

's

Rising Fifth Grade Summer Math Packet

Use this packet to help you prepare for fifth grade and keep your math brain fresh!

There are 2 parts to this packet. The first part has some independent practice pages. The second part has games that you may play with family or friends. (You may rip the game part off of the packet. Please keep the independent practice pages attached to this cover sheet.)

Use this sheet to keep track of your progress, and have your parent or guardian sign each time you've played a game. Try to do one Independent Practice Page and play one Game each week to keep yourself on pace to finish! ☺ This packet must be turned in to your 5th grade teacher on the first day of school.

Part 1: Independent Practice Pages

Check off the pages as you do them.

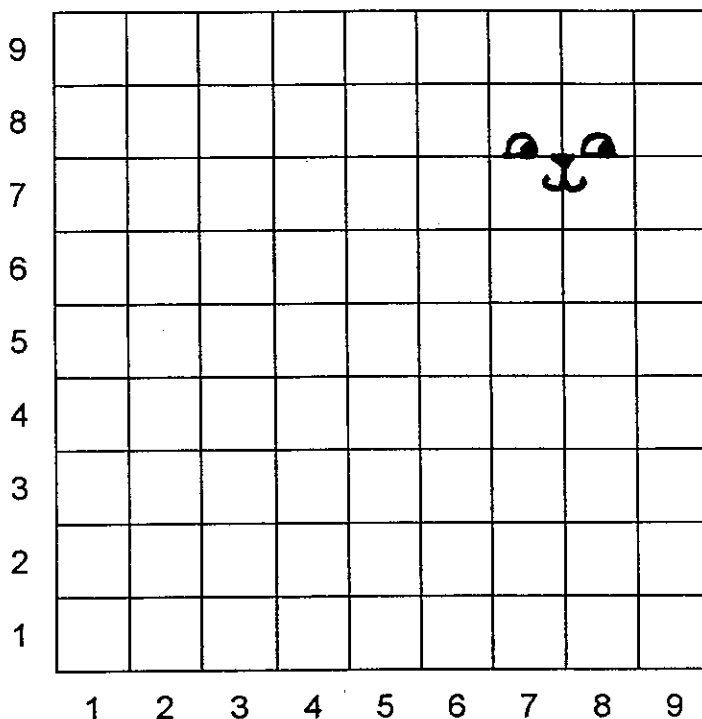
- | | |
|--|---|
| <input type="checkbox"/> Multiplication Mosaic | <input type="checkbox"/> Pop-Pop's Garden |
| <input type="checkbox"/> Number Puzzles | <input type="checkbox"/> In-and-Out Boxes |
| <input type="checkbox"/> Travel to Africa! | <input type="checkbox"/> Air Temperature on Wednesday |
| <input type="checkbox"/> Multiply It! | <input type="checkbox"/> Division Design |
| <input type="checkbox"/> Meatball Mania | <input type="checkbox"/> Mental Math |

Part 2: Game Time!

Fill in the information as you play math games. You will need to play ten times. It is okay to repeat games that you really like! Remember to have your parent or guardian sign to show that you've played.

	Date	Title of Game	Parent/Guardian Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

MULTIPLICATION MOSAIC # 30



Work all the problems. Then take one problem at a time—the first factor tells how many columns to move toward the right on the grid; the second factor tells how many rows to move upward. Where the row and column intersect, fill in the square with the given color.

- | | | |
|------------------------|------------------------|------------------------|
| 1 X ____ = 9 (orange) | 9 X ____ = 63 (yellow) | 3 X ____ = 21 (orange) |
| 5 X ____ = 30 (orange) | 3 X ____ = 15 (orange) | 6 X ____ = 36 (orange) |
| 7 X ____ = 49 (orange) | 8 X ____ = 32 (orange) | 6 X ____ = 48 (yellow) |
| 9 X ____ = 72 (yellow) | 3 X ____ = 18 (orange) | 9 X ____ = 81 (orange) |
| 6 X ____ = 24 (orange) | 4 X ____ = 28 (orange) | 8 X ____ = 40 (orange) |
| 2 X ____ = 16 (orange) | 8 X ____ = 72 (yellow) | 7 X ____ = 56 (orange) |
| 8 X ____ = 48 (yellow) | 6 X ____ = 42 (yellow) | 7 X ____ = 42 (yellow) |
| 7 X ____ = 63 (yellow) | 4 X ____ = 24 (orange) | 6 X ____ = 54 (orange) |
| 3 X ____ = 12 (orange) | 5 X ____ = 35 (orange) | 8 X ____ = 56 (orange) |
| 6 X ____ = 30 (orange) | 8 X ____ = 64 (orange) | |

NUMBER PUZZLES

Use the clues to figure out the mystery number in each box.

