Indicators of Success for Mathematical Discourse

Goals for students include the following:

- Students are able to explain their thinking clearly.
- Students are able to build on what others contribute to mathematical discussions.
- Students are able to paraphrase or explain what others are saying.
- Students are able to modify their ideas when appropriate, as they listen to others.
- Students are able to provide helpful feedback to others.
- Students use appropriate mathematical vocabulary.
- Students are able to pose effective questions to elicit thinking from others.
- Students are able to describe models or diagrams and how they represent mathematical ideas.

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Observation Checklist for Mathematical Discourse

Teacher Comments							
Describes how a model or diagram represents an idea							
Poses effective questions to elicit thinking							
Uses appropriate mathematical vocabulary							
Provides helpful feedback to others							
Modifies his/her ideas when appropriate							
Paraphrases or explains what others are saying							
Builds on what others contribute to discussions							
Explains his/her thinking clearly							
Student Name							

R = Rarely S = Sometimes F = Frequently C = Consistently

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My Math Talk

- ☐ Can I explain my ideas well?
- ☐ Do I listen well?
- ☐ Do I use math words?
- ☐ Can I explain other people's ideas in my own words?
- ☐ Do I ask questions that help others learn?

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✂ ----------

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Indicators of Success for Effective Mathematical Discourse

- ☐ Can I explain my ideas clearly so others understand what I mean?
- ☐ Do I use listening skills such as paraphrasing and posing questions?
- ☐ Do I use math words correctly when I explain my thinking?
- ☐ Do I point out what is good and why it is good?
- ☐ Can I explain other people's ideas in my own words?
- ☐ When others talk, do I ask questions to help them explain their thinking?

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- ☐ When others talk, do I ask questions to help them explain their thinking?

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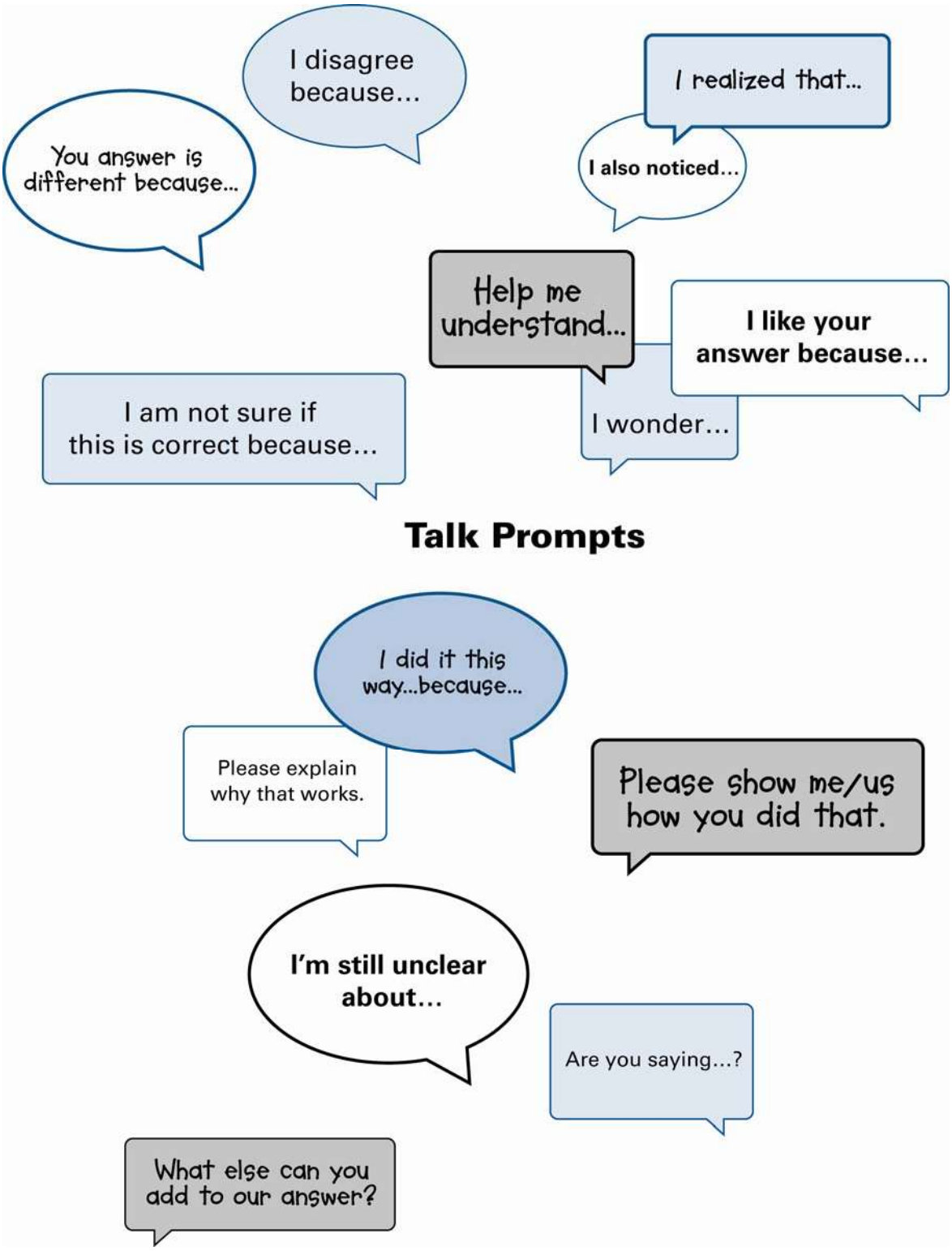

