

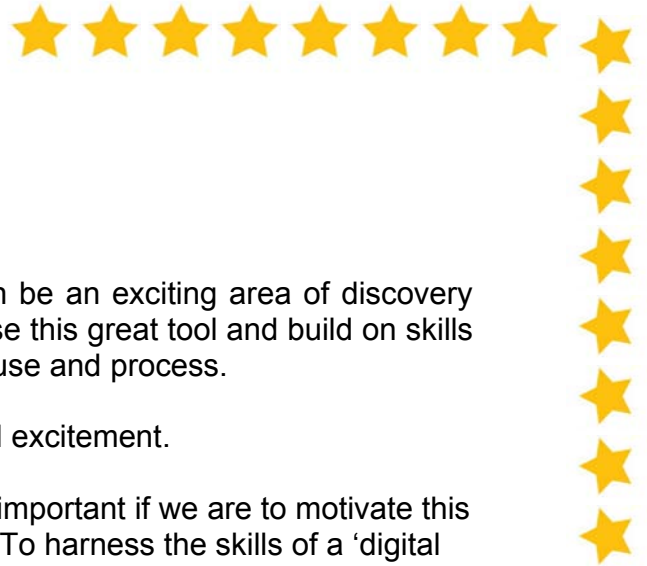


# Lego

A Cyber Mentor TIP

Today's kids are digital. There's no doubt about it....they use digital tools and toys to communicate, to create and invent and to get things done. There's also clear evidence that they learn in different ways - ways that are best harnessed by the fast moving and multifaceted nature of technology.

Let's work with this and get them doing stuff that enhances their learning in other areas at the same time.



## Lego

The use of lego by Junior School children can be an exciting area of discovery and development. Work with your child to utilise this great tool and build on skills related to design, engineering and technology use and process.

Use these activities to harness this interest and excitement.

The use of computers and their applications is important if we are to motivate this generation of children to perform at their best. To harness the skills of a 'digital generation', we need to provide them with activities that enable them to use 'techno tools' – tools that allow for smart publishing, exciting communication, deep research and creative problem solving.

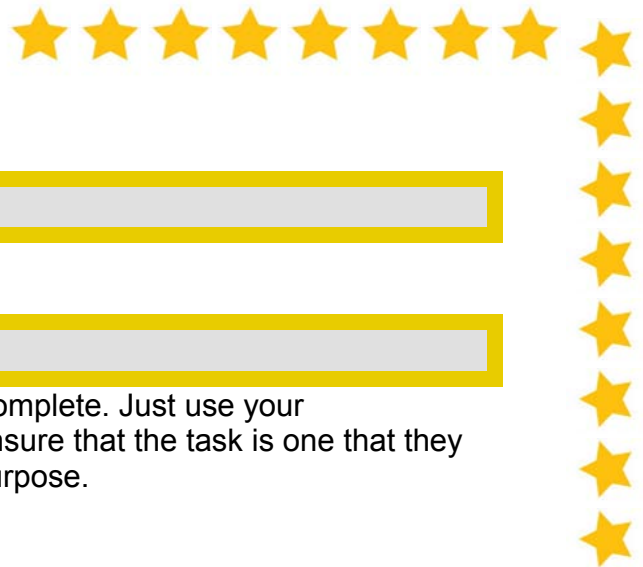
Please note that any word which is marked with an \* has further explanation in the appendix of this document.

### Tips for Using Lego

1. Create lego kits for playing and lego kits for planning and building. Children may work on a model for days or weeks and it would be best if their models weren't taken apart every time playtime occurred.



2. Create some simple tasks for children to complete. eg create a bed that would be good for a baby to sleep in. ....now create one for a child who can walk who wants to be able to get in and out easily.
3. Encourage children to be organized in how they use the lego and how they leave it. Assist them to get into good habits with tidying up their lego kits.



**Links:**

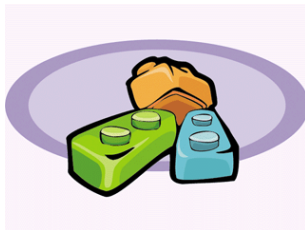
### **Good Design Activities**

There are a variety of tasks that children can complete. Just use your imagination, link to the child's real world and ensure that the task is one that they can modify and redesign to best suit a given purpose.

Try:

- Design chairs that would hold baby bear, mother bear and father bear.
- Design a chair that you don't think would break if Goldilocks bounced up and down on it.
- Design a car that will carry 2 people/3 people.
- Design a car that would be able to drive safely through flooded roads

### **Design Task - A Lego Model**



**Task – the child is to design and create a small lego model. Upon completion, the child will then design and create the packaging for the model. An advertising campaign with accompanying materials can also be investigated for those who would like to take this task further.**

#### **Stage One – Planning using drawing software**

*Software – Kidpix (or similar drawing and painting software)\**

The child should spend some time with pencil and paper trying out ideas and drawing their design. Kidpix (or similar) should then be used to complete a design draft.

