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# Activity Sheet A – Designing a new toy

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- 1.1A** Plan the design of a new toy. Decide on the age range. Think about the materials it might be made from and the components it might have, such as wheels, other moving parts, attachments, chemicals, electrical parts, or stuffing.

The toy I am designing is
It is suitable for age range
The materials I am using are
The components it will have are

- 1.2A** Before any new product is designed it is sensible to look at a copy of the appropriate British Standard. There may be more than one. The British standard for toys is BS EN 71. Now think about safety issues relating to the components identified in 1.1. To help you the following is a guide to the British Standard for toys.

We'll look at it in a little more detail to find out what the safety requirements are for a toy that is to be sold in the European Community:

BS EN 71 is a set of standards written in 8 parts. They are:

**Part 1:**

**Mechanical and physical properties**

*These are the safety rules concerning parts that can be touched to make sure that the toy cannot stab, trap, mangle or choke a child.*

**Part 2:**

**Flammability**

*This part covers toys made from textiles, plastic or wood. If a toy catches fire it should be possible to get away from it before serious injury occurs (i.e. it should have a low rate of flammability)*

**Part 3:**

**Migration of certain elements**

*This means poisons. Limits are set for chemicals such as lead and mercury, which could be dangerous if swallowed or chewed by a child. For example, some paints contain lead but this should not be used on a toy that a baby can chew, as it is a poison.*

**Part 4:**

**Experimental sets for chemistry and related activities**

*The aim is to limit the dangers of using such sets, for example by limiting the amount of certain dangerous chemicals.*

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**Part 5:**

**Chemical toys other than experimental sets**

*This sets the safety standards for chemicals and substances used in toys like painting sets and photographic developing sets.*

**Part 6:**

**Graphical symbols for age warning labelling**

*Specifies the requirements of the symbols used in toys not suitable for children under the age of three.*

**Part 7:**

**Finger paints**

*Specifies requirements for colourants and preservatives, and is concerned with limiting the risks of swallowing paint and of prolonged skin contact with paint.*

**Part 8:**

**Swings, slides and similar activity toys for indoor and outdoor family domestic use**

*This part is concerned with limiting the dangers of protruding parts, limiting heights and ensuring stability, and requires that no part of a child or of a child's clothing can be trapped, It also specifies that the toy or its packaging is clearly labelled "for domestic use" and whether it's for indoor or outdoor use..*

**1.3A** Make a drawing of the toy you have chosen, and label the components and the materials it will be made from.



Make a list of the components and materials and make brief notes on the possible safety hazards of each. Include a minimum of three different components or materials.

State the parts of the standard that apply to each hazard.

Components	Possible Safety Hazards	Part of the standard which applies

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**1.4A** Imagine you are a child who will use the toy. What sorts of things might you want to do to your toy?

List them

Devise three tests that simulate the things a child might try to do to a toy. For further information and examples of tests, look at [www.bsieducation.org](http://www.bsieducation.org)

Test one

Test two

Test three