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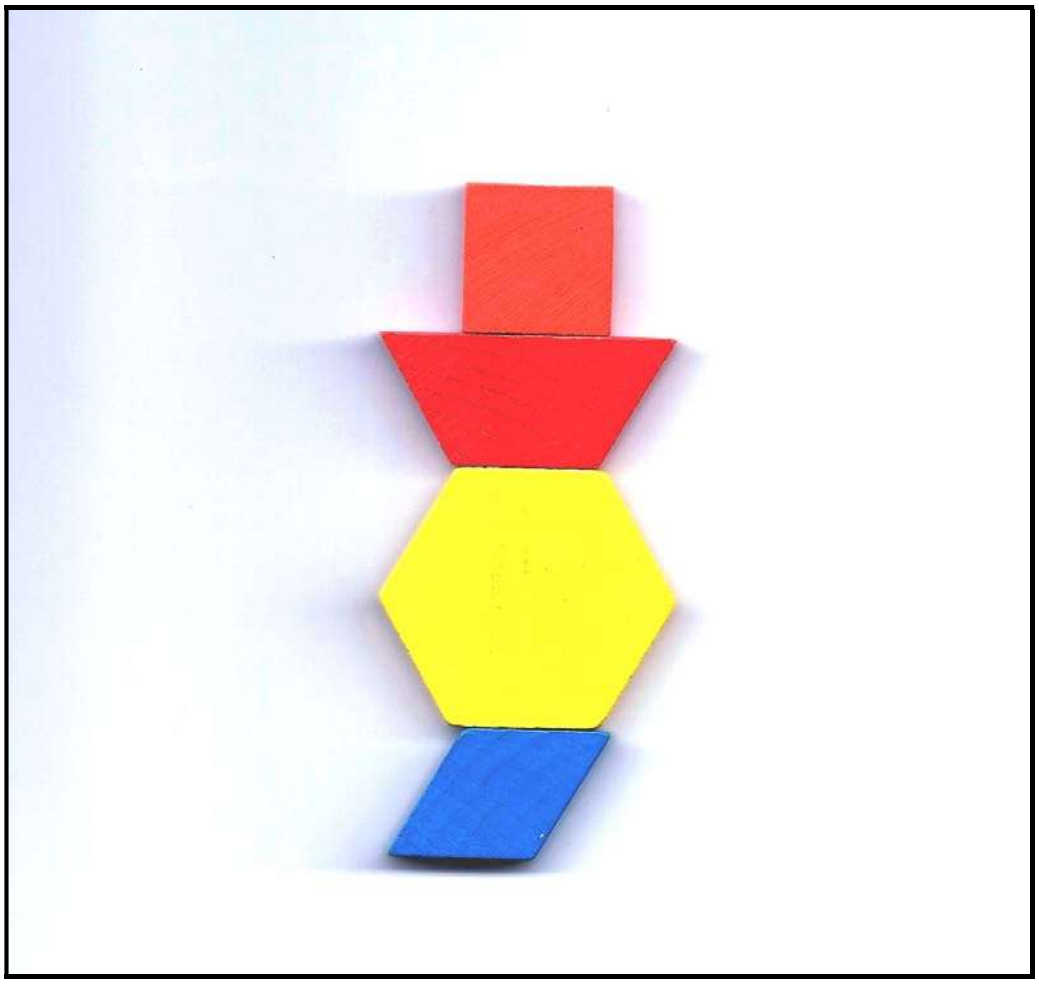

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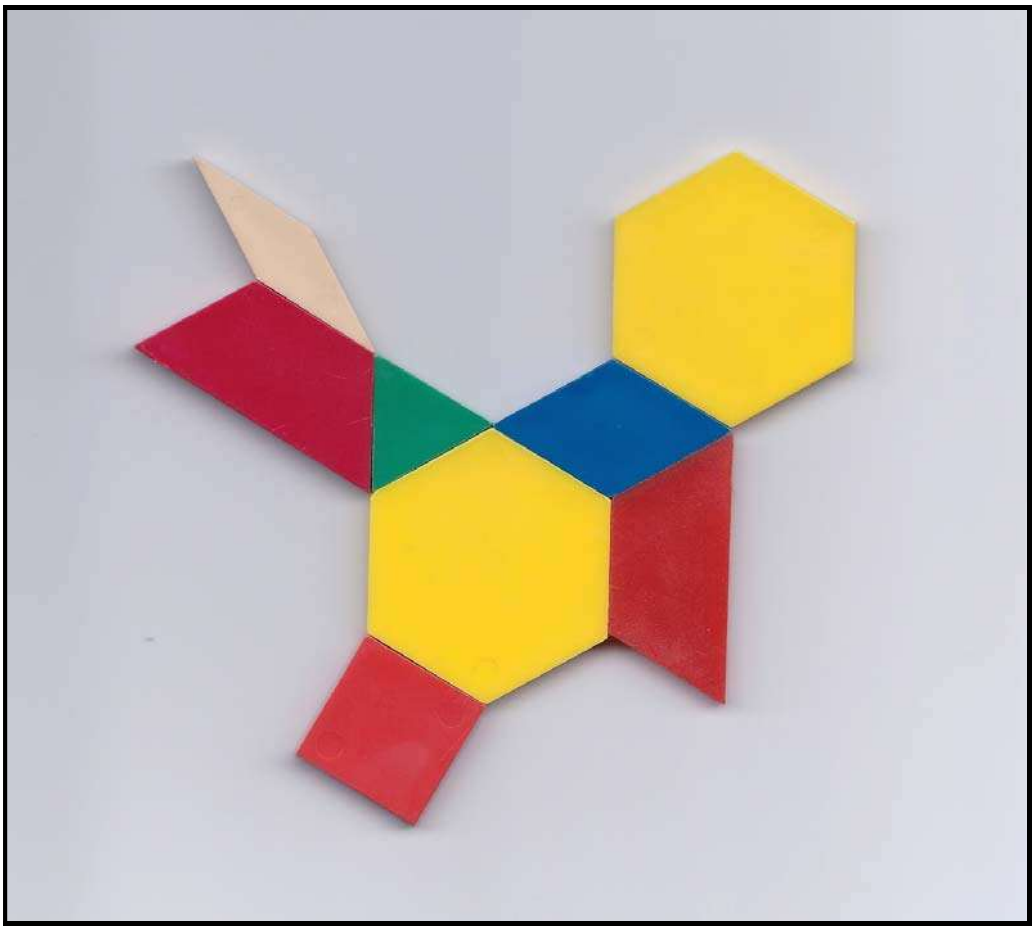

