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ADVISORY ASSISTANCE IN THE PRODUCTION OF PLASTIC TOYS

UC/EGY/88/069

ARAB REPUBLIC OF EGYPT

Terminal report*

Prepared for the Government of the Arab Republic of Egypt
by the United Nations Industrial Development Organization

Based on the work of J.M.I. Sait, W. Hartmann and A. Shelley

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BACKGROUND

The Project essentially aimed at the possibility of utilising the plastic materials being produced in Egypt for the manufacture of toys. Different kinds of toys are at present being imported from the United States, China and the Far East. Two plastic toy factories, one attached to the Imbaba day-care centre and another at Alexandria were being operated under the Ministry of Social Affairs of the Government of Egypt. These factories were originally intended to produce toys needed by the various day-care centres in the country. The factories had become disfunctional to an extent that they were no longer producing toys. The Ministry of Industries was concerned about the import of toys when apparantly good possibilities existed for their local manufacture. In the past a few plastic factories had been producing toys out of imported materials but they discontinued the production because of the expansion in the food, beverage and pharmaceutical industries which provided better profitability and more sound cashflows to the plastic packaging industry. The Ministry was interested to re-establish toy manufacture.

STUDIES BY EXPERTS

In the studies which were carrried out under this Project emphasis was placed on the manufacture of educational toys in preference to the mechanical and other toys which made no significant contribution to the child's education in the formative years of its early life. The studies endeavoured to identify the educational needs of the children from birth to adolesence and to select a range of toys to suit the purpose. The studies asserted the positive role of play as an essential ingredient of the child's development. It was argued that the pre-school children could be prepared adequately through a play environment for the primary schooling. Toys were an inseparable component of play. Dr.W.Hartmann who conducted the detailed analysis of the requirements of play environment and the toys developed a list of toys suitable for different age groups for the development of their gross and fine motor activities and senses of perception and understanding. Ms.A.Shelley further developed the concepts and narrowed down the areas to the essential features of dolls and their relevance to the life and intellectual development of the child. She identified four broad categories of toys, primarily dolls and animal forms. The four categories for which a manufacturing scheme was developed were :

Baby Squeaks,
Vinyl Dolls and Animal forms
Cloth body dolls with hand stiched decoration
Cloth body dolls with vinyl head and limbs and hand stiched decoratiomn

It was necessary that the toy manufacture should initially ensure the supply of required play material to the 222,000 and odd children at the 3,034 day care centres. Integration of Egyptian art into toy designs was considered essential in order to ensure that children are familiarised with their own cultural heritage fairly early in their life and that they feel more at home with the toys reflecting their familiar environment. This Report provides an action programme and frame work for implementation on the basis of the propositions contained in the aforesaid two studies and in the light of the commercial investigations carried out by the author. The findings and recommendations are summarised below.

FINDINGS

1. Barring a few crude forms of toys such as PVC balls and coloured beads no toys are being made in the country. The entire requirement is met by imports.

2. Imported toys are distributed through wholesale and retail dealers. Owing to the very nature of the various kinds of toys and games dealt with by such dealers it was not possible to obtain reliable figures concerning the actual imports overs a period of time.

3. The equipment at both the toy factories under the Ministry of Social Affairs have worn out and were beyond economic repairs. They need to be replaced with a new set of equipment.

4. Major constraints in the development of toy industry, apart from its unattractive character in comparison with packaging industry, were

   (a) non-availability locally of any toy-designs or moulds.
   (b) very high costs of mould making, high rental and insurance charges for moulds which could be hired from abroad and very low mould utilisation possiblity.
   (c) low purchasing power of and very low priority given to toys by the parents in the middle and low income groups of the population and
   (d) budgetory limitations of the Ministry of Social Affairs to purchase its requirements from local manufacturers.

5. Plastics (PVC) currently being produced in Egypt are of pipe grade which is not suitable for good toys. With the planned production of plasticisers by the year 1991 by a plant said to be under erection sufficient quantity of good raw material will be available. Now, therefore, the time is appropriate for the development of industrial projects which could use this material.

