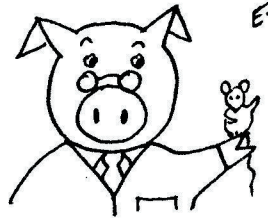
LESSON 3

CONTENTS:

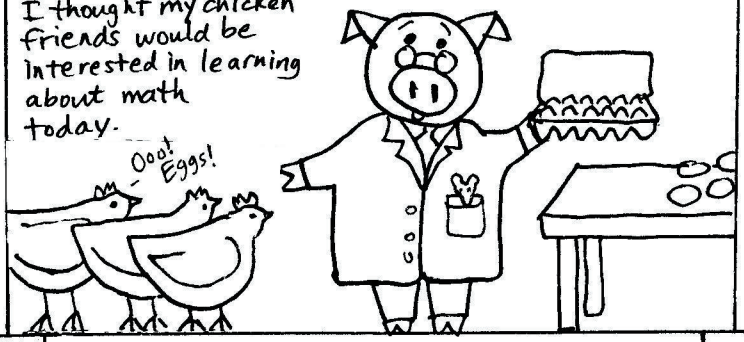
Prof. Pig

EJM



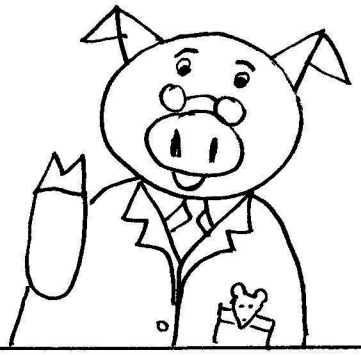
and Memory Mouse

Good day, class! Today we have some special guests - a few of my barnyard friends! Since today's lesson is about a number we often call a "dozen", and since eggs come in boxes of a dozen, I thought my chicken friends would be interested in learning about math today.

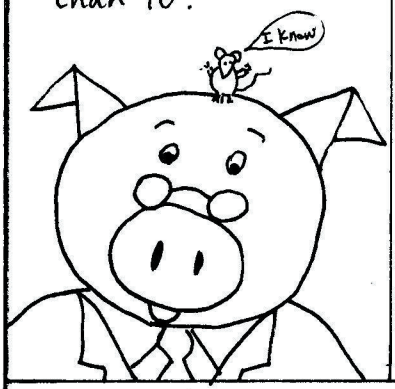


I call today's lesson:

"2 MORE than MAGIC!"



What is 2 more than 10?

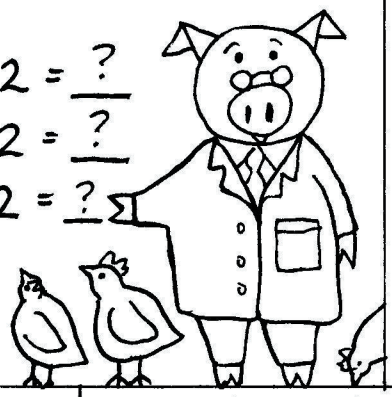


Did you say 12? If you did, you are right! Now what happens if we add 2 to a pair of Magic numbers?

$5+5+2=?$

$6+4+2=?$

$7+3+2=?$



Let's use 5+5. Any of the Magic pairs will work, but let's look at just 5+5.