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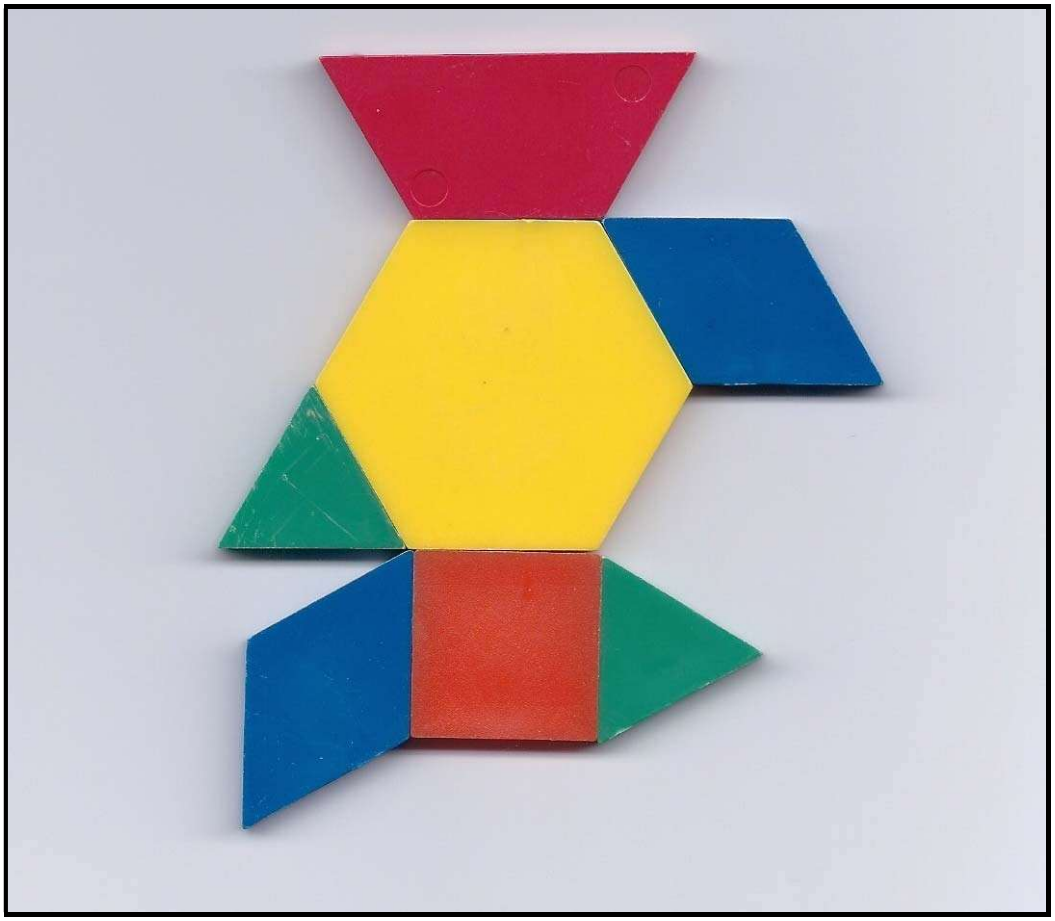

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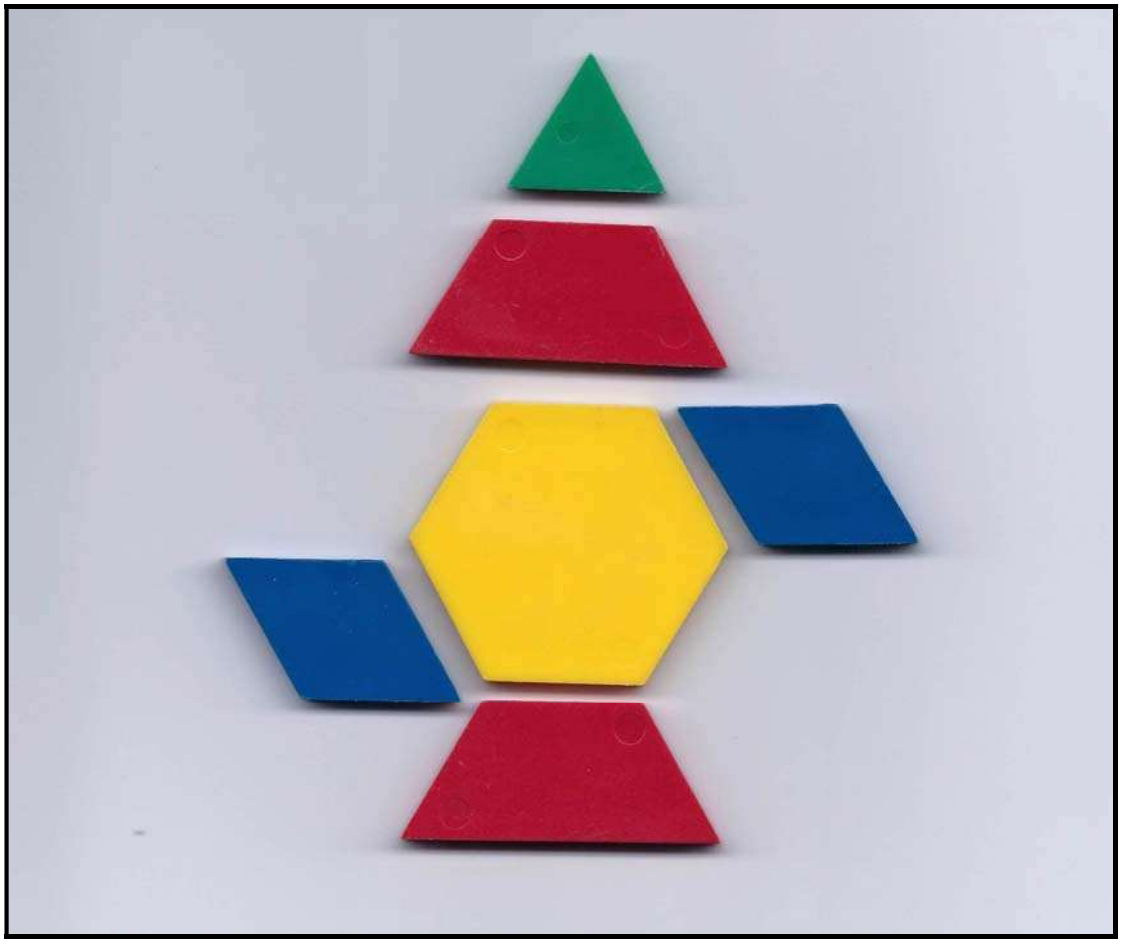