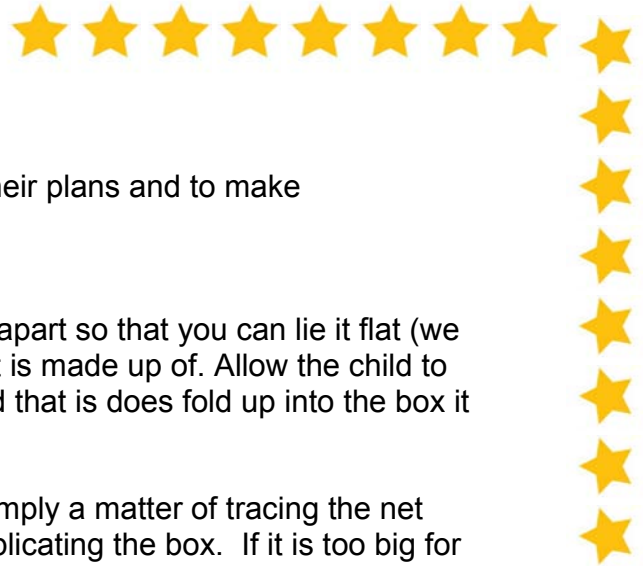
#### **Stage Two – Planning using CAD software**

*Software – Block CAD*

*Download for free from <http://web.telia.com/~u16122508/proglego.htm>*

The child should use this freeware to complete a 3D plan of their model.

Save this model.



### **Stage Three – Building the Model**

Child should be encouraged to modify their plans and to make improvements to the model as they go.

### **Stage Four – Packaging the Model**

Use another lego model box and take it apart so that you can lie it flat (we call this the 'net'.) Examine the shapes it is made up of. Allow the child to fold it up again so they can be reassured that it does fold up into the box it was before.

If the lego model fits into this box, it is simply a matter of tracing the net onto another piece of cardboard and duplicating the box. If it is too big for this box, you would discuss with your child the sections which would need to be bigger and go about producing a box that would fit the model.

A further extension at this stage would be to work in Microsoft Word to produce the net which could then be printed out.

### **Stage Five – Decorating the packaging**

There are a number of options for this stage.



#### *Skill Level One*

The child would draw their lego model and add the relevant words and information

#### *Skill Level Two*

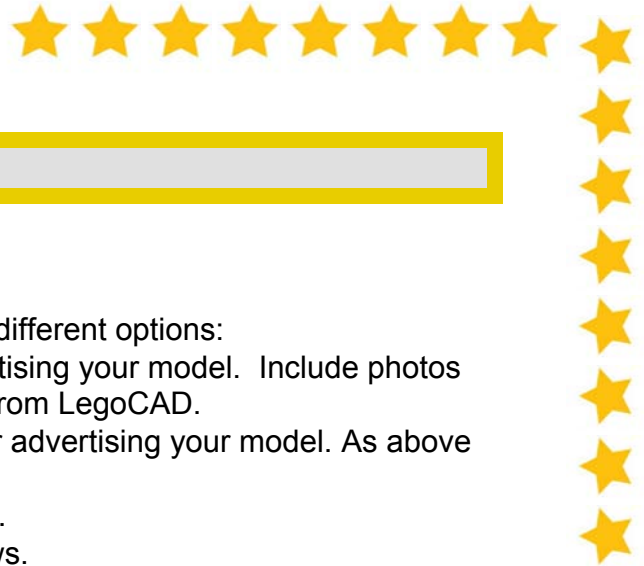
The child would take digital photographs of the model which could then be printed out and stuck to the box.

OR

The child could return to LegoCAD and make any changes necessary to the model. This image could then be exported as a .jpg and printed.

#### *Skill Level Three*

This would follow on from the extension in Stage Four. After completing the model using drawing tools in Microsoft Word, the child would take digital photographs and import them into Word, arranging them appropriately on the box. Text and descriptions would also be added.



## Taking it all Further

### Stage Six – Advertising and Promotion

The child could then choose from a number of different options:

- Create a poster in Microsoft Word advertising your model. Include photos of your model or a picture of the model from LegoCAD.
- Create a brochure in Microsoft Publisher advertising your model. As above for photographs.
- Write a press release for the local paper.
- Record an interview for the local TV news.
- Create a jingle or song about your model.



## Appendix

### KidPix Software

#### Taking It All Further

For students that are particularly inspired by a topic, it is important that ideas are given to them that motivate them to take things even further. Many benefits can result.

Deeper thinking encourages a deeper understanding.

It is also important that these students are encouraged to choose their own method of presentation. This will allow for them to be working in their own learning style. It is useful however, to encourage them to work in other learning styles occasionally, rather than in their preferred one. This will ensure that they are building skills in ways of thinking that might not come naturally to them.