Quick Questions

Overview

Quick Questions' describes a simple activity type that can be used for students to practise and revise a wide range of 'in the head' skills. 'Quick Questions' are short sets of questions, displayed in large print on pieces of paper or card. They are shown one by one to students to encourage them to use short 'in the head' calculations rather than formal pen and paper methods.

They are particularly effective for:
- Recall of number facts & tables
- Practising shortcut or 'in the head' skills
- Revising 'in the head' skills from prior sessions
- Creating a focused start to a session
- Changing energy mid session

Skills and Knowledge

Recall of multiplication tables

Recall of essential addition facts

Converting measurements

In the head calculations, including:
- Quick addition & subtraction
- Multiplying by 10, 100, 1000
- Dividing by 10, 100, 1000
- Halving & doubling
- Multiplying & dividing by 4
- Finding ½, ¼ or 1/10 of a number
- Percentages using these methods

Preparation and Materials

Create a set of 5 questions (of gradually increasing difficulty) applicable to your class and the current topic.

Cut sheets of A4 paper in 2 or 3 pieces (1 sided scrap paper is ideal).

Number the pieces 1 – 5 in small print.

Use a texta to write one question in large print on each card.

Suggested Procedure

It is good to introduce this method early in the course as one of the techniques you will use regularly. It can then be used to practise skills as they are taught and keep them alive through revision at intervals throughout.

Explain:
- *For these questions you only need a pen and paper*
- *Put away your calculators or phones for a while*
- *I will show you one question at a time*
- *I want you to try and work it out in your head*
- *Just write down the answer – not a lot of working out*
- *The only real rule is that you can't use formal school methods to do it*
- *I won't go too fast but I'd like you to do these as quickly as you can.*

When you have displayed one set of questions, work through the answers on the board.

Emphasise the in the head methods that students used to do them.

Focus on improvement and points of continuing difficulty with questions such as:

- *Do you think you are getting better at these?*
- *Do you want more practice?*
- *Which of them did you find difficult?*
- *Why was that harder than the others?*

Acknowledge improvement in individuals and encourage students to compete against themselves to try and improve their own scores.

If any students are not improving, try to find out their sticking points or difficulties, and provide some extra activities or exercises that may help them practise the necessary skills.

Activity Sheet 1 contains a sample set of Quick Questions to indicate what the sets would look like in practice.

Activity Sheet 2 contains sets of sample questions, These are only an indication of how this method can be used for a variety of skills. It is recommended that you develop your own sets of questions to suit the needs of your class.

It takes only a few minutes to prepare a set before going into class.

For teaching purposes you may wish to use more than one set of questions. (E.g. division by 10 and halving, prior to teaching 5% shortcuts.) However, to maintain students' focus and attention, it is better if these are done in batches of 5, rather than reviewing the answers to 10 questions at one time.

A Single Number Set Variation

Some teachers have a single set of pre-prepared 'Quick Question' numbers in their box of teaching tricks. These numbers, on cards, rather than scrap paper, can be used many times over, using different operations each time. For example:

A set of numbers between 0 and 99, such as: *7; 15; 26; 42; 73*
Used to practise: *+10; +9; -10; double; halve; x10 or find 'how much more makes 100?'*

For example, explain:

- *I want you to add 10 to all of these numbers*

A larger set of numbers like: *72; 108; 124; 240; 820*
Used to practise: *doubling; halving; halving then halving again (÷4); x10; ÷10; 10%*

Some teachers also find it effective to hold up these number cards and go progressively around the room asking individual students to answer. This further encourages quick 'in the head' responses rather than reliance on pencil and paper.

Activity Sheets 3 & 4 contain the two sets of numbers described above to get you started. However, it is recommended that you develop your own numbers sets to suit the needs of your class.

Sample Quick Questions

Note this is a sample set only. It is designed for students learning to find 1/10 or 10% using short cut techniques.

✂ Copy onto A4 paper and cut.

1

10% of $70

2

10% of $250

3

10% of $400

4

10% of $3,000

5

10% of $5,060

Sample Quick Questions

These sets of possible Quick Questions are examples of how quick questions may be used at a number of levels and for a number of skills. They are provided as models only. It is best to create your own according to the needs of your students.

Skill practised or revised	Example Quick Question Set	Skill practised or revised	Example Quick Question Set
Multiplication tables	1. 5 x 9 2. 6 x 8 3. 7 x 0 4. 4 x 9 5. 8 x 7	Halving = 50%	1. ½ of 16 2. ½ of 24 3. ½ of 68 4. 50% of 36 5. 50% of 56
Adding 9	1. 11 + 9 2. 34 + 9 3. 58 + 9 4. 72 + 9 5. 105 + 9	Halving twice = ÷4 = ¼ of .. = 25%	1. 84 ÷ 4 2. ¼ of 100 3. ¼ of 28 4. 25% of 124 5. 25% of 840
Subtracting 9	1. 45 – 9 2. 23 – 9 3. 72 – 9 4. 104 – 9 5. 235 – 9	Dividing by 10 = 1/10 = 10%	1. $50 ÷ 10 2. 10% of $600 3. $7,000 ÷ 10 4. 10% of $640 5. $9,050 ÷ 10
In the head money calculations	1. 4 x 99 cents 2. 2 x $1.99 3. 3 x $2.99 4. 2 x $3.95 5. 5 x $3.98	Shortcut percentages	1. 10% of $900 2. 20% of $900 3. 20% of $600 4. 30% of $800 5. 40% of $500
Multiplying by 10 & 100	1. 3 x 10 2. 5 x 100 3. 11 x 100 4. 200 x 10 5. 305 x 10	Shortcut percentages	1. 10% of $300 2. 20% of $300 3. 10% of $800 4. 5% of $800 5. 15% of $800

Single Number Set Variation

Note: This is a sample set only. It is designed for students practising a variety of number skills such as: +10; +9; -10; double; halve; x10 or 'find how much more makes 100?'

✂ To use this set, photocopy on to card and cut.

1.

7

2.

15

3.

26

4.

42

5.

73

Note: This is a sample set only. It is designed for students practising a variety of number skills such as doubling; halving; halving then halving again (÷4); x10; ÷10; 10%.

✂ To use this set, photocopy on to card and cut.

1.

72

2.

108

3.

124

4.

240

5.

820