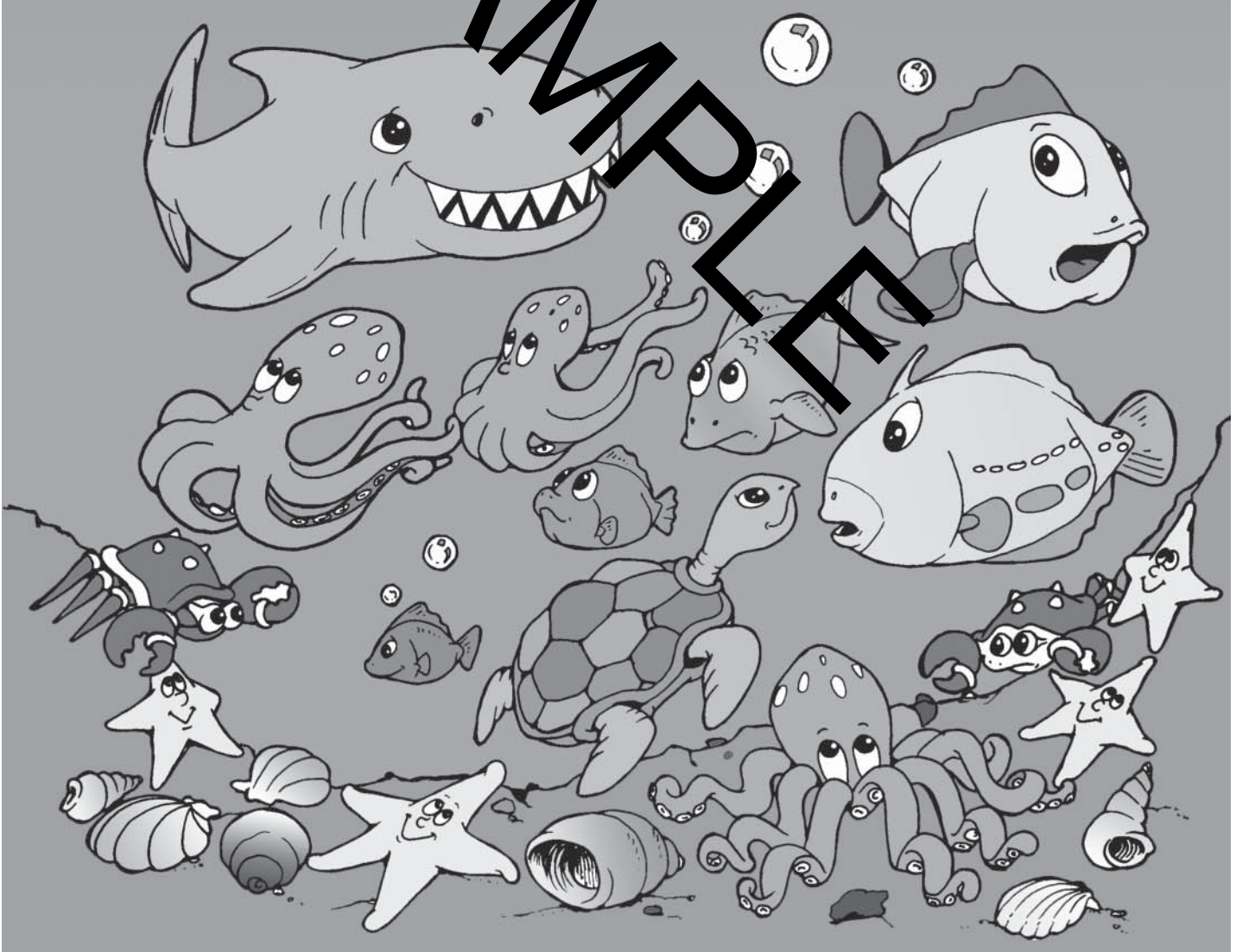




# Sum-Thing's Fishy!

Creative Enrichment Mathematics Activities  
for 6 to 8 Year Olds.

SAMPLE



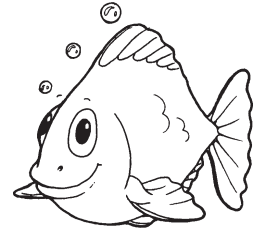
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NAME: \_\_\_\_\_

# Fishy Squares



Use digits to fill the empty squares and make the problems true.

1.

				=11
	x		x	
				=12
x	x	x	-	=9
	x	-	x	=7
		x		=20

2.

		x		x
			x	
	x	x	x	=7
=8	x	x	x	=10
	=12	x	x	=12
		=5		

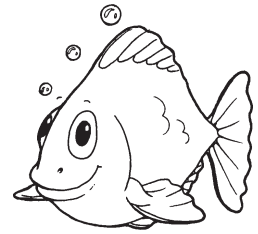
3.


Put your own digits and signs here to make some problems.

NAME: \_\_\_\_\_



# Change A Fish Shape



- You will need 8 toothpicks.
- Make this shape.



This fish is swimming left.

Make it into a fish swimming right by moving only 3 toothpicks.  
Draw this fish in the box.