$(5+5)+2$

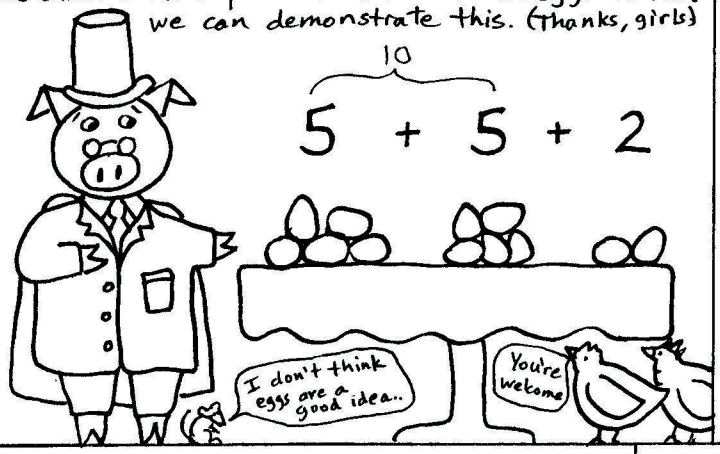
$\downarrow$

$(10)+2$

$10+2=12$

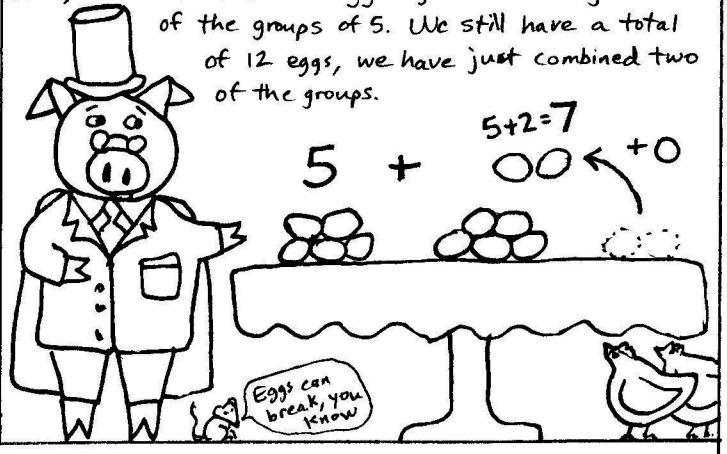
The chickens have provided us with fresh eggs so that we can demonstrate this. (Thanks, girls)

$\overbrace{5+5}^{10}+2$



Now, watch as the two eggs go over and join one of the groups of 5. We still have a total of 12 eggs, we have just combined two of the groups.

$5+\overbrace{\bigcirc\bigcirc}^{5+2=7}$ ← +0

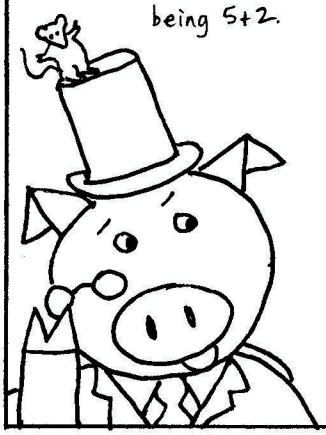


So now we have 5+7=12, with the 7 being 5+2.

$5+7=12$

$\uparrow$

$(5+2)$



One of the numbers has taken on an extra 2, putting their grand total up to 12. That's 2 more than Magic 10.

Look carefully at this problem:

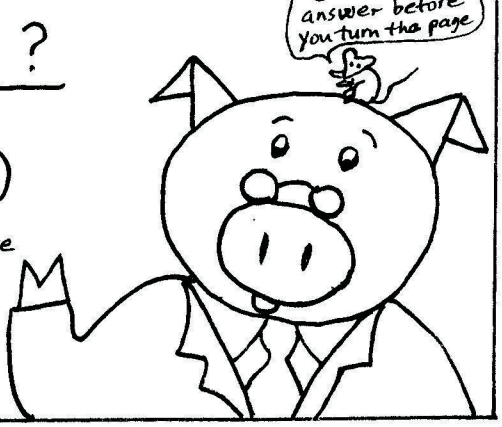
$9+3=?$

$\downarrow$

$9+(\_+\_)$

What should these numbers be?

Remember, $9+1=10$



Let's use eggs, again. We'll use the same dozen eggs we did last time, but we will rearrange them.

10!

9 + 1 + 2

Are these hard-boiled?

Now, we rearrange!

3!

9 + (1+2) + 0

By the way, where is the third hen?

Fascinating!

So now we have 9+3 = 12!

9 + 3

I'll think I'll hatch these!

Yikes!

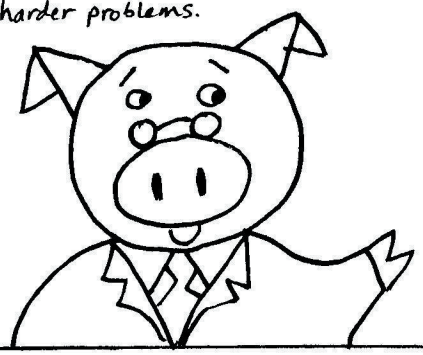
Now, wasn't that exciting. Well, let's move on and conclude this lecture on "2 More than Magic".

No, they weren't hard boiled

Oops.

So let's review what we've learned so far. (Without using eggs!)