Puzzle A

This number is less than 100.
This number is greater than 80.
This number is a multiple of 9.
This number is even.

This number is _____.

Puzzle B

This number is a multiple of 12.
This number is less than 50.
This number is greater than 30.
This number is a multiple of 9.

This number is _____.

Puzzle C

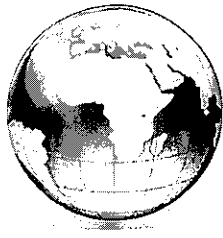
This number is a square number.
This number is less than 100.
This number is odd.
This number is greater than 50.

This number is _____.

Puzzle D

This number is less than 20.
This number is even.
This number is a multiple of 3.
This number is not a factor of 24.

This number is _____.



Travel to Africa!

Pretend that you have decided to visit 10 countries in Africa. Every country has amazing souvenirs for you to collect during your travels. In the first country, you buy 1 souvenir; in the second, you buy 2 souvenirs; and in the third, 3 souvenirs. If your pattern continues in this way throughout your trip, how many wonderful souvenirs will you take home with you? Make a chart to show your thinking. Write your answer as a sentence in the box at the bottom of the page.

Show your thinking with a chart:

Write your answer:

--

Multiply It!

Find the products. Be sure to show your work in each box.

$28 \times 54 = \underline{\quad\quad\quad}$

$163 \times 7 = \underline{\quad\quad\quad}$

$17 \times 17 = \underline{\quad\quad\quad}$

$72 \times 19 = \underline{\quad\quad\quad}$

$108 \times 21 = \underline{\quad\quad\quad}$

$32 \times 24 = \underline{\quad\quad\quad}$

Create your own multiplication equation to solve.

$\underline{\quad\quad\quad} \times \underline{\quad\quad\quad} = \underline{\quad\quad\quad}$

Meatball Mania

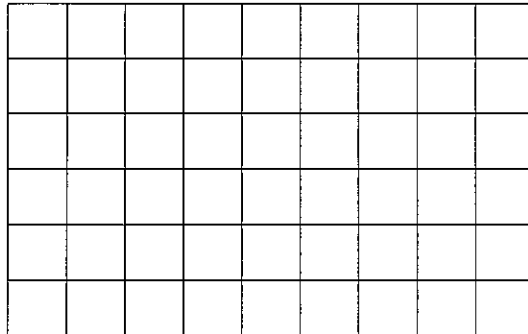
Sam is making meatball sandwiches for his basketball team. His grandma cooked a big pot of 163 meatballs! If Sam puts 8 meatballs on a sandwich, how many sandwiches can he make?


Work space:

Write your answer as a sentence and explain your thinking:

Pop-Pop's Garden

Pop-Pop is planning his garden. He has made a scale map of the garden below.



Each  = 1 square foot.

- What are the dimensions (length and width) of Pop-Pop's garden?
- What is the area of Pop-Pop's garden?
- There are many rabbits in Pop-Pop's yard. He wants to buy some wire fence to put all around the edge of the garden to keep the rabbits from eating his plants. The garden store sells wire fence by the foot. How much wire fence will Pop-Pop need to buy to protect his garden?
- Pop-Pop wants to plant tomatoes in half of his garden. How many square feet of garden space will be dedicated to tomatoes?
- After he planted his tomatoes, Pop-Pop used another 12 square feet of garden space to plant string beans. Then he used 6 square feet of garden space to plant onions. How much space does Pop-Pop have left in the garden to plant herbs?

Name: _____

In and Out Boxes

a.

In	Out
7	
9	
14	
	21

rule: add 6

b.

In	Out
2	4
6	12
7	
	18

rule: _____

c.

In	Out
9	2
12	5
18	
	20

rule: _____

d.

In	18		42	
Out		5		9

rule: divide by 6

e.

In	6	9		
Out	5	8	13	19

rule: _____

e. Sam made up a new game in which players throw a Frisbee into a hockey net. The table below shows the number of points earned for each goal.

