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| --- | --- | --- | --- | --- | --- |
| Material | Floor (how easy is it to get started) | Ceiling (how close to real world applications can you get) | Affordability (How much is possible) | Cost (how much does it cost) | Reusability |
| LEGO | 5/5  Bricks are made to snap together in a clear way, which is made clear in the design. Also everyone has seen LEGO’s before | 2/5  Depending on types of LEGO, motors and other elements can be attached. However I would not make a final product from LEGO’s | 3/5  Easy to make stationary models, hard to make moving thinks without proper bricks | 1/5  LEGO is very expensive | 4/5  I still have a big box of LEGO’s from when i was a kid. These have not degraded in value at all. It does take some effort to take everything apart |
| Makedo cardboard screws | 4/5  The screws are pretty self explanatory, but it takes some skill to make nice stuff | 2/5  Cardboard is not very durable and cannot get wet. | 3/5  It is hard to add on features (like a motor) to cardboard without glue, though with split pins this works well. | 5/5  Cardboard is practically free, and the screws are made of plastic | 4/5  It takes some time to get the screws out of the cardboard, but they do not lose value |
| Arduino starter kit | 1/5  Arduino’s can be very overwhelming without proper guidance. You need to know some programming | 5/5  Some real world applications might use Arduino’s | 5/5  If you can think of a mechanism, you can probably actuate it using an Arduino | 2/5  Electrical components and CPU’s can be very expensive. | 2/5  Once you have an Arduino, you can reuse it. You cannot use it for two things at once easily though. |
| LittleBits | 2/5  Slapping components together can be intuitive, but the individual components can be complex. | 3/5  The modular structure will make the final product very big, and the chain of connections can be broken at any point | 4/5  There are a lot of LittleBits parts. If you have the right parts, a lot is possible. | 2/5  There are a lot of different parts, meaning you might have to buy a lot of them. | 5/5  LittleBits are easily taken apart and reused. They do not lose value over time |
| K’NEX | 5/5  Just like with LEGO’s, the components snap together in defined ways. The design makes this very clear | 2/5  KNEX is not very durable and can de-attach under force. Motors can be attached for cool creations though | 3/5  There are a lot of K’NEX compatible materials, which have different features. Also you can easily make very big things with K’NEX | 2/5  K’NEX is not very cheap | 4/5  K’NEX does not degrade in value, but it takes some time to take it apart |
| 3d printer | 2/5  3d modelling programs can be complicated to understand, and the same can be said for the 3d printing software | 5/5  Some real world applications might use 3d printed components or are fully 3d printed | 5/5  If you can make it in a 3d modelling program, you can 3d print it! | 3/5  Once you have the 3d printer, it is very cheap. The printer does cost some money though | 3/5  The printer itself is easily reusable, but the printed parts usually go into the plastic waste bin. |
| Glue | 5/5  You put it in between surfaces, and they stick together. Pretty simple | 5/5  Glue is used in some real world applications | 3/5  You need materials to glue together. Once glued, you cannot take it apart | 5/5  Glue is very cheap | 1/5  Once the glue has been glued, you cannot reuse it |