The Magic number pairs can be our starting point for doing harder problems.



regular		MAGIC
5 +	5	= 10
6 +	4	= 10
7 +	3	= 10
8 +	2	= 10
9 +	1	= 10

+1		MAGIC+1
5 +	6	= 11
6 +	5	= 11
7 +	4	= 11
8 +	3	= 11
9 +	2	= 11

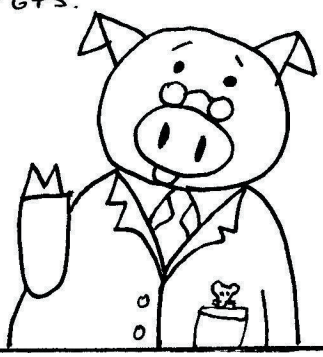
+2		MAGIC+2
5 +	7	= 12
6 +	6	= 12
7 +	5	= 12
8 +	4	= 12
9 +	3	= 12

By the way, you may have already noticed this, but it doesn't matter what order our number pairs are in. You can switch the numbers and they still add up the same: "5+6" is the same as "6+5".

$5+6 = 6+5$

and $9+3 = 3+9$

and the same for all the other number pairs.

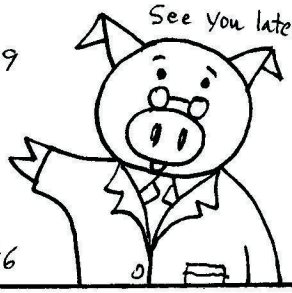


Can you spot the pairs that are 2 MORE THAN MAGIC?

4+3 9+3 8+3 6+5 6+4 5+5 5+4 3+9 8+4 6+6 7+5 7+4 9+1 8+2 4+4 6+7 9+2 6+2 5+6 5+7

Memory Mouse has some neat games about 12 and pairs that are 2 MORE THAN MAGIC!

See you later!



FOR LESSON 3

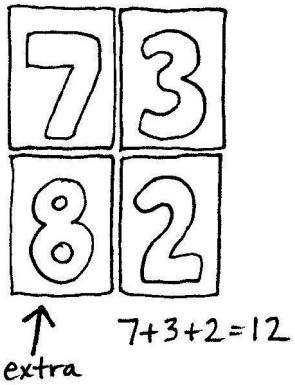
The 12 Penny Game

You will need:

- 12 pennies

This is the same as the “10 Penny Game” except that there are 12 pennies now!

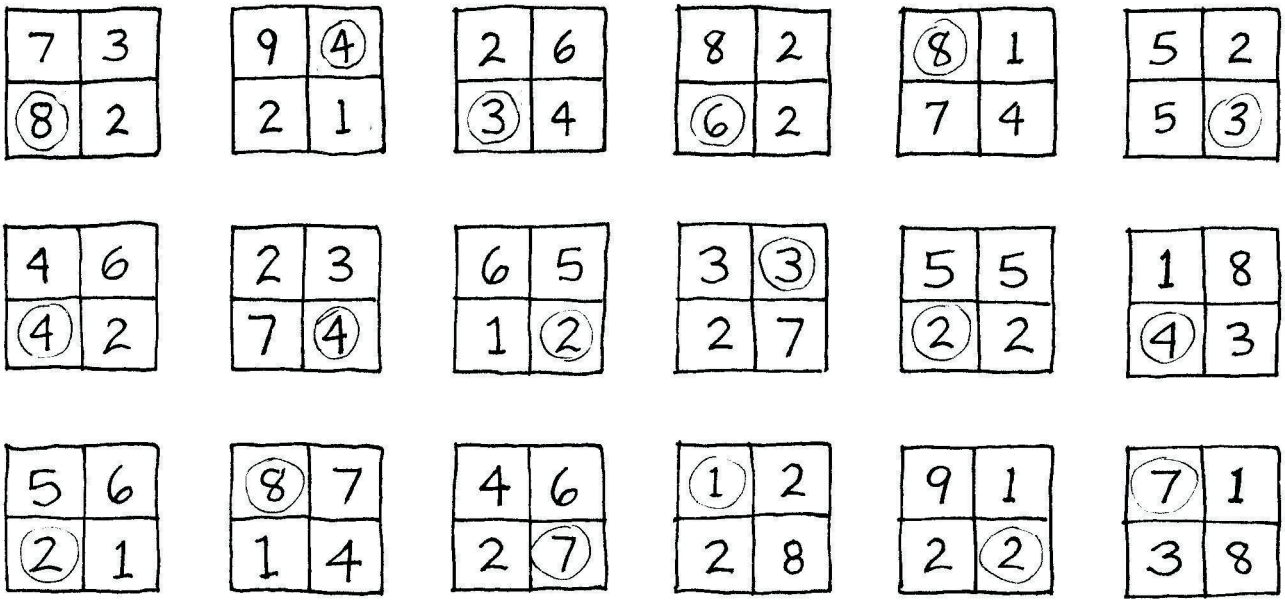
“Odd One Out”