Points in Frisbee Hockey

Number of Goals	1	2	3	4	5
Total Points	8	16	24	?	40

When 4 goals are scored, how many points are earned? _____

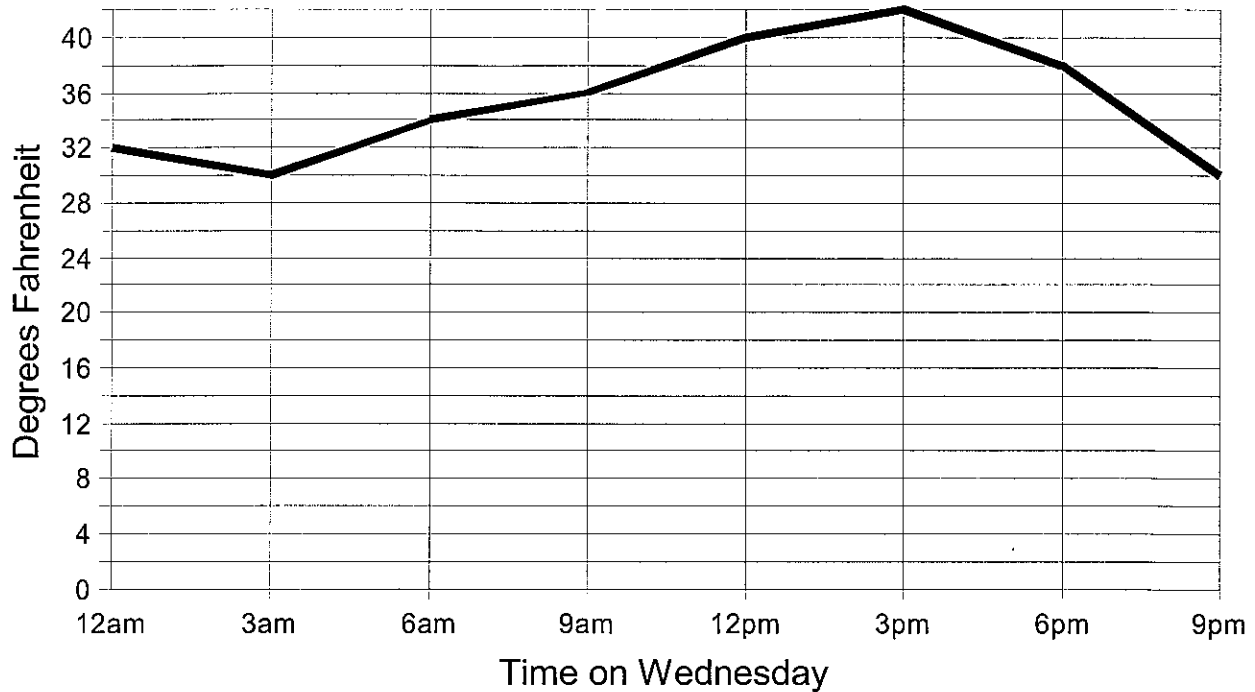
When 10 goals are scored, how many points are earned? _____

Leroy thinks that his team will earn 76 points if his team makes 9 goals. Tell whether or not he is correct and explain your answer.