6. The Plastic Development Centre in Alexandria has necessary capabilities to undertake an advisary and coordinating function relating to the development and testing of toy designs, mould designs and production methods.

7. The Egyptian Company for Plastics and Electrical industries in Alexandria has sufficient capacity to manufacture moulds and to carry out the required corrections, modifications and repairs. With some assistance the compaany could make moulds for hiring to the local manufacturers.

RECOMMENDATIONS

The following recommendations are made based on the above findings.

1. The problem should be viewed from two different angles.

   (a) Meeting the needs of the children at the day care centres from a non-commercial and social obligation point of view.

   (b) Supporting the private industry to fulfil the demand for toys and gradually to establish a viable and self supporting industry.

2. In order to satisfy the needs of the children at the various day care centres two measures are indicated.

   (a) As a short term measure at least 250,000 pieces of various educational toys of the categories outlined by Dr. Hartmann should be procured for supply to the inmates of the day care centres on a minimum basis of one toy per child. The cost involved would be of the order of one million US dollars.

   (b) As a long term measure new toy making facilities may be established at Imbaba day care centre premises. The proposal enlarged in Chapter 3 of this Report envisages procurement of equipment,

training of designers and operators and also involving the productive mothers in the various developmental and operational functions. The total Project cost is estimated to be around US dollars 974,000 covering :

	US$
Equipment	184,000
On the job training	656,650
Overseas training	46,000
Training of Social workers	87,350

The Project would need approximately 15 months to get established. Operating cost of the factory would be about US$ 390,000 per annum. The factory will produce 1,000 toys per day for 200 days a year.

3. Support to the private industry assumes the form of

   (1) provision of marketable designs
   (2) provision of technical guidance in manufacturing to enable the marginal manufacturer enter toy business
   (3) provision of quality moulds on reasonable rental charges.

4. It is recommended that a Toy Development Centre be established at Alexandria under the umbrella of the Plastic Development Centre. While the Plastic Development Centre can provide technical know-how and production and quality control related assistance, the proposed Toy Development Centre will develop toy designs to suit the national aspirations particularly with a view to merging the cultural aspects with the technical. This centre will also produce mould designs and assist the mould makers in their manufacture.

5. A mould service facility may be established under the Egyptian Company for Plastics and Electrical industries for the manufacture of moulds and making them available to the industry on easy terms of hire or hire-purchase.

6. Establishment of the Toy Development Centre and the strengthening of the Egyptian Company for Plastics and Electrical industries may be brought under a development Project with the following components.

(A) TOY DEVELOPMENT CENTRE	US$
Equipment	36,000
Advisory services	1,080,000
Overseas training	100,000
Total	1,216,000

(B) MOULD SERVICE FACILITY	US$
Equipment	300,000
On the job training	256,000
Total	556,000
Grand Total	1,772,000

7. As a part of the exercise, the economic viability of establishing a small sized toy factory in the private sector with technical assistance from the Toy Development Centre and moulds on hire from the Mould Service Centre at the Egyptian Company for Plastics and Electrical industries was worked out as detailed in Chapter 7. The factory would have necesary equipment to produce 1,000 pcs per day of small toys either fully or partially made of vinyl. The project has the following characteristics, viz:

	LE	US$(equiv.)
Capital Investment	847,300	339,000
Annual Turnover	2,578,000	1,031,000
Net Profit (After taxes, 50%)	188,000	87,000

Profit Margin	7.25 %
Return on Investment	22.10 %
Return on Equity	73.75 %
Internal Rate of Return	33 %
Breakeven point	61 %
Pay back period	7 years

