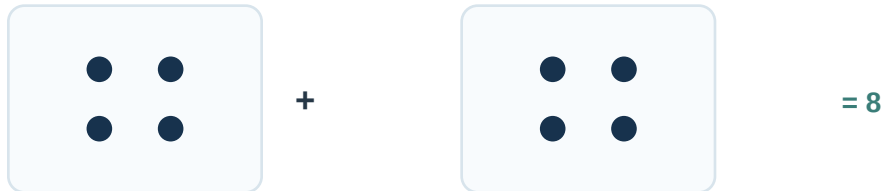
What do you notice about every double? _____

PART 3

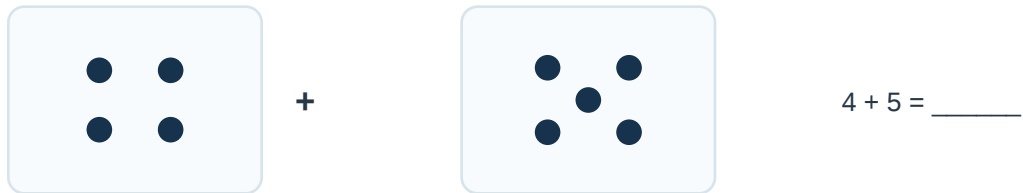
Near Doubles

Start with a double. Then notice the extra 1.

1. Start with the double:



Now one part has one more:



What double could help you? _____

2. Use the double $6 + 6 = 12$ to help with $6 + 7$.



$6 + 7 = \underline{\hspace{2cm}}$

The new total is _____ more than 12.

How did the double help? _____

Ready to move on? ■ Keep going. ■ Pause here and return later.

PART 4

Make 5 and Make 10

Use familiar benchmarks to see what is missing or what is already there.

1. How many more make 5?

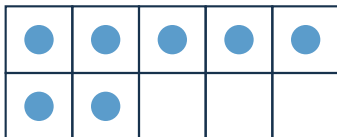


3 needs _____ more to make 5.

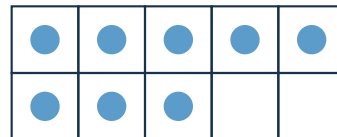


4 needs _____ more to make 5.

2. How many more make 10?



7 needs _____ more to make 10.



8 needs _____ more to make 10.

3. See the benchmark inside the number.

8 can be seen as 5 and _____.

13 can be seen as 10 and _____.

What is another way to see 8? _____

Ready to move on? ■ Keep going. ■ Pause here and return later.

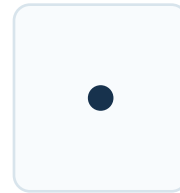
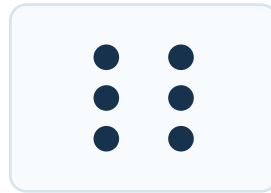
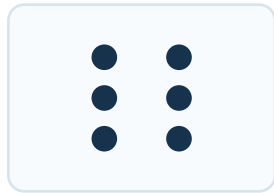
PART 5

Break Apart to Make It Easier

Look for a familiar part before you calculate.

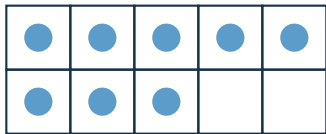
1. $6 + 7$

Use a double: $6 + 7 = 6 + 6 + \underline{\quad} = \underline{\quad}$

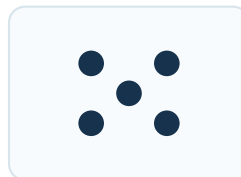


2. $8 + 5$

Move 2 from the 5 to make 10: $8 + 5 = 8 + 2 + \underline{\quad} = \underline{\quad}$



+



3. $9 + 4$

Use 10: $9 + 4 = 10 + \underline{\quad} = \underline{\quad}$

Which relationship felt most useful to you? _____

Ready to move on? ■ Keep going. ■ Pause here and return later.

PART 6

What Comes Next?

Find what is changing each time.

1. 2, 4, 6, 8, _____

What changes each time? _____

2. 5, 10, 15, _____

What changes each time? _____

3. 3, 6, 9, _____

What changes each time? _____

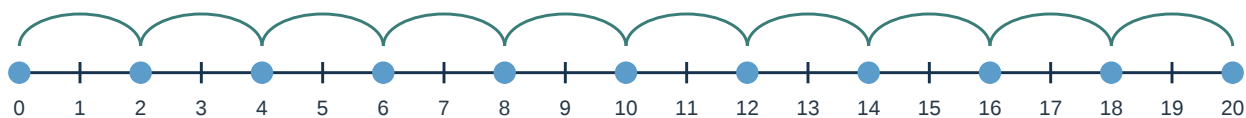
4. 10, 9, 8, _____

What changes each time? _____

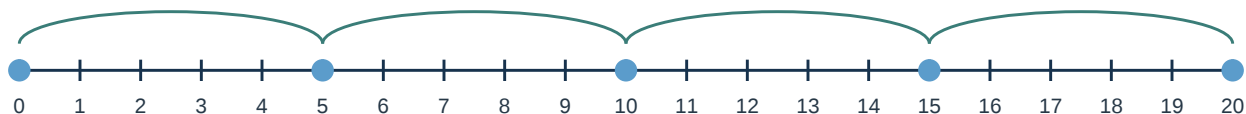
PART 7

Skip Counting as a Pattern

Follow the equal jumps. Say what is added each time.



Counting by 2s: each jump adds _____.



Counting by 5s: each jump adds _____.

Extension: Where would the first four jumps of 3 land? _____, _____, _____, _____

PART 8

Find the Missing Number

Use the relationship among the numbers. Do not guess.

1. 4, 6, _____, 10

The pattern changes by _____ each time.

2. 5, _____, 15, 20

The pattern changes by _____ each time.

3. _____, 8, 10, 12

The pattern changes by _____ each time.

4. 20, 18, _____, 14

The pattern changes by _____ each time.

PART 9

Use What You Know

Use the known fact to work out the nearby fact.

1. You know: $5 + 5 = 10$

$5 + 6 =$ _____

What changed? _____

2. You know: $7 + 7 = 14$

$7 + 8 =$ _____

What changed? _____

3. You know: $8 + 2 = 10$

$8 + 5 =$ _____

What changed? _____

OPTIONAL MULTIPLICATION EXTENSION

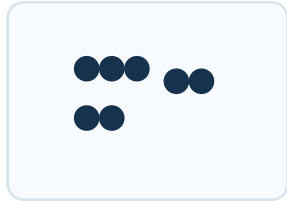
If you know $5 \times 4 = 20$, how might that help with 6×4 ? _____

PART 10

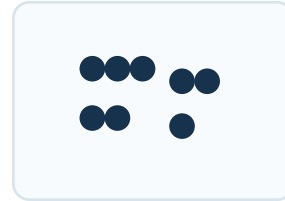
Explain What You Notice

Point, draw, or use a short sentence. You do not need a long explanation.

1.



What stayed the same? _____



What changed? _____

2.

$9 + 4$

→

$10 + 3$

What number helped? _____

Why might 10 be useful? _____

3.

4, 8, 12, 16, _____

What do you notice? _____

Can you describe the change each time? _____

4. FIND ANOTHER WAY

Choose one: $6 + 7$ $8 + 5$ $9 + 4$

Show or tell another way to think about it: _____

What number or fact helped you today? _____

PART CHALLENGE

Try a Challenge

Use doubles, make-10 thinking, or a pattern. Choose a relationship that helps.

1. You know $8 + 8 = 16$. Without starting from 1, find $8 + 9$.

Answer: _____ What helped? _____

2. Find $9 + 6$ by using 10.

$$9 + 6 = 10 + \underline{\quad\quad} = \underline{\quad\quad}$$

3. Continue: 2, 5, 8, 11, _____, _____

What changes each time? _____

4. Fill in: 20, 17, 14, _____, _____

What changes each time? _____

5. Which is closer to 10: 7 or 12? Explain with a number line or words.

6. You know $5 + 5 = 10$ and $10 + 4 = 14$. Find two different ways to make 14.

Way 1: _____ Way 2: _____

THE BIG IDEA

If you know something about one number or fact, it can often help you figure out another.