Name: _____

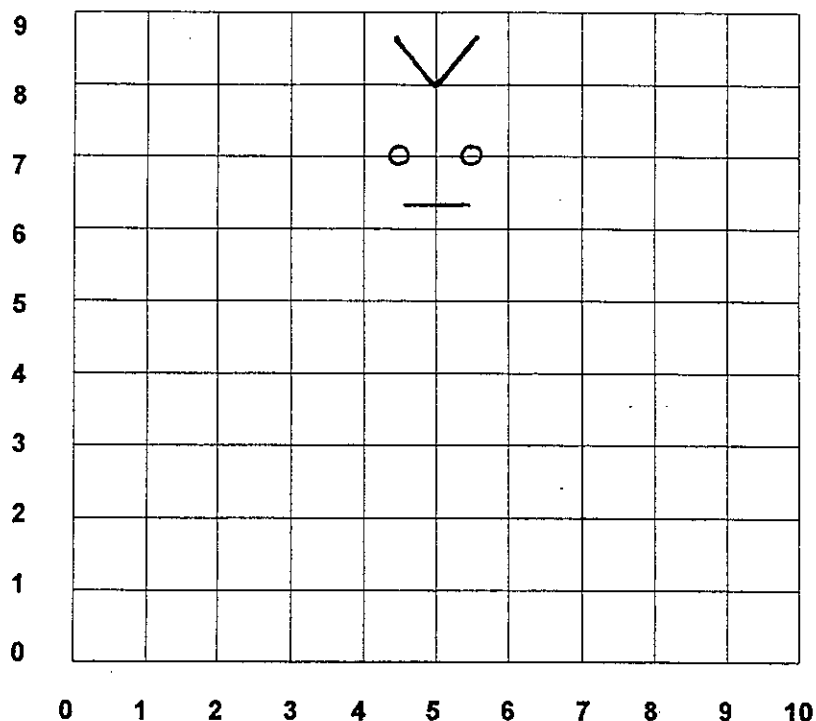
Reading a Line Graph

Air Temperature on Wednesday



1. What was the air temperature at noon on Wednesday? 1. _____
2. What was the air temperature at 6pm on Wednesday? 2. _____
3. Did the air temperature rise or fall between 6am and 9am? 3. _____
4. What is the difference in air temperature between midnight and noon? 4. _____
5. Was it warmer at 9am or 9pm? 5. _____
6. At what time was the air temperature the warmest? 6. _____
7. Is this more likely to be a line graph showing air temperatures in Maine or New Mexico? 7. _____

DIVISION DESIGN # 4



Work all the problems. Then start with #1. The divisor tells how many lines to move toward the right in the grid, starting at zero. The quotient tells how many lines to move upward, starting at zero. When you've moved the correct distance in both directions, make a dot. Do the same for #2. Draw a line from the #1 dot to the #2 dot. Make the dot for #3. Draw a line from the #2 dot to the #3 dot. Continue until you get to the last problem. Draw a line from the last dot to the beginning dot.

1. $2 \div 2 = \underline{\quad}$

9. $24 \div 4 = \underline{\quad}$

17. $24 \div 8 = \underline{\quad}$

2. $6 \div 3 = \underline{\quad}$

10. $32 \div 4 = \underline{\quad}$

18. $30 \div 6 = \underline{\quad}$

3. $16 \div 4 = \underline{\quad}$

11. $48 \div 6 = \underline{\quad}$

19. $24 \div 6 = \underline{\quad}$

4. $20 \div 4 = \underline{\quad}$

12. $42 \div 6 = \underline{\quad}$

20. $14 \div 7 = \underline{\quad}$

5. $6 \div 2 = \underline{\quad}$

13. $36 \div 6 = \underline{\quad}$

21. $8 \div 8 = \underline{\quad}$

6. $3 \div 1 = \underline{\quad}$

14. $32 \div 8 = \underline{\quad}$

22. $6 \div 6 = \underline{\quad}$

7. $4 \div 1 = \underline{\quad}$

15. $36 \div 9 = \underline{\quad}$

23. $20 \div 5 = \underline{\quad}$

8. $8 \div 2 = \underline{\quad}$

16. $27 \div 9 = \underline{\quad}$

24. $4 \div 4 = \underline{\quad}$



Mental Math

Important: Try to compute each problem on this page mentally, only recording your final answer.

1. $25 + 25 + 35 = \underline{\quad}$

2. $716 + 203 = \underline{\quad}$

3. $987 - 120 = \underline{\quad}$

4. $368 - 270 = \underline{\quad}$

5. $59 + \underline{\quad} = 100$

6. $87 \times 2 = \underline{\quad}$

7. $350 \times 4 = \underline{\quad}$

8. $24 \times 20 = \underline{\quad}$

9. $17 \times 3 = \underline{\quad}$

10. $21 \times 7 = \underline{\quad}$

11. $816 + \underline{\quad} = 1,000$

12. $812 = 700 + \underline{\quad}$

13. $1,000 - 315 = \underline{\quad}$

14. $784 - 123 = \underline{\quad}$

15. $23 \times 5 = \underline{\quad}$

Game Time!