8. If desired, this chapter may be detached and used as an opportunity study for a small scale toy unit.

ACKNOWLEDGEMENTS

The author wishes to place on record his grateful thanks to Mrs. Amal Osman, Minister for Social Affairs and her officers particularly Mrs. Hoda Barakat who provided excellent guidance on the background under which the project was initiated. The work of the experts was considerably smoothened by the active co-operation received from them. Thanks are due to Dr.Engr. Yusef.K.Mazhar, First Under Secretary, Ministry of Industries, Mrs. Fatma M Nazmy and Dr. M.I.Abd el Latif of the General Organisation for Industrialisation, Dr.Hassan Said Mahmoud, General Manager, Plastic Development Centre, Alexandria and his officers for sparing their valuable time for discussions with and providing useful information to the experts. The author also recalls with gratitude the valuable data provided by Mr. Samir.F.el Alaily, Chairman, Egyptian Company for Plastics and Electrical industries, Alexandria and his officers. Mention should be made of the various whole sale and retail dealers of toys and private industrialists who were good enough to spare their valuable time to meet, discuss and provide very valuable information to the experts. As it is not practicable to mention them all by name here, a list of persons who co-operated with the experts is attached as Annex 10 to this Report

1.0 INTRODUCTION

1.1 Background of the Project

The Project had its origin in the discussion between the Director General of UNIDO with H.E. the Prime Minister of Egypt which resulted in an official request by H.E. the Ambassador of Egypt to UNIDO contained in his letter of 2nd February , 1988. The Project was funded and executed by UNIDO through its FEAS and Technical (Chemical) Branches. It was founded on the premise that Egypt has a large plastics transformation industry processing over 200.000 tons of plastics annually. Virtually no plastic toys were being produced in Egypt though, it was thought possible, from the raw material point of view, to produce them domestically. Access to the toys was limited to children in the affluent sections of society who could afford imported toys. Domestically made Toys were recognised as a reliable means to enable the children identify themselves with their own society as such toys would reflect its cultural, religious and national features. Toys also represent a fundamental component of the process of both education and social development of children. It was therefore considered desireable to investigate into the possibilities of locally manufacturing toys with a multi-dimensional education value and using the plastic materials produced in the country.

The Project was approved in May 1988 and was scheduled to start in October 1988 with its completion date targeted for March 1989. The study was organised in three facets

(a) An explorative study by an education expert.

(b) A technical investigation by a toy manufacturing expert.

(c) Economic and financial evaluation and consolidation by an economist.

A copy of the Project Document is attached as Annexure 1.

The first Phase of the study was carried out by Dr. Waltraut Hartmann between 28th January and 14 February, 1989, and her report was submitted on 29 April, 1989. The second phase of the study was done by Ms. Anette Shelley between 13 May, 1989 and 31 May, 89. The study was elaborated by her with the addition of more relevant technical data and reports were submitted on 26 June 1989 and 30 October 1989. The third phase was handled concurrently with the second by Dr. J.M.I. Salt and the report submitted on 30 November, 1989.

1.2 The Social Scenario

One of the basic issues which prompted this study was the need to produce toys reflecting the social, cultural and national traits of Egyptian Society as against those of the foreign countries from where such toys were being imported.

Egypt is an Arab Republic with a democratic socialist system based on the alliance of the working people and derived from the country's historical heritage and the spirit of Islam. Islam is the religion of the state, Arabic its official language and the Islamic code the principal source of legislation. In other words, Egypt has a distinct national character which cannot be identified with the countries which are the main sources of toys now being imported.

The most recent population census in November 1986 showed a total of 50.5 million as against 33.4 million ten years before with a growth rate of 2.8% p.a. The population in 1988 was estimated to be 53 million, to reach 70 million by the end of the century. A high proportion of the population, 35.5%, represented children below twelve years of age; people between 12 and 64 years of age are considered to be 'able to participate in the labour force' indirectly meaning that an average child is deprived of his childhood development at the age of 12 and is required to assist in economic activities. Life expectancy at birth is approximately 58 years.