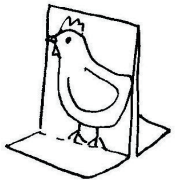
You will need:

- the number cards from “Stop and Go Road” in chapter 1
- the diagrams below

Use the number patterns below for your reference. Choose one of them and make it using the numbered cards from the “Stop and Go Road” game. If you choose not to play the game during chapter one, you can make the numbered cards now, or you can make your own numbered cards from squares of paper. Three of the four cards will go together to make twelve. One of the four numbers is an extra. The student must pick out the extra as quickly as possible. This game will practice the concept of looking for Magic Number pairs and then adding 2. A few of the combinations have One More than Magic pairs, instead of Magic pairs, in which case the brain will be calculating 11 + 1, instead of 10 + 2. Once again, this trains the brain to start grouping numbers and looking for patterns



The Egg Hatching Game



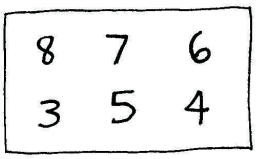
You will need:

- a card stock copy of the gameboard page with the hens and chicks on it
- a card stock copy of the dodecahedron pattern (with extra chick cards)
- a pair of scissors
- white glue
- optional: polyester pillow stuffing to put inside the dodecahedron if you want it to be more crush-proof

Cut out the triangular gameboard. Cut out and assemble as many hens as you have players. (See hen in drawing above.) Cut out triangular chick cards and stack them in the center of the triangular board. Cut out the dodecahedron and glue together. Remember, use the white glue sparingly and it will dry much better and faster. Try to use the word "dodecahedron" as often as possible during the game so that your student becomes familiar with this term,

Chicken eggs take 21 days to hatch. That's exactly three weeks-- which is a convenient way to introduce some multiples of 7! In this game, the players are hens trying to hatch eggs. If your hen can get all the way to day 21 without landing on a crack, you get a chick card. All players start on the egg that has the word START on it. This egg obviously doubles for the day 21 egg. The number of spaces you may move is the number that belongs in the box in the equation you roll on the dodecahedron. The spaces on the gameboard numbered 1, 6, 8, 13, 15, and 20 have cracks. If you land on one of these cracked spaces, this means your egg has cracked and you haved to return to START. Once you land on 21 and get a chick card, start around again. First player to hatch three chicks wins. (You could also play a two chick game or a series of one chick games.) Playing a three chick game with two players will take less than 10 minutes.

Flash Cards



You will need:

- a copy of the flash card page, on card stock
- a pair of scissors

Cut out the flash cards. You will notice that these cards go horizontally, not vertically. They are read from right to left, adding the paris of numbers.
The sample card here would be read: 10, 12, 11. Again, this is an exercise designed to force the brain to combine two numbers into one piece of information.