Remember:

- **You must play a math game at least 10 times over the summer.**
- You may rip this part of the packet away from the rest. The directions and game boards are yours to keep.
- Keep the Independent Practice pages connected to the cover sheet.
- **Remember to have a parent/guardian sign on the cover sheet each time you play one of these games.**

This packet includes directions and any needed game boards for these games:

The Game of Pig

NIM

Pica, Firma, Nada

Four-in-a-Row

Gone Fishin'

You may also play math games online! Choose from the following:

Times Square— This game is similar to Four-in-a-Row, but it includes even more factors. Challenge the speedy computer to see if you can claim four products in a row before it can block you!

Fraction Feud— Use the number tiles you are given to create fractions larger or smaller than your opponent to win rounds in this fraction joust.

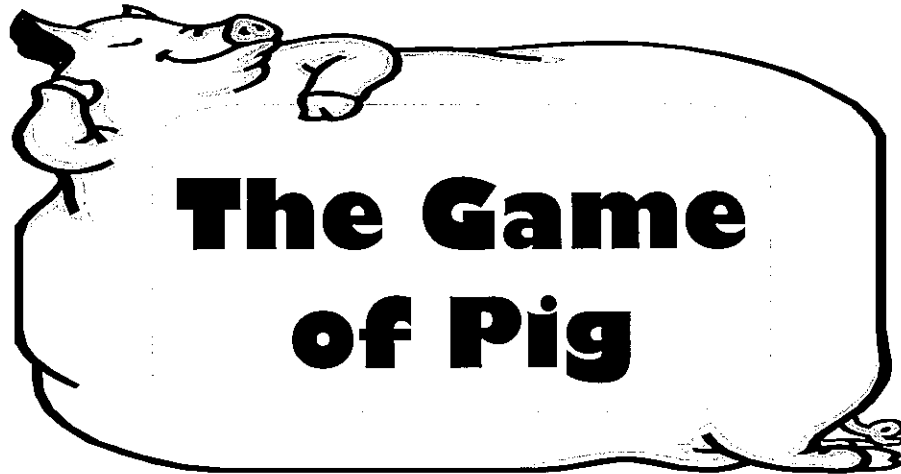
Factor Dazzle— Try to outscore your opponent by selecting numbers on a grid. Pick a number to earn that number of points, but be careful because your opponent will earn the points of every remaining factor of the number you've picked. Don't pick a number without any remaining factors, or you'll lose a turn. Strategy matters!

Slam Ball— Slam the ball off the side of the game board to send it on a path to collect tokens. You only have six turns, so plan your point-collecting paths by moving the walls and selecting your launch angle carefully!

NeXtu— Fit your pieces into the geometric puzzle board. Each piece has a certain value. Placing your pieces next to each other can boost their value. If you place a piece of larger value next to an opponent's lower value piece, you can make a steal! Think through your moves though, or you might just have those pieces stolen back!

To play any of these online games:

- Go to www.calculationnation.com
- You may log in as a guest and play against the computer, or create a username and password to play against other kids once you've learned how to play.
- More detailed directions for each game can be found on the website.



Object of the game:

Be the first player to bank at least 100 points.

Number of players: 2 or more

You'll need: a pair of dice
paper and pencil for recording

How to play:

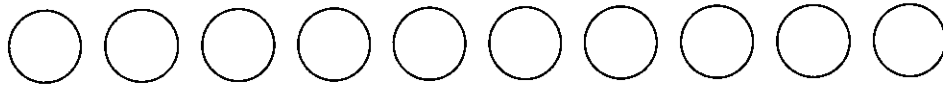
- On your turn, roll the dice as many times as you want. Use mental math to keep a running total of the sum.
- When you decide to stop rolling, bank those points on your recording sheet. Add these points to the points you earned in your previous turns.
- If you roll a 1 on either die, your turn automatically ends and you bank 0 points for that turn.
- If you roll a 1 on both dice, not only does your turn end, but all of the banked points you've earned so far returns to 0.
- Keep taking turns until one player has banked at least 100 points to win the game.

NIM

NIM is based on an old Chinese game. In this two-person game, the object of the game is to be the last player to take a piece.

You can play this game with ten objects, such as toothpicks or sugar packets if you are at a restaurant. Or, play by drawing ten circles.

Each player may take either **one or two** objects (or coloring in one or two circles) on his or her turn. Players take turns, and no one is allowed to skip a turn. The player who takes the last one (or two) objects wins!



