**Activity Worksheet**

The Book of Sand

Let us consider that the sand book has the following properties:

* Each sheet has a sheet immediately before it and one immediately after it.
* Given two book sheets, one can always get from one to the other by turning pages.

**Activity 1**

Let us consider the sheets of the Book of Sand as if they were numbers so that:

* Each sheet corresponds to a different number.
* If one sheet is before another, a smaller number corresponds to it.

Is it possible to do this using **natural numbers**? Justify.

**Actividad 2**

As in the previous activity, let us consider the pages of the Book of Sand as if they were numbers so that:

* Each sheet corresponds to a different number.
* If one leaf is before another, a smaller number corresponds to it.

Is it possible to do this using **integer numbers**? Justify.

**Activity 3**

Let us now think of an imaginary book in which all its pages can be labeled in the following way:

* We open this book on any page, and we assign it 1, to the previous one the number , to the one before that the number , and so on.
* With this procedure, we label only the sheet we chose and the previous ones. Later, we will see how to label the subsequent sheets.

Answer the following questions:

1. How many sheets are there between the sheet labeled with the number and the sheet labeled with the number , both included?
2. If , both natural numbers, which sheet comes before, the one labeled or the one labeled ?
3. Does this book have a first sheet?
4. If we label the front cover, what number would be appropriate to assign it?

**Activity 4**

Let us continue labeling the sheets of the book from the previous activity as follows:

To the sheet following the one that we labeled with 1, we give the number , which is followed by , that is , which is followed by , that is , and so on.

Answer the following questions:

1. If we count 10 sheets starting from the one labeled with the number 1, what label does that sheet have?
2. How many sheets are there between the sheet labeled and the sheet labeled , including both?
3. Does this book have a last sheet?
4. If we label the back cover, what number would be appropriate to assign it?