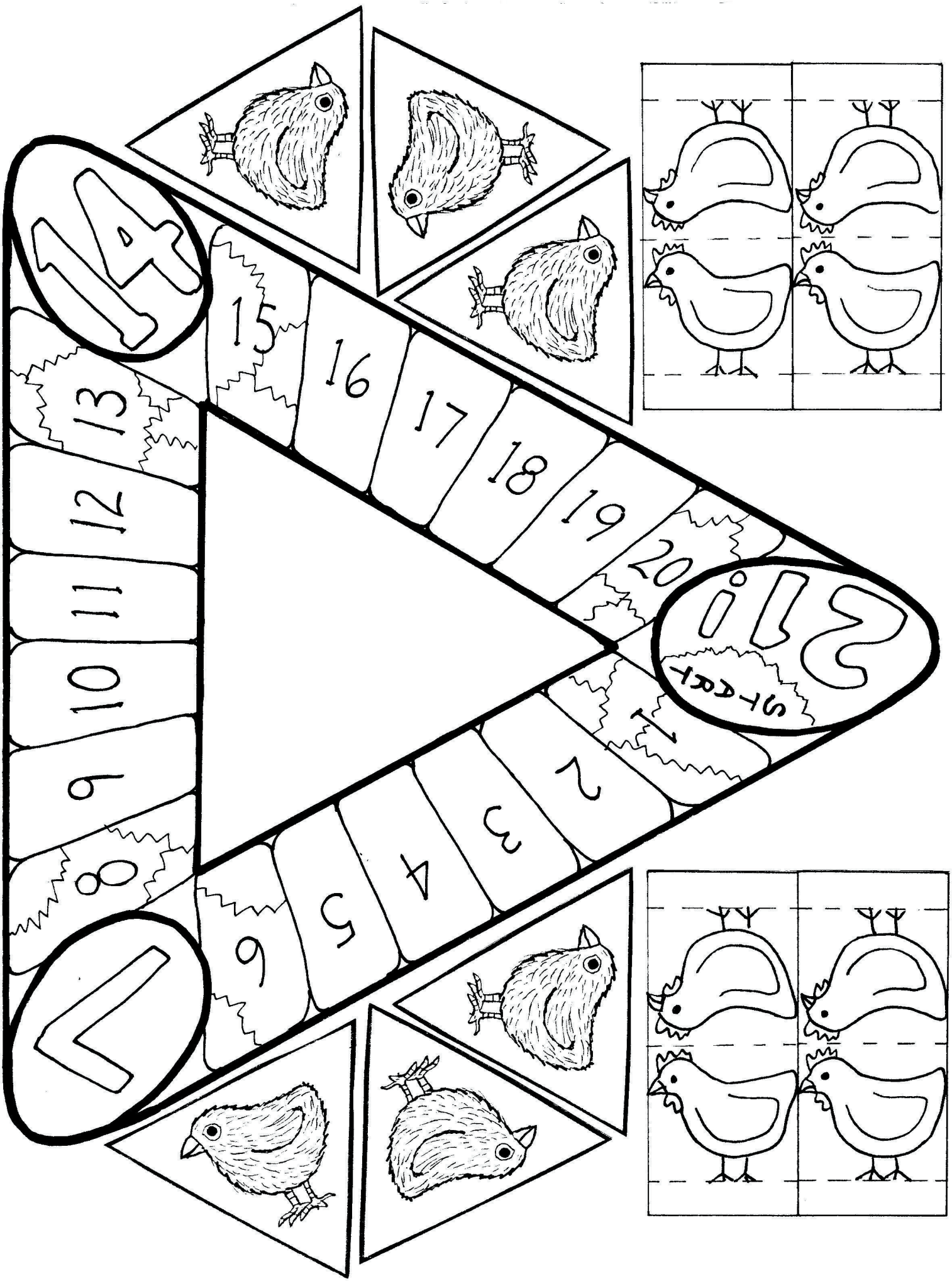
You might want to start out letting your student calculate the answers while looking at the cards. Then, go to the standard method of allowing them five seconds or so to study the card before removing the card from their sight and asking them to give the answers from memory. The goal is to have the student calculating quickly enough that he only has to remember three numbers, not six.