You can change this game by starting with more or fewer objects (or circles) or allowing players to take one, two, or three objects on each turn.

PICA, FIRMA, NADA

Goal: Guess the mystery number!

Number of Players: 2 or more

One player (the recorder) thinks of a three-digit number and writes it down on a piece of paper, keeping it hidden from the other players (the guessers). The recorder writes three blank lines (like this:) and the guessers pick any three digit number. The recorder writes this number on the blanks and gives the guessers hints by writing a code letter under each digit.

The code: Pica (**P**) means the digit **is** in the mystery number, but it is in the **wrong place**.

Firma (**F**) means the digit **is** in the mystery number and in the **right place!** ☺

Nada (**N**) means the digit is **not in** the mystery number at all.

So, if the mystery number was 387, but the guessers guessed 827, the recorder would write this:

8 2 7 (The 8 is Pica, because there is an 8 in the mystery number,
P N F but not in the hundreds column. The 2 is Nada because
 there is no 2 in the mystery number. The 7 is Firma because
 the mystery number also has a 7 in the ones column!)

The recorder writes three new blanks, and the guessers use these clues to take another guess. Play continues until the guessers have found the mystery number.

Four-in-a-Row

Object: Be the first to capture four boxes in a row!

Number of players: 2 players (or more players split into 2 teams)

Materials needed:

Four-in-a-Row board

Bingo chips or other markers in 2 colors

Small pieces to mark the factors along the bottom of the board

How to play:

1. Decide which player or team goes first.
2. Both teams can put a chip on the FREE space.
3. Team 1 puts both small markers down on the factors of their choice and then covers the resulting product on the board with one of their chips.
4. Team 2 may move only 1 of the factor chips. They then place one of their chips over the new product.
5. It is an illegal move to place both factor chips on zero at the same time.
6. Play continues as teams take turns moving one of the factor chips and covering the new products.
7. The game ends when one team wins by capturing four boxes in a row (horizontally, vertically, or diagonally). It is also possible that the game ends in a draw if no more moves can be made.

Gone Fishin'

Topic: All Facts

Object: Catch as many fish as you can before you're called out of the game!

Groups: 2 players (or 2 teams)

Materials for each group:

- Two *Gone Fishin'* game boards, one per player or team
- Two dice
- Counters (13 for each player or team)

Directions:

1. The first player rolls the dice. The player may add, subtract, multiply, or divide the rolled numbers to decide which number to cover on the gameboard.

Example: If 2 and 6 are rolled, the player might cover...

Fish 8 (sum $\rightarrow 2 + 6 = 8$)

Fish 4 (difference $\rightarrow 6 - 2 = 4$)