The total area of Egypt is just under one million sq. kms. of which 35.2 sq. kms. are settled and cultivated and the rest is uninhabited desert. The population density in the inhabited areas is a high 1,381 per sq. km. Greater Cairo's population in 1988 was estimated at over 14.5 million. Slum conditions are multiplying on the outskirts of the large urban centres. The 1986 census showed that 94.12% of the population was Muslim and 5.87% coptic Christian.

Compulsory education starts at the age of six. Six years of primary education is followed by three years of intermediate schooling preceding secondary education. According to 1986 census figures literacy among the population above 10 years of age was 50.6% (male - 62.2% and female 38.2%); many girls did not attend school at all. The 1987/88 - 1991/92 five year plan foresees an expansion of compulsory education for girls to the extent of 95.5%.

The Ministry of Social Affairs runs 3,034 day-care centres in the country. They admit children from the age of 3 months to 6 years. At time of this study there were about 222,000 children in these centres (Annexure 2). They take care of the children while their parents are away at work. The children are engaged in play and learning, the composition being determined by their ages. The experts who visited some of the centres observed that the children were generally found sitting in a circle listening to the teachers telling them stories, the centres had no toys of any particular educational value and that there were no signs of learning by playing. In centres where some toys were found, they were randomly contributed by the parents. However, the experts also observed some privately-run day-care centres which were well provided with toys, educational games and learning materials of costly nature which could be afforded only by the most affluent of the population.

1.3 The Economic Background

Egypt's economy has relied since the 1970s on petroleum sales, remittances from workers abroad, tourism and Suez Canal tolls. Slowing growth rates in the 1980's highlighted the deep structural imbalances in the economy. Foreign investments dropped and general lack of activity put the banks under considerable pressure. But in 1987 there were signs of recovery, as oil revenues increased and tourism improved. Inflation, however, remains a serious problem.

The economy is also affected by the reduction in employment opportunities in other mid eastern countries owing to the lessening of construction activities. In 1987 unemployment level was 9%.

The balance of payments relies heavily on the same resources as mentioned above. Crude oil exports in 1986 - 87 amounted to 30.5% of all exports, cotton yarn 14.2%, raw cotton 11.6, cotton fabrics 2.3% oranges and potatoes 3.4%, engineering products 7.5%. The main imports were food stuffs (24.6% of all imports), transport goods and machinery (23.8%), chemicals, (10.4%), wood and paper products (8.9%) metal products (7.9%), oils and lubricants (5.5%).

Agriculture contributes 16% to GDP and employs around 30% of the work force (1987 estimates). Cultivation is concentrated in the Nile and Delta regions. Less than 5% of total land is arable. Main cash crops are cotton, potatoes, tomatoes, berseem (Egyptian clover), sugarcane and beet. Major subsistence crops are maize, sorghum, rice, wheat, beans and vegetable. Livestock farming and fresh water fishing are also important.

Industry sector contributes about 15% to GDP. A growth rate of 7.3% per annum is planned for 1988-93 period of five years. Emphasis is rapidly shifting from public sector to private sector. More stress is being laid on diversification and import substitution, development of downstream chemicals and heavy industry such as El Dikheila integrated steel work, Helwan iron and steel complex, Nag Hammadi Aluminium plant etc. The new city of Tenth of Ramadhan is being developed as an industrial centre.

Mining in Egypt is a small scale sector activity. Principal items mined are iron ore, phosphate rock, salt, kaolin, clays, limestone and flourspar. There are reserves of coal, chromium, uranium, tantalum and molybdenum.

The oil sector which is the principal source of revenue contributes to 55% foreign exchange earnings and 15% of GDP. In 1987, production of hydrocarbons reached a level of 900,000 b/d while the refining capacity was 330,000 b/d. Domestic consumption is increasing at a faster rate than production. The development of natural gas resources is expected to enable production to meet the country's energy requirements by 1992. Currently operated energy sources are coal-fired. Future program includes construction of hydro-electric, nuclear and gas powered generating stations.