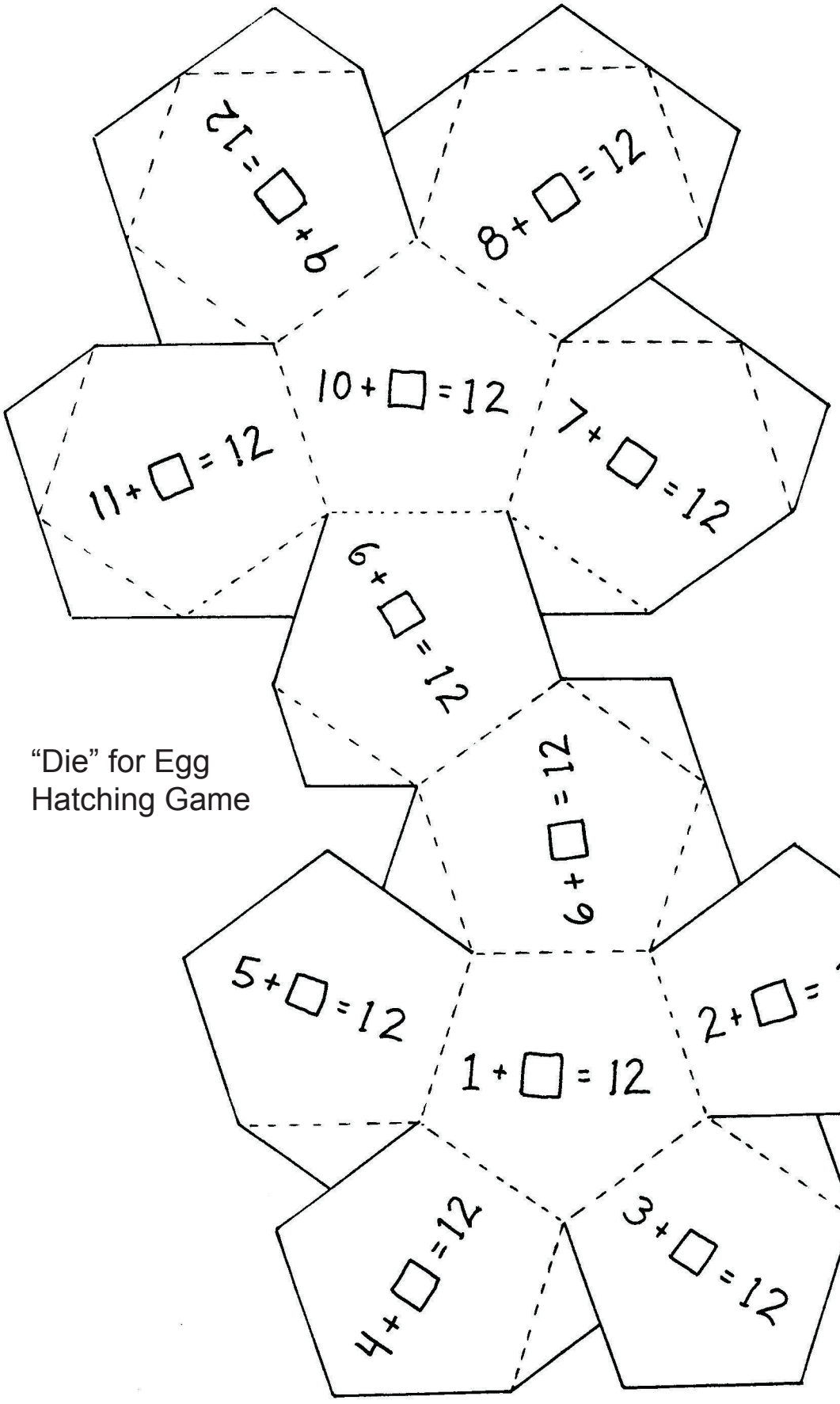
Instructions for "Scrambled Eggs" worksheet

You will need:

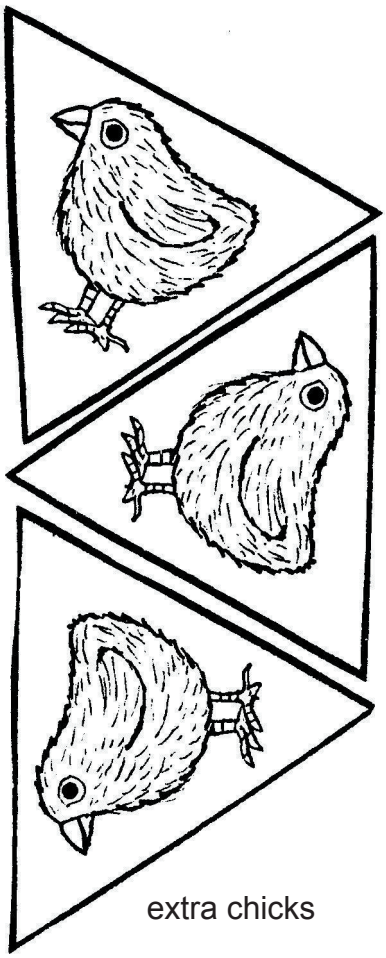
- a copy of the worksheet inserted into a plastic sheet
- a dry erase marker or wipe-off crayon

Choose any two numbers that add up to 12, and put them in eggs A and B. C and D are two numbers that add together to make A, and E and F are two numbers that add together to make B. Now, for the magic trick! Take C and E, add them together and put the answer in egg G. Take D and F, add them together and put the answer in H. Then add G and H and you will always get 12!


14
15
16
17
18
19
20
21
13
12
11
10
9
8
7
6
5
4
3
2
1
Start



"Die" for Egg Hatching Game



extra chicks

Cut on solid lines, fold on dotted lines. Use white glue very sparingly and hold joints for ten seconds before releasing.

5 7 5 6 5 7	7 6 5 4 5 5	4 3 2 7 8 9
6 3 7 5 8 4	2 9 8 8 3 4	3 5 6 9 7 4
1 4 7 9 8 3	9 9 9 3 2 1	7 5 6 3 5 4

Scrambled Eggs!