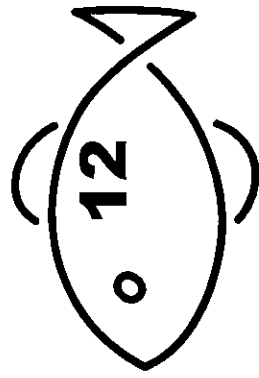
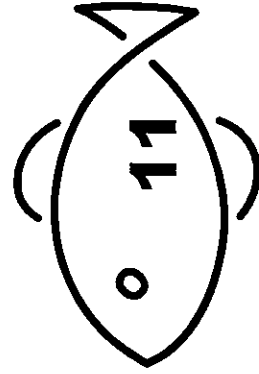
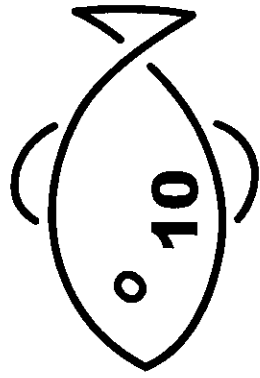
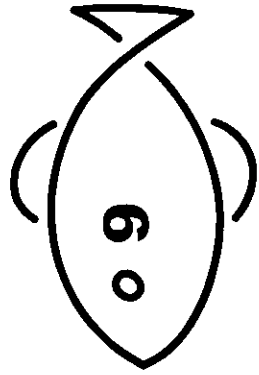
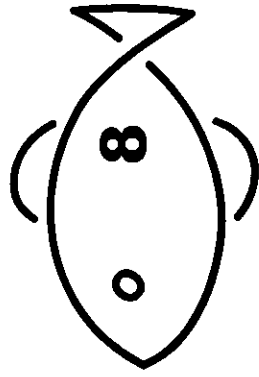
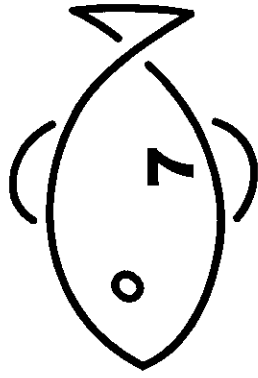
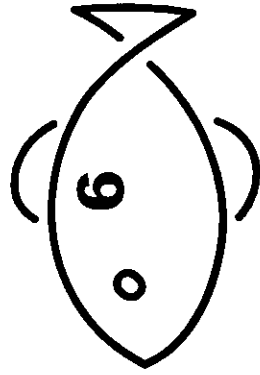
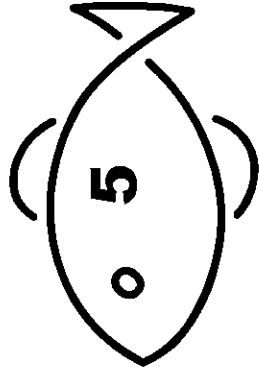
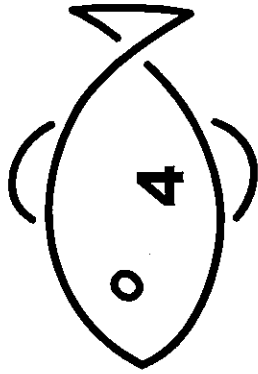
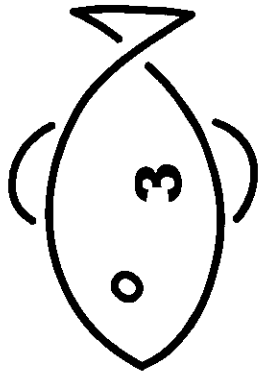
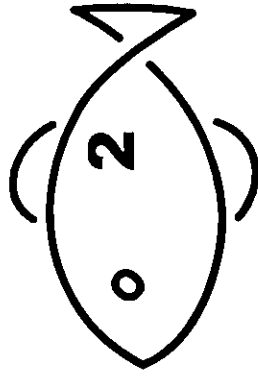
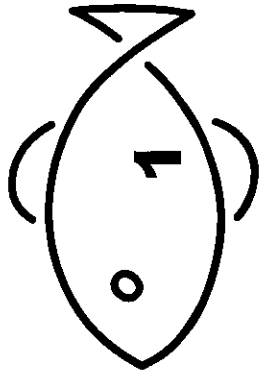
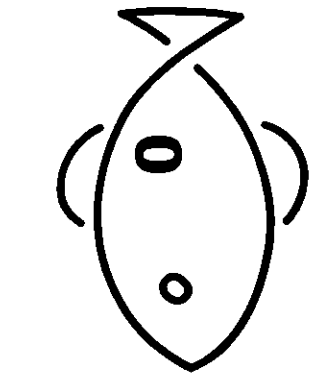
Fish 3 (quotient $\rightarrow 6$ divided by 2 = 3)

Fish 12 (product $\rightarrow 6 \times 2 = 12$)