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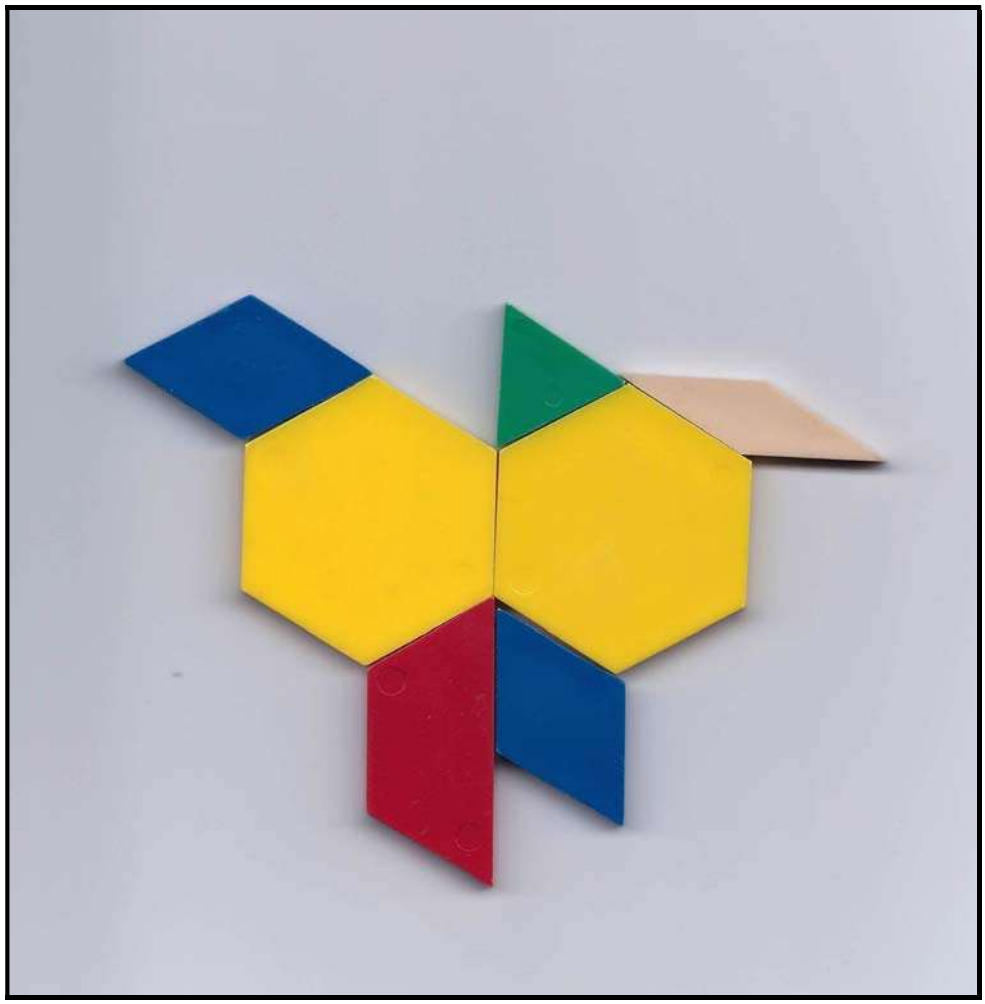

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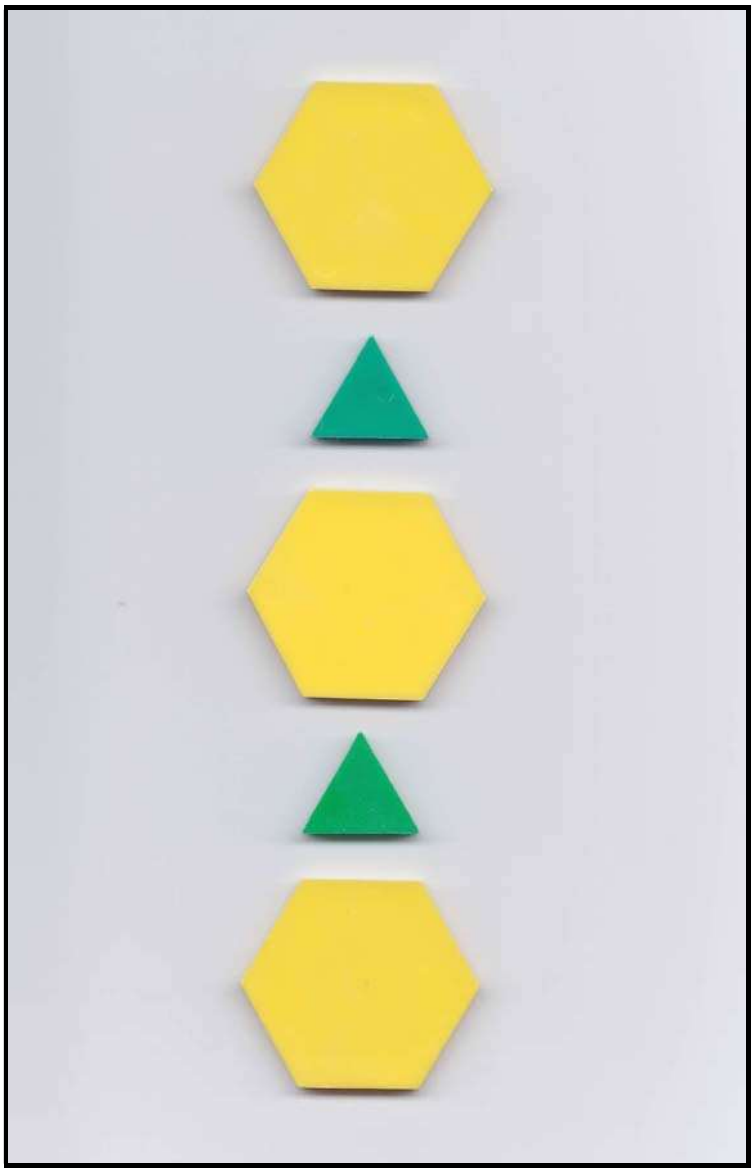