1. Can you make it swim towards the top of the page?

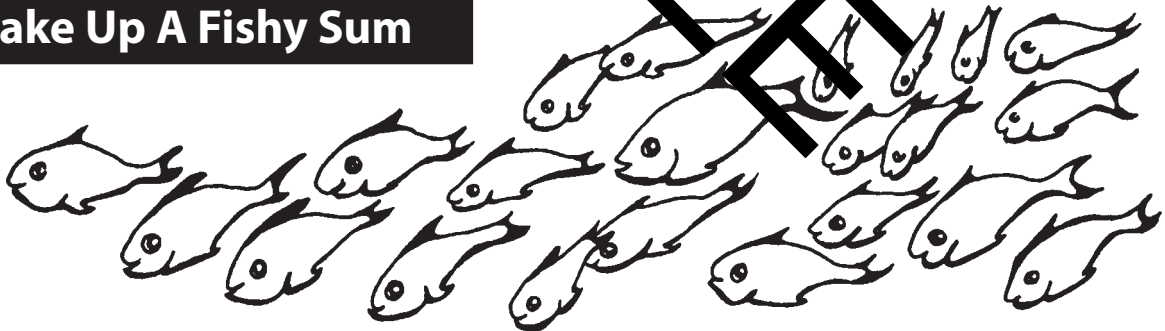
How many toothpicks did you move? \_\_\_\_\_

2. Now make it swim towards the bottom of the page.

How many toothpicks did you move? \_\_\_\_\_



## Make Up A Fishy Sum



Fish travel in schools made up of large numbers of fish of the same sort swimming close together for safety. The number of fish in this school is 100. Can you think of a problem which has 100 as the answer?

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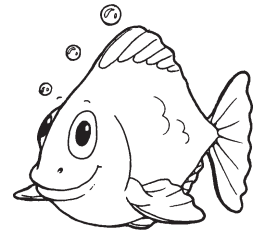
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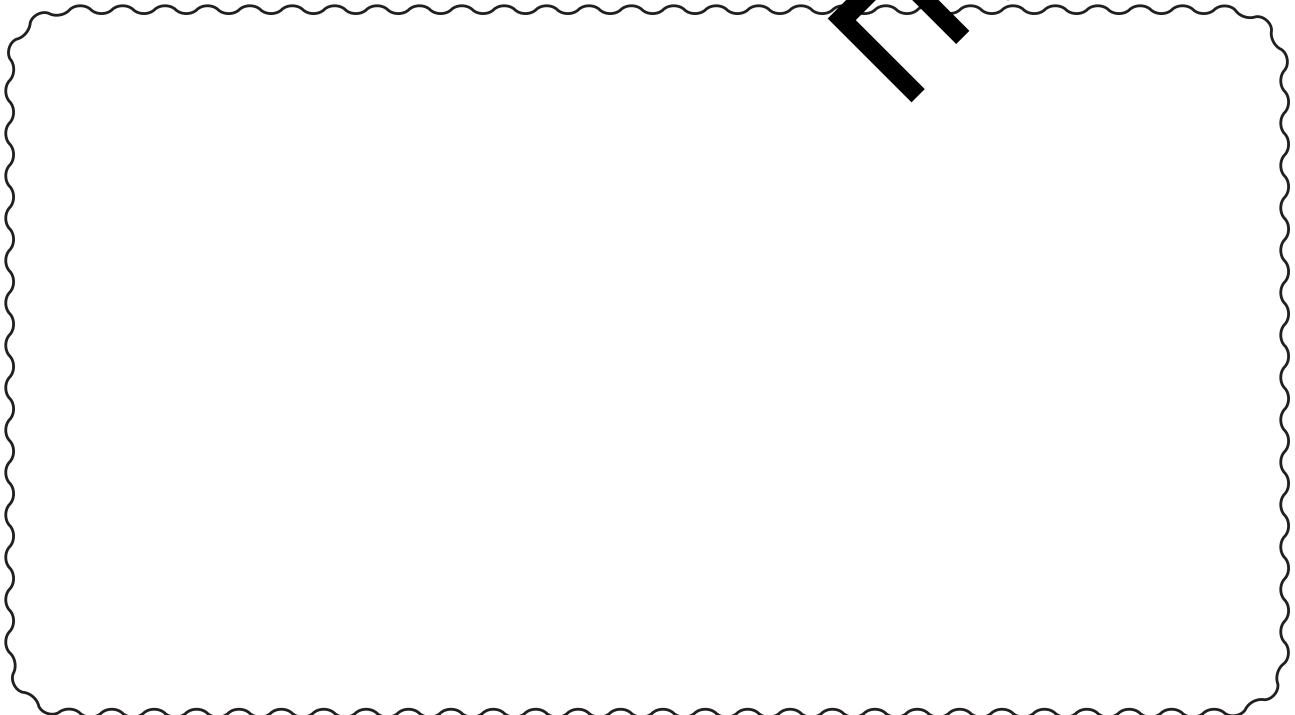
# Underwater Trail



- Start at the starfish numbered 1. The answer for each problem will give you the number of the next sea object in the trail. Draw the trail as you go i.e. No. 1's problem is  $1 + 3 = 4$ . The next sea-creature in the trail is the one numbered 4.



