

Talking About Numbers

Overview

This activity is a game in which players practise listening to and understanding mathematical language.

Although competitive, winning is based purely on chance, not on mathematical skills.

It could be used as a way of checking students' knowledge of language related numbers & operations. For beginners it could follow preliminary discussion of names for operations, for example, using the activity *Keywords for Calculations*. It is a complementary activity to *What's the Secret Number?* Cooperative Logic's Activity.

Skills and Knowledge

Language of numbers and operations, such as:

- Odd/even
- Multiply/divide
- Sum/difference
- Greater/less than
- 'Digit'

Preparation and Materials

Photocopy Activity Sheets 1 & 2 (1 per student)

Suggested Procedure

Introducing the activity

Depending on students' level of English you can decide whether you think it appropriate to introduce the term 'digit' to students.

If so, before starting the game introduce it as: a single figure from 0 – 9 that is part of a number. For instance 348 is made of the three digits 3, 4, and 8. The same digits, if arranged differently, would create different numbers, such as, 483 or 834.

When reading out the questions below, decide whether you want to substitute 'digit' for 'number' when it appears.

Explain:

- *This is a game that encourages you to listen to language of numbers and calculation*
- *Whether you win or not depends on luck.*

- *Think of two numbers between 0 and 9 and write them next to each other.*
- *This makes a two-digit number.*
- *For example, if you wrote 3, 7, your number is 37.*

- *I am now going to read some questions.*
- *The winner is the player with the most 'yes' answers.*



Read the questions below aloud, one at a time. Repeat if students need to hear the question again.

1. *Is the first number even?*
2. *Is the second number odd?*
3. *Is the first number bigger than the second number?*
4. *Do the two numbers add up to more than 7?*
5. *When you multiply the numbers is the answer an even number?*
6. *When you multiply the two numbers is the answer more than 20?*
7. *Is the sum of the digits odd?*
8. *Is the sum, or total, of the numbers less than 15?*
9. *When you multiply the numbers is the answer less than 30?*
10. *Is the difference between the numbers 3 or more?*

When all questions have been read out, ask players to count their 'yes' answers.

After students have counted their 'yes' answers go over the questions one by one to clarify meaning. Give students a chance to ask about their own initial responses and change them if necessary.

To encourage greater use of the language it would be a good idea for students to work in pairs and to check responses with one-another before you go over the questions.

Activity Sheet 2 provides another example of the game. It could be used now or at the beginning of another session.

Extension

Distribute Activity Sheet, *Talking Numbers 1*.

Ask:

- *Can you find a number that would give 'yes' to all 10 questions?*

Ask students to work in pairs and to think of a number and create a set of at least 5 questions that would be true for their number. The number of 'yes' answers needed to win can be varied to emphasise that this game depends on luck.



To start choose a number made of two digits.

Questions
1. Is the first digit even?
2. Is the second digit odd?
3. Is the first digit bigger than the second digit?
4. Do the two digits add up to more than 7?
5. When you multiply the digits is the answer an even number?
6. When you multiply the two digits is the answer more than 20?
7. Is the sum of the digits odd?
8. Is the sum of the digits less than 15?
9. When you multiply the digits is the product less than 30?
10. Is the difference between the digits 3 or more?

Can you find the two digit number that will give 'yes' to all of these questions?



To start choose a number made of two digits.

Questions
1. Is the first digit even?
2. Is the second digit odd?
3. Is the first digit less than the second digit?
4. Do the two digits add up to more than 8?
5. Is the difference between the digits greater than 4?
6. Is the second digit greater than double the first digit?
7. When you multiply the numbers is the product even?
8. Is the total of the two digits odd?
9. When you multiply the digits is the product less than 20?
10. Is the difference between the digits less than 6?

Can you find the two digit number that will give 'yes' to all of these questions?