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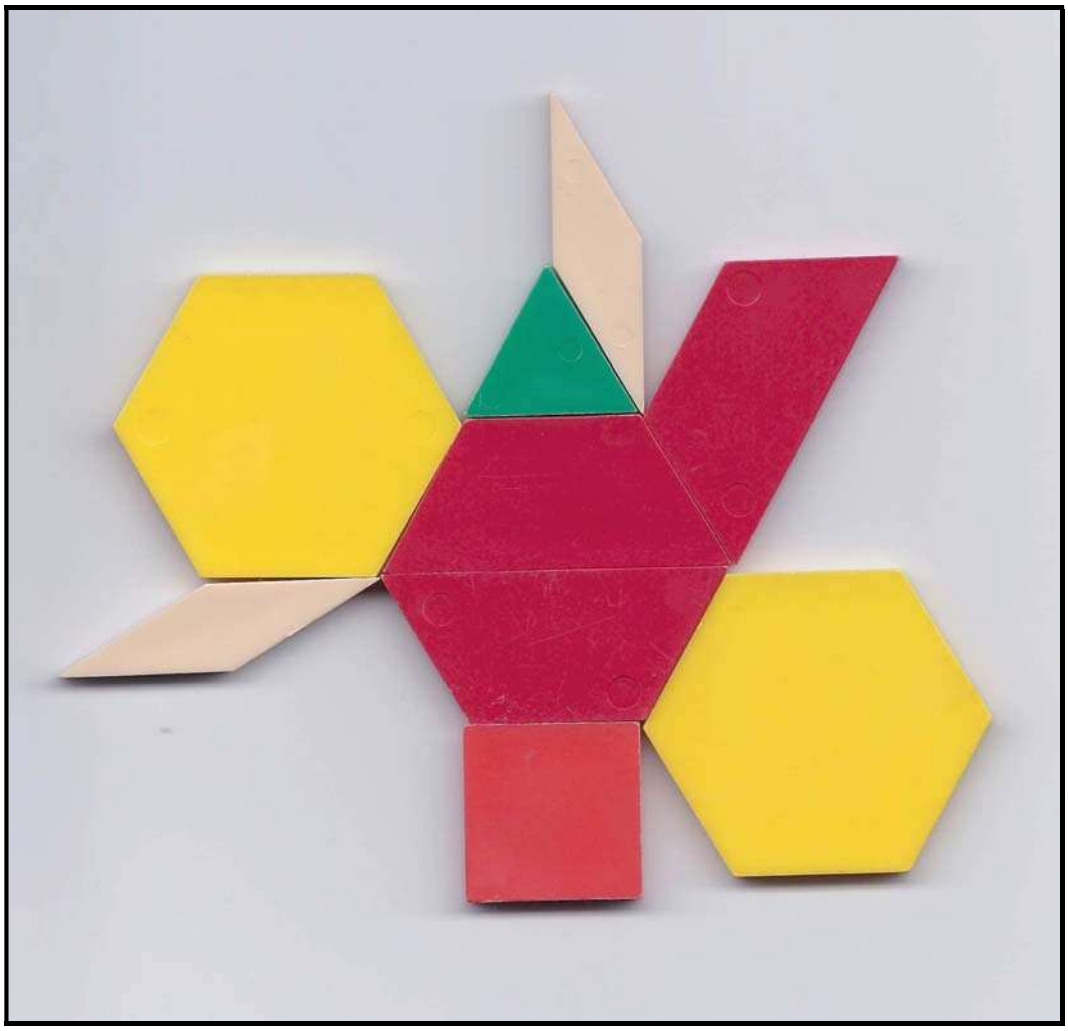

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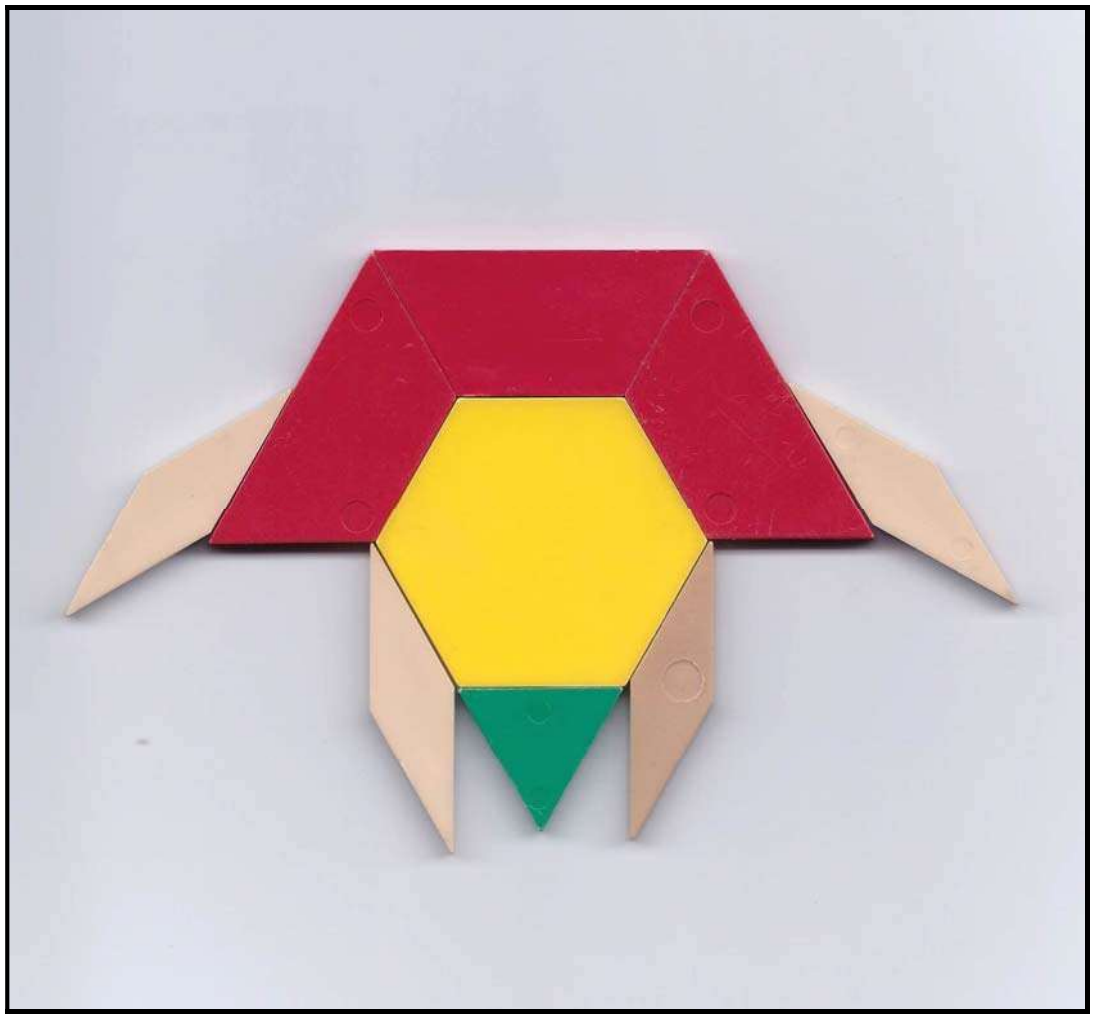