- Make up your own trail. Draw an underwater picture. Make up some problems which give clues to find the next problem. Try it out on your friends.



# TEACHING POINTS: Tangrams

## ◆ *Relevant Mathematical Concepts:*

Shape and space concepts.

## ◆ *Skills Appropriate to the Page:*

It would be helpful if children have previously had some experience with tangrams so they could move straight onto the activity with little instruction. However, careful explanation will be required if this experience is missing.

## ◆ *Suggestions for Use:*

1. Provide materials for constructing tangram shapes - scissors, card, glue, coloured pens and pencils.
2. When sets of shapes are completed encourage free play to see the various shapes children can create.
3. Direct children towards constructing fish shapes as indicated.

## ◆ *About Tangrams*

Like building blocks, tangrams can teach students about spatial relationships. They may help them learn geometric terms, and develop stronger problem solving abilities. They might even help children perform better on tests of basic arithmetic.

### **But what is a tangram?**

Invented in China approximately 1,200 years ago, a tangram is a two-dimensional re-arrangement puzzle created by cutting a square into seven pieces -- seven geometric shapes called "tans".

What are the seven shapes in a tangram? Each tangram puzzle contains the following:

2 large right triangles	1 medium-sized right triangle	2 small right triangles
1 small square	1 parallelogram	

Arranged correctly, these tangram shapes can be fitted together as a large square, rectangle, or triangle. They can also be arranged in a variety of complex shapes, including fanciful ones (like the fish you are asking the children to create).

There are many ways to play with tangrams. The simplest way is to let kids create their own complex shapes. But traditionally, tangrams are treated as puzzles.

The player is shown a target shape in outline, so that the "seams" between the composite tans are concealed. Then the player attempts to recreate the shape using the seven pieces.

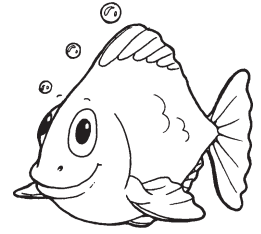
In essence, it's an exercise similar to structured block play, where the challenge is to create an exact copy of a structure depicted in a diagram. But there's a key difference.

In structured block play, the diagram provides you with explicit, visual information about where each piece goes. In a tangram puzzle, you're left to figure that out for yourself.

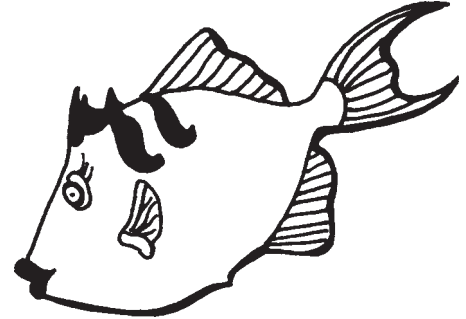
**The tangram rules are that you must use all seven shapes ('tans'); they must all touch; and they are not to overlap.**

NAME: \_\_\_\_\_

# A Number Maze



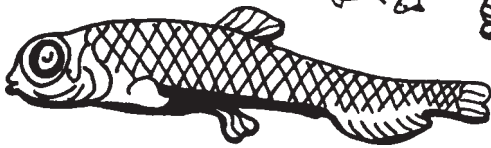
- Find a path from each fish to its lunch. The path might travel across, down or diagonally and must total 8.



Start here:

3	7	
2	2	8
1	1	1

Lunch



Start here:

1	3	2
2	5	1
3	0	1

Lunch



Start here:

2	3	6
5	2	1
1	2	2

Lunch



Now make up one of your own to total 8.


Lunch





# TEACHING POINTS: Odds and Evens

◆ **Relevant Mathematical Concepts:**

Counting or whole numbers can be expressed as either odd numbers or even numbers.

◆ **Skills Appropriate to the Page:**

A understanding that even numbers are those that are divisible by 2 while odd numbers are not divisible by 2.

◆ **Suggestions for Use:**

1. Children will be aware of the difference between odd and even numbers, but may need assistance in stating the required rule for knowing an even number. (An even number is a number that can be divided into two equal groups.)
2. The chart at the base of the page extends the idea so that children can readily see what the sum will be of any combination of odd or even numbers.

## ANSWER/S

- ◆ Write a rule for knowing an even number.

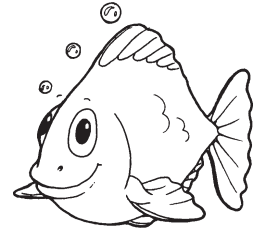
An even number is able to be divided by 2.

+	E	O
E	<b>E</b>	<b>O</b>
O	<b>O</b>	<b>E</b>

SAMPLE

NAME: \_\_\_\_\_

# Seaweed Sums



- ◆ Make up some seaweed sums.  
Each circle must have a number and each line of seaweed must be added to equal the answer at the end.

## EXAMPLE

15

10

12

16

13

18