# INVEST IN SOCCER?

**START**

Click **here** or visit https://vis.csh.ac.at/sports-viz/. Now click on "Tutorial" and watch the video.

Which Austrian **village** is mentioned in it?

How many children play soccer in **Völkermarkt**?

Hint: You have to add three numbers:

_____ + _____ + _____ ≈ _____ children

After viewing the video look at the legend.

The greener an area is, the ...

In which **state** is this place located?

**How** are soccer clubs represented?

Soccer clubs are represented as _____, which have the following colors:

Where in Austria do you find **few** soccer clubs?

What could be an **explanation**?

Name three clubs in Tyrol and Vorarlberg marked dark orange or red:

_____

_____

_____

How much money does **FC Gleisdorf 09** have at its disposal?
(this is as accurate an estimate as possible based on data provided).

What percentage of that comes from sponsors?

What other **financial resources** are available to FC Gleisdorf 09?

## FACT CHECK:

Visit the official website of this club.

What does U11 mean?
_____
The website shows ___ children playing on the club's U11 team.
According to the interactive Austria map, _____ children in the club are 10 years old.

Do these two numbers match? _____

All the results you've explored here are created using a mathematical model. Find out: What is a **mathematical model**?

If the numbers above don't match, what could be the reason?
_____
_____
_____

How many **children** play soccer for FC Gleisdorf 09?

How many of them are **12 years or older**?

Would you invest 1,000 Euro in FC Gleisdorf 09? Give reasons.

How many new children would join the club as a result?

Now select a club of your choice.

Club name: _____
Number of children: _____
Budget: _____
An investment of 1,000 euros would allow _____ new children to join the club.

Suppose you want to invest 1,000 euros in a soccer club. Would you give your money to a **small** or a **big** club?

Give a reason for your answer:

I would invest in a _____ club, because...

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SOLUTION

**PAGE ONE**

**| 1 |** Pasching

**| 2 |** Upper Austria (in German: Oberösterreich)

**| 3 |** 26.62 (in Völkermarkt-Nordwest) + 27.99 (Völkermarkt-Ost) + 11.58 (Völkermarkt Südwest) = 66.19 --> around 66 children; *Suggestion: Discuss with the children why decimal numbers can occur here (see question 13).*

**| 4 |** The greener a district is, the more kids play soccer in that district.

**| 5 |** Dots; yellow, orange, and red

**| 6 |** Individual answer – e.g., there are comparatively few soccer clubs in the south of Upper Austria and Lower Austria, for example, as well as in the northwest of Styria or in East Tyrol. Where population density is low, i.e., where fewer people live, there are also fewer soccer clubs.

**| 7 |** Tyrol: ESV Hatting-Pettnau, FC Flaurling/Polling; Vorarlberg: SC Mühlebach, FC Eintracht Bremenmahd

**| 8 |** 484,125 Euros; 50.7%

**| 9 |** Club activity, public money, football association, other

**PAGE TWO**

**| 10 |** 236 children; 22 + 22 + 69 + 23 = 136 children

**| 11 |** Individual answer (e.g., I would rather not invest my money in FC Gleisdorf 09, because with 1,000 Euros only 0.07 new children join the club).

**| 12 |** Individual answer

**| 13 |** "under 11 years old"; individual responses

A mathematical model aims to describe real-world problems with formulas, functions, and other mathematical tools. This simplified image of reality can then be investigated. It is thus possible to include important aspects for a particular question but omit irrelevant aspects. This is particularly important when real processes are so complex that they cannot be described in their entirety. Mathematics can therefore help to answer complex questions from the real world with the help of models. But how good a model is always depends on whether there is enough good data – for example, whether soccer clubs disclose how much money they have available.

**Possible reasons:** The data available for the model was incomplete; the data in the model is from a previous year; there are match pools in clubs that the model did not recognize...

**| 14 |** To a small club

**| 15 |** Smaller clubs manage to attract more new children with the same level of investment.