1.4 The Plastic Industry

The consultants visited the Plastic Development Centre and the Egyptian Company for plastics and electrical industries at Alexandria, the Ministry of Industries, National Plastic Company, General Organisation for Industrialisation and Al Sherif Company at Cairo. None of these agencies and establishments were able to provide figures about the actual production of plastics in the country. The only rough indication (available from UNIDO) was that the capacity was around 200,000 tonnes per year. However the figures compiled from a recent (1988) consumption Report produced by the Plastic Development Centre gives some indication as to the size of local production/imports.

According to the information gathered during discussions with the above-mentioned agencies and establishments, the local production is confined to PVC of pipe grade. PVC of this grade consumed in 1988 amounted to 93,535 tonnes. Assuming no substantial exports, the production level can be set at something around 95,000 to 100,000 tonnes.

Other varieties of plastics consumed (out of importation) have been as under (1988 figures provided by Plastic Development Centre).

	Type	Quantity (Tonnes)	Average Price US $	Uses
1.	Low density Polyethylene	32,644	800-1,000	Films, pipes, Blow-moulding, Injection moulding
2.	High Density Polyethylene	17,517	800-1,200	Bottles, packaging Blowmoulding, Extrusion, woven sacks,
3.	Poly propylene	15,762	900-1,000	nets, packaging strips.
4.	High Impact Polystyrene	1,000	1,000-1,300	Extrusion, packaging
5.	Expandable Polystyrene	2,000	About 2,000	Extrusion, Packaging
6.	ABS	425	About 2,000	Household items
7.	Acrylic	350	Not Available	Sheets
8.	Phenolex	100	1,000	Compression moulding
9.	Melamine	180	2,800	- do -
10.	Urea Formaldehyde	100	11,000	Household items
11.	PVC Emulsion	1,800	1,600	Soft mouldings

It was indicated that almost 80% of polyethylene was consumed by packaging industry. Consumption level of phthalic type of plasticisers was of the order of 15,000 tonnes per annum. The entire requirement is now being imported. However plans are underway for the production of 20,000 tpa Phthalicanhydride. A plant is expected to be erected by 1990 and production stabilised by 1992. Present capacity of polyester fibre manufacture in the country is 25,000 tpa which is being expanded to 50,000 tpa.

The plastics industry in Egypt is concentrated in Alexandria and Cairo. It was said that there were about 60 major manufacturing units besides 5 PVC producers viz:

National Plastic and Industrial Chemical Co.

El Shazly Plastic Co.

Cairo Plastic factory

Sharif Trading Co.

Pharoah Company for Plastics.

The majority of the manufacturing units are engaged in food and pharmaceutical packaging industry and a few in small scale blow-moulded household goods or injection moulded accessories. No further details as to their capacities or production levels were readily available.

2.0. SOCIAL AND EDUCATIONAL ASPECTS

2.1 Formal, Informal and Non-formal Education

In many developing countries, the expansion of the formal system of education in the last thirty years is remarkable. At the same time one can observe a critical attitude toward the predominance of formal education. It was realised that developing countries simply could not rely on the formal education models they had been enthusiastically expanding to meet all the diverse and rapidly changing learning needs of their people. One became aware of the fact that in educational planning, one couldn't possibly afford to neglect all learning processes which take place apart from formal education, which is mainly a highly institutionalised, heirarchially structured system, starting with the primary school and ending with the university in contrast to the informal education, "the unorganised and often unsystematic life time process, by which every person acquires and accumulates knowledge, skills, attitudes and insights from daily experiences and exposure to his or her environment - at home, at work, at play, from travel, reading newspapers and books, from the radio, films or television, and so forth. (Coombs, 1984, p51). Non-formal education comprises any organized educational activity outside the established formal system, like adult literacy programs, youth clubs etc. When it became evident that formal education or school education did not necessarily correspond to the individual learning needs of all children in developing countries, a broader view of education as a lifelong process spanning the years from early infancy to late adulthood took place. In other words, activities like play were recognized as learning processes - and non-formal learning processes came to be appreciated by the researchers. Quoting Schotthaler, Dr. Hartmann says "even educational processes which are not sustained by the intentions of identifiable individuals and which are not arranged in experimental settings or are not institutionalised in a clear way are involved 'systematically' in the development of the individual; only the rules to which these educational processes conform have not been investigated particularly well." Gradually it was appreciated that informal learning processes like play can even facilitate cross cultural communication because they are not so strongly influenced by normative rules as are from formal learning processes.

