Peak School

Number Knowledge – Year 5 & 6

Helping your child recall basic number facts quickly and accurately

September 2015

Introduction

At Peak School we are looking to develop three key areas that all strong mathematicians should have. The first key area, and the area this booklet focuses, is number knowledge (mental maths). The second key area is developing a range of strategies to complete a number challenge and the third key area is problem solving. This booklet focuses on number knowledge as it is the foundation that the other two key areas work from. Without a solid base the children will struggle in the other areas.

Developing a love of Maths

Before we go into more detail regarding some of the activities and/or games you can play with your child it is important to think about what message you give your children regarding maths.

If you say to your child that you don't like maths or that you find it hard, it is likely your child will feel the same way. Get excited about maths, by all means talk about how much of a challenge it can be but by showing enthusiasm for learning new things is developing a growth mindset.

If you show stress and frustration when working with numbers then your children will sense this and likely develop the same attitudes. Research has shown that the way we model our interaction with maths has a massive bearing on how confident our children are in this area.

Number Knowledge

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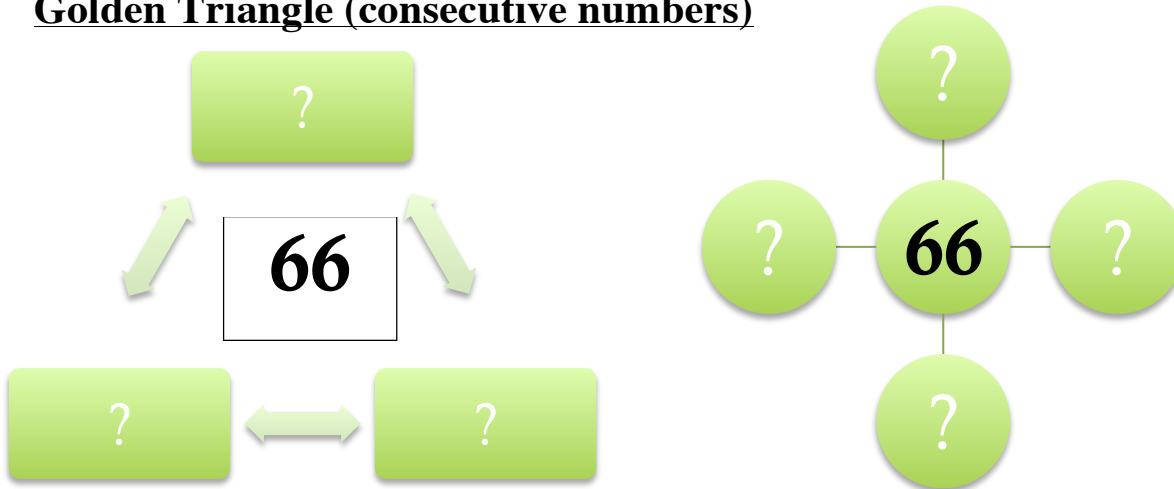
Practical Examples

The following two pages talk about activities or games you can play with your child to develop their number knowledge.

Golden Triangle (consecutive numbers)

?

66

?   ?

?

66

?

?

?

In this activity the child has to work out what the 3 (or 4) consecutive numbers are that make the total in the middle. Start with the triangle on the left and use numbers the children are confident with. To warm up you can provide the 3 consecutive numbers and then get your child to add them up to write the number in the middle. Variations to make it harder include using a larger number in the middle or using the format on the right where 4 numbers are required. An extension activity is come up with a number that works in both the triangle (diagram on the left) and in the one that requires 4 numbers (diagram on the right) – as per the example above. This is quite complex and not all children will be able to do this initially.

3 or 4 in a Row – Multiplication Card Game

See separate sheet at back of this booklet for game card.

Using playing cards from Ace to Queen's shuffle the deck and draw two cards at a time. Player 1 will draw two cards e.g. 7 and 9. They then have to times the two numbers together to get 63. If available, player 1 can cover that number on the board. If that number is not available the player must pass. It is the first player to get either 3 or 4 (it is up to the players) in a row (horizontal or vertical). Your child may need support to work out some of the answers.

Target Number

Players: 2 - 4

Materials: Deck of cards

Knowledge: Mental addition, subtraction, multiplication and division facts

How to Play:
- The aim of the game is to be the first player to have the target number. The target number can be calculated using multiplication, division, addition and subtraction. All 3 cards must be used in calculating the number.
- An ace is worth 1 and picture cards are worth 10 (no Jokers)
- A dealer deals 3 cards to each player
- Before each player looks at their cards, the player left of the dealer chooses a 2 digit 'target number'. For example, 99.
- The person to the left of the dealer goes first and if they do not have the target number straight away the can take a card from the remaining deck. As they now have 4 cards in their hand, they must put one facing down.
- The next person can either take the card which has been placed face up from the previous player or they can take a card from the deck.
- The game continues until a person creates the target number. For example (10 x 10) - 1

Flipper

Players: 2 - 4

Materials: Deck of cards

Knowledge: Mental addition facts

How to Play:
- An ace is worth 1 and picture cards are worth 10 (no Jokers)
- Players take it in turns to continually add the cards. Player One goes first while the other players time them
- The first player continously mentally adds for one minute. For example,

1 + 2 = 3 + 10 = 17 + 8 = 25 etc

- When the time is up, Player One is told to stop. They must tell the other players their total.
- The other players then check the score.
- Repeat this for the other players in the game.
- The player with the highest total is the winner! However, it is important to praise accurate calculations, not matter how big the total.