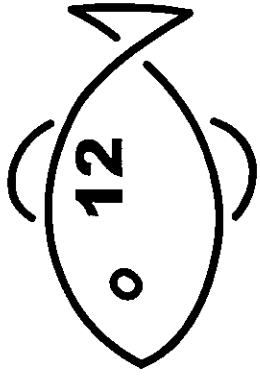
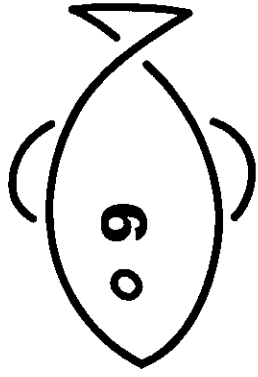
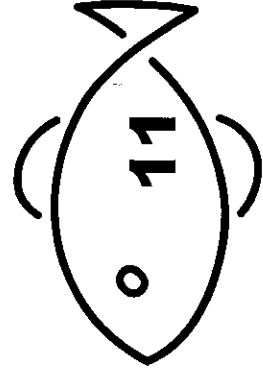
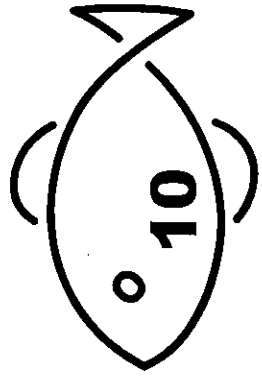
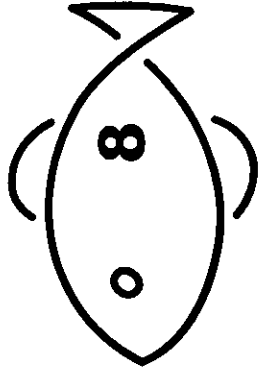
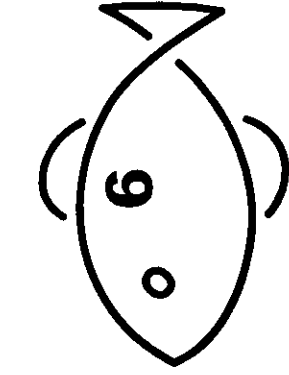
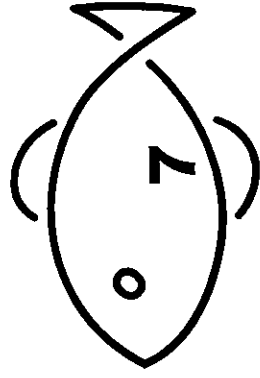
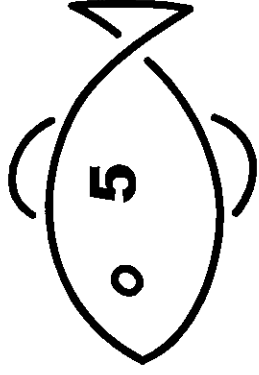
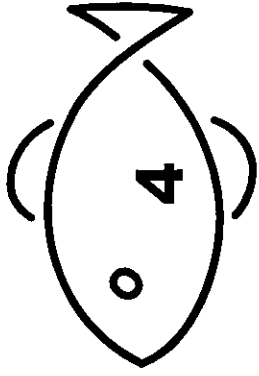
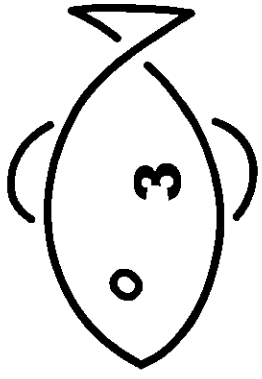
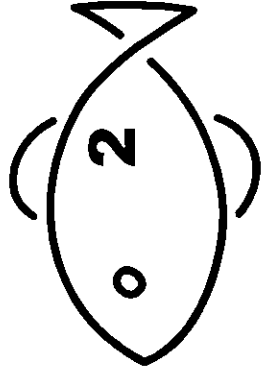
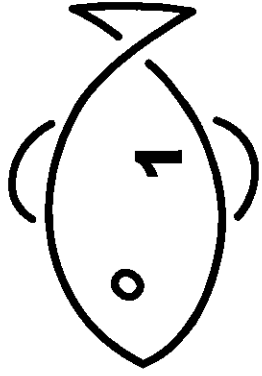
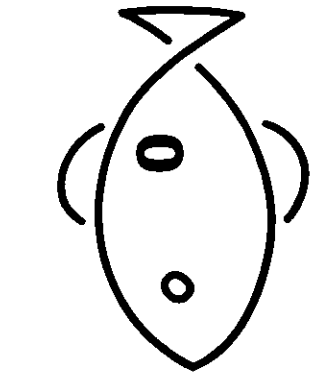
2. Players (or teams) alternate turns, rolling the dice, making equations, and covering the selected fish.
3. When a player can no longer make a number on an uncovered fish, the player is called out of the game. The other player may keep playing until he or she also rolls numbers that cannot be used to cover a new fish and is called out of the game.
4. The winner is the player/team who covers the most fish.

Idea for Variation: A different way to determine the winner is for each player/team to add up the numbers on the fish that they've left uncovered. The player/team with the smaller sum wins.

Gone Fishin'



Gone Fishin'



Four-in-a-Row

0	1	2	3
4	5	6	8
9	10	Free	12
15	16	18	20
24	25	30	36

0 1 2 3 4 5 6