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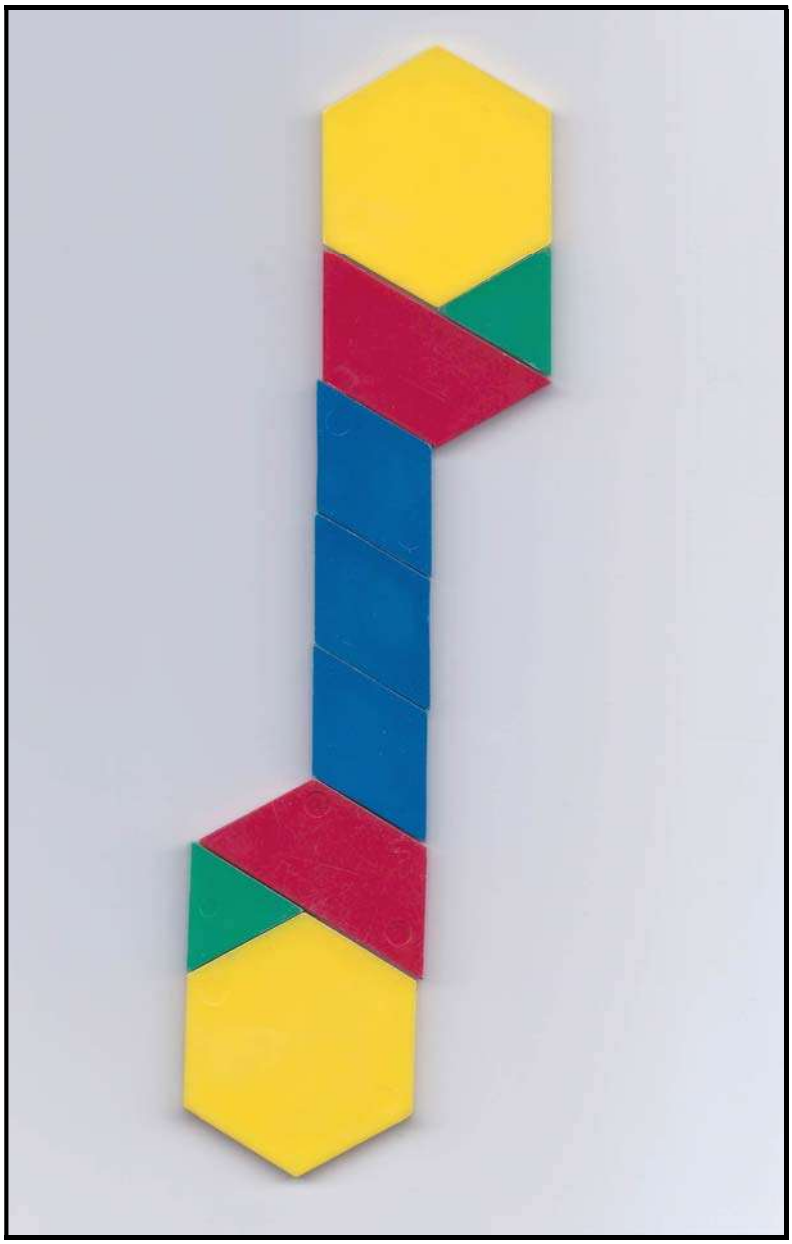

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Cards for Clothesline Activity

Sample cards for whole numbers are provided in a 4-up format. Templates to create cards in a 4-up and 2-up format follow the samples.

The templates can be used to create other sets of cards, such as Numbers in Word Form, Dot Cards, Fractions, Fraction Words, Fraction Pictures, Decimals, Mixed Numbers, Mixed Number Words, and Mixed Number Pictures.

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Cards for Clothesline Activity: Whole Numbers