2.2 Characteristics of Learning by Playing

i. Learning by playing is especially effective for children because this is the form of learning they choose on their own. In the play process the child's attention and concentration are higher than in other activities, so they learn more easily and very effectively;

ii. Play situations allow children learn by doing and experience gained by doing are fundamental to the development of cognitive processes. The children are able to express their feelings, wishes, frustrations and problems more easily than in other situations, such as in formal education characterised by fear, anxiety and discipline.

iii. In many play situations children have more freedom and opportunity to fulfill their own needs and desires than in other every-day situations.

iv. Play means fun for children. They like to play - and they gather experiences without knowing that they are learning.

iv. Play means fun for children. They like to play - and they gather experiences without knowing that they are learning.

2.3 Educational Value of Plays, Games and Toys

In the life of every child the first years are of great significance. In those years children show vivid interest in their surroundings and they are eager to learn by all their senses. The arrangement of the child's surroundings to a great extent determines how his abilities, gifts and talents will develop. Children need varied possibilities to test their developing abilities and skills. First of all, children need warm emotional acceptance by their social environment to be able to develop bonding and confidence in the persons who look after them. Nursery rhymes, songs and demonstrations of affection etc. stimulate their social development. Babies tied to their mother's back feel the warmth and the movements of her body and are comforted by them. Children need to be encouraged in their gross-motor activities like walking, running, climbing, rowing etc. and in their fine-motor activities like grasping, drawing and writing. Toys like balls, tricycles and devices of locomotion such as scooters, wagons, pedal-cars and - trucks stimulate the child to attempt and master co-ordinated gross-motor activity. Similarly different kinds of rattles, plastic boxes of different sizes, pyramid rings etc. can help to develop their fine-motor activities. In short, these kinds of stimulation encourage the child to become proficient in movements demanding that the brain learn to organize and differentiate signals to and from various cerebral structures. In a phsychological, related, playful, non-threatening atmosphere, these are optimal forms of physical education which train the brain as well as the muscles. It is very important that children receive various stimulations for their visual, auditory, and tactile senses. Provided that those senses are properly developed, so, too is the child's brain able to function better. Puzzles with different shapes, mosaics, building blocks, and later on, plastic elements for technical constructions help to stimulate the child's senses. The observation of Comoe-krou, Professor at the University of Abidjan are relevant to the point, where he says that the school mistress must have "a thorough grounding in the educational potential of games, in order to be able to turn them to optimal account". The teacher should <u>make</u> toys <u>with</u> the children using salvaged material in order to develop the child's creativity and technical skills. Games can also lead directly to primary schooling because they "are based on mathematical exercises; they involve geometry, arithmetics or mensuration. For example the children may be asked to draw geometrical figures of all kinds (circles, spirals, triangles, quadrilaterals etc.), to measure with the open hand or foot, to count, add, multiply etc." According to him, "inadequate diet of play has the same effect

on the psyche, on mental life, as does an inadequate diet on the organism: it leads to psychic and mental deficiencies" and this inadequate diet of play explains "the backwardness which is often beyond remedy, sometimes affecting children brought up in day-nurseries and creches".

In day-care centres, children are taken away from the everyday life in their homes, from their families and their friends. They miss the opportunity to gather any experiences by watching their parents and helping them at work. So day-care centres have to compensate for all of these experiences at home, in the streets, on the fields, on the farms and so on. Learning is a continuous activity, particularly for a child. The activities at Day-care Centres, nurseries or schools are invariably repeated at home until the child retires to sleep. Mrs. Huda Barakat and Mrs. Annette Shelley make a strong