In the excel file you can find a table with tinkering materials and tinkerability criteria. The table started out as a 5x5 table. At the next session this table was extended to a 9x9 table. On the rows I have the following Tinkering materials:

Arduino kit, Cardboard, Knex, Lego (classic), Lego (duplo), Makedo, 'Nuts, bolts, and screws', Raspberry Pi, Wood

And on the columns, I have the following tinkerability criteria:

Composability, Decomposability, Deformability, Durability, Ease of use, High ceiling, Interoperability, Preciousness, Price

In the excel document the tinkerability criteria are worked out in more detail such that it is clearer what the materials are graded on. For the grading, I color-coded the fields from red, to orange, to yellow, to green. A red field corresponds to a criteria that is not applicable to the material at all. Equivalently a green field indicates that a material fits the criteria. All fields have an explanation that explains the color of the cell. The whole combined table gives a great view of the affordability of each material (when graded on these criteria).

The American psychologist James J. Gibson defined the term affordance in his book in 1979 as: "*The Ecological Approach to Visual Perception*" [1] as "The *affordances* of the environment are what it *offers* the animal, what it *provides* or *furnishes*, either for good or ill. ... It implies the complementarity of the animal and the environment."

About ten years later in 1988 Donald Norman gave affordance a definition in the context of Human-Computer Interaction as: "those action possibilities that are readily perceivable by an actor" [2]. Later in 2013, Norman added the concept of "signifiers". He explained that affordance refers to what actions are possible and signifiers communicate where the action should take place. [3]

In my own words the affordance of an object is the qualities of an object that define how it can or should be used. The criteria in the table give a nice overview of how a certain tinkerable material can or should be used.

References:

1. J. J. Gibson (1979). 'The Theory of Affordances'. The Ecological Approach to Visual Perception. Houghton Mifflin Harcourt (HMH), Boston. p. 127.
2. Donald Norman, The Design of Everyday Things, ISBN 0-465-06710-7, originally published under the title The Psychology of Everyday Things (often abbreviated to POET)
3. Norman, Donald (2013). The Design of Everyday Things: Revised and Expanded Edition (2nd ed.). Basic Books. ISBN 978-0465050659.