0	1
2	3

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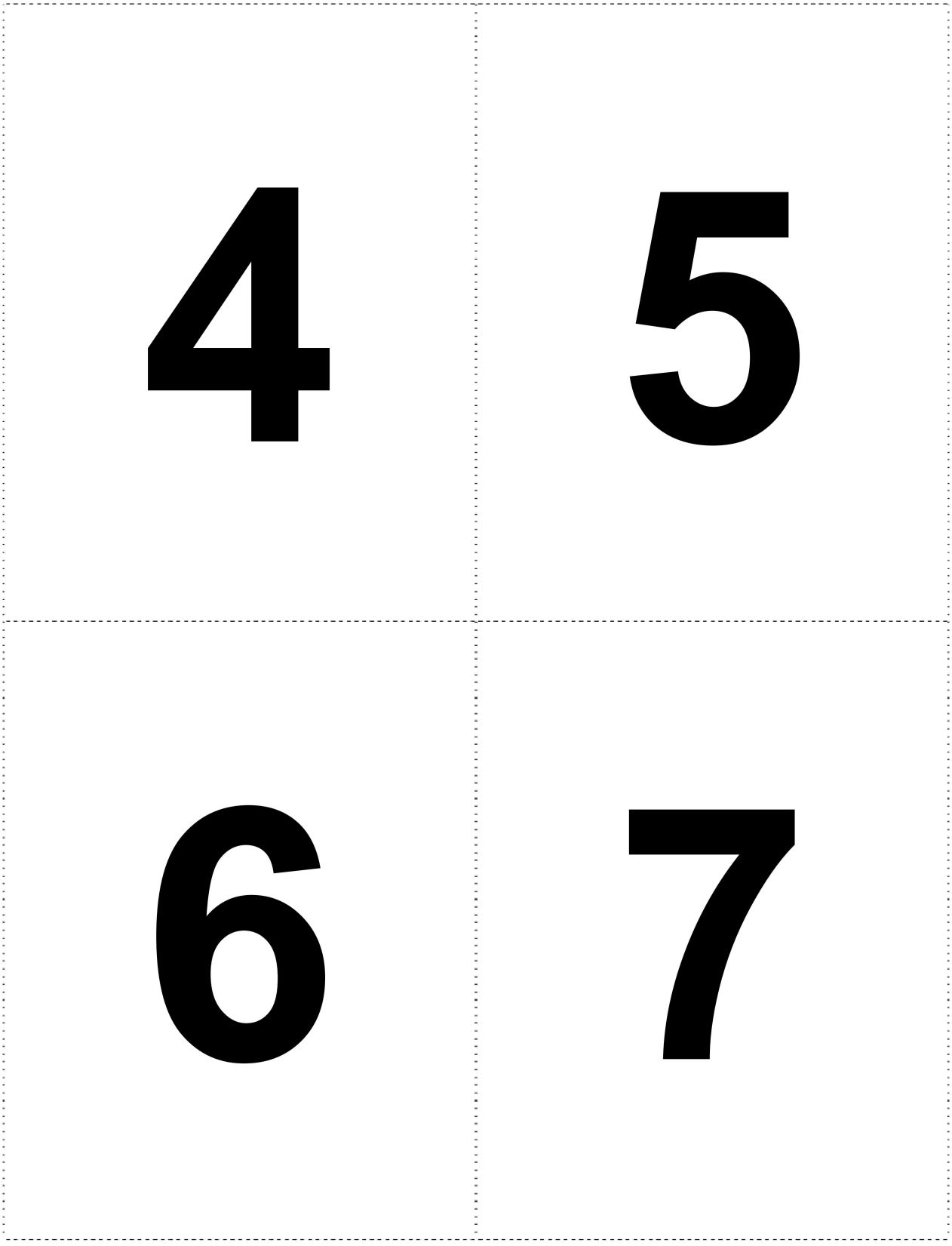
Cards for Clothesline Activity: Whole Numbers



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Cards for Clothesline Activity: Whole Numbers

8	9
10	11

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Cards for Clothesline Activity: Whole Numbers

12	13
14	15

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Cards for Clothesline Activity: Whole Numbers

16	17
18	19

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Cards for Clothesline Activity: Whole Numbers

20	21
22	23

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Cards for Clothesline Activity: Whole Numbers

24

25

26

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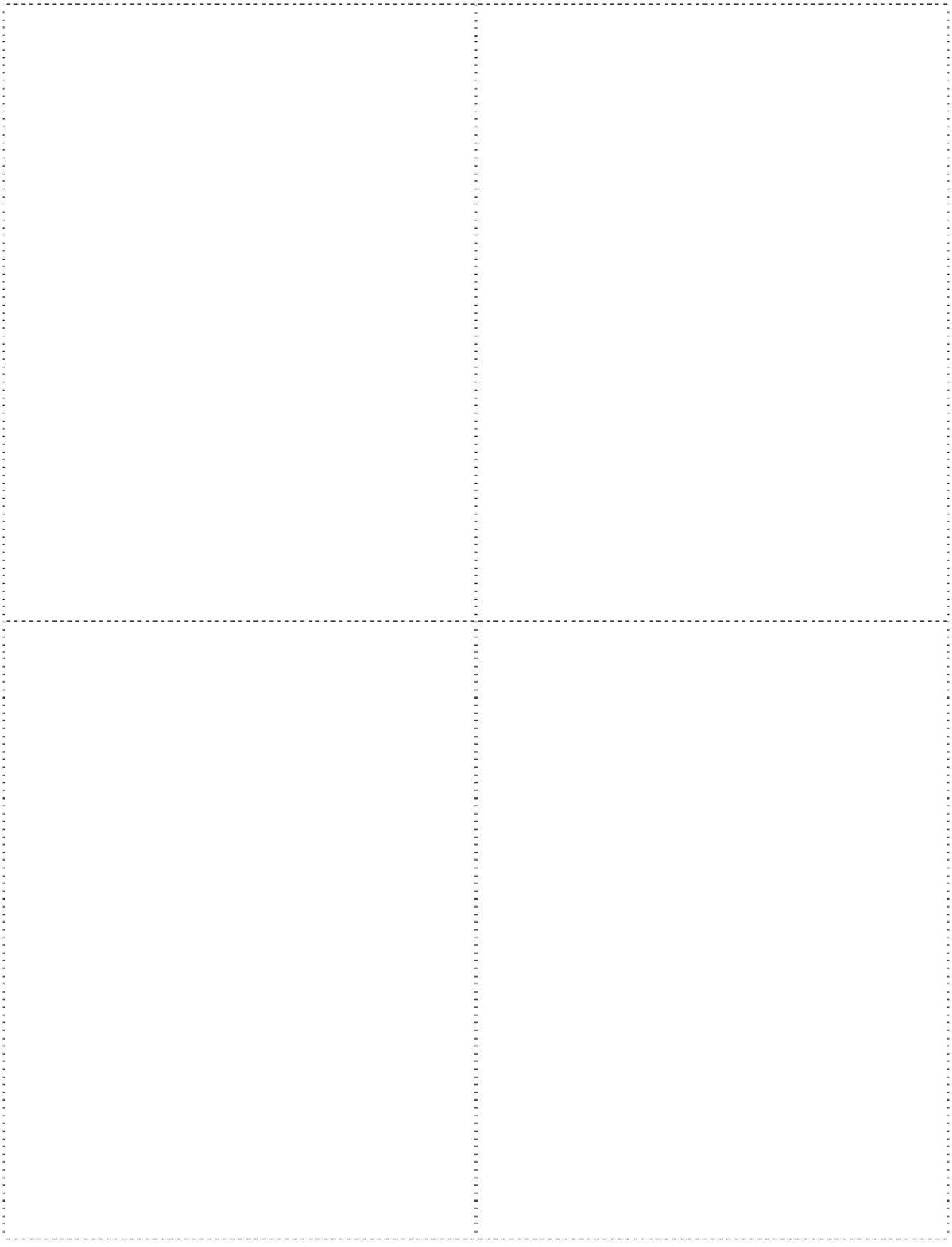
Template for Cards: 4-up



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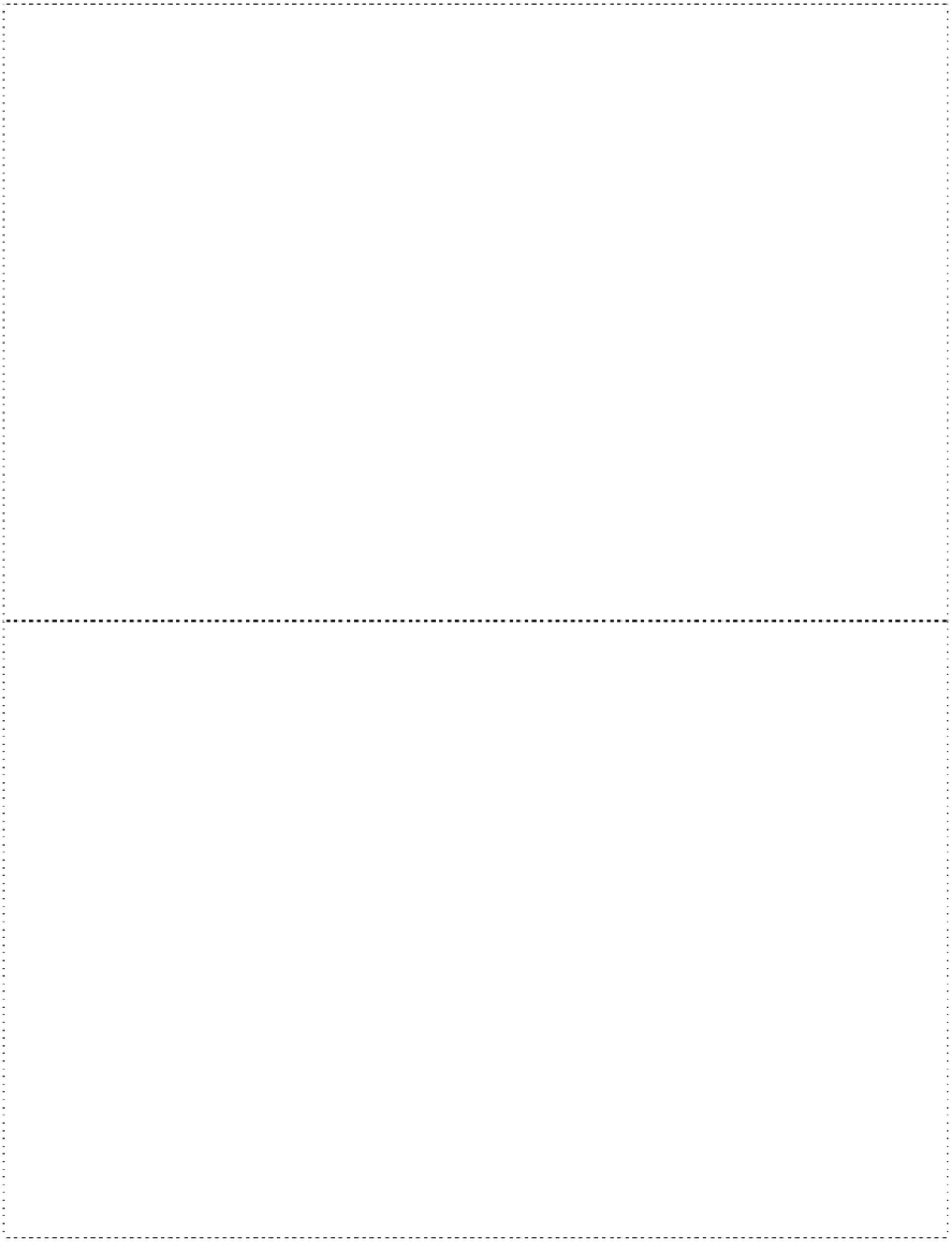
Template for Cards: 2-up



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Word Problem

I bought two cookies yesterday and decided to share them with two friends. How can we share my 2 cookies equally among the 3 of us? How many different ways can we divide the cookies so that each person has the same amount?

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Word Problem

My aunt works for a seed company and asked for my help. I thought you could help me too.

She has bags full of seeds that she needs to organize in groups of 10. She will place each group in an envelope. She needs to know how many envelopes she will need to send seeds to her customers.

Provide each student or group with a small plastic bag full of different quantities of manipulatives to model the seeds (28, 38, 52, 84, and so on). Explain that they need to provide your aunt with a drawing of how the seeds were organized.

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Word Problem

Four children collected 627 pennies.
They want to share the pennies equally.
How many pennies will each child get?
How many pennies will be left over?

How would your answers change if there were 5 children?

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Word Problem

I have a large aquarium. I want to spend exactly 100 dollars buying fish. The store where I buy my fish has several kinds. The large green fish cost 10 dollars each. The blue fish cost 20 dollars each, and the small red fish cost 5 dollars each. I want to buy at least one fish of each colour. How many combinations that include each fish can I buy?

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Word Problem

How many different rectangles can you make using tangram pieces?

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Word Problem

I have decided to buy some new running shoes. The pair I want is on sale for 30% off. The shoes now cost 45 dollars.

Next week the shoes go back to their regular price. How much will they be?

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Word Problem

A playground space is being designed for our school. We have 420 metres of fencing. Which kind of shape would create the largest playground?

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Word Problem

I am packing for a vacation.
I am limited in what I can bring.
If I bring 3 shirts and 4 pairs of pants, how many different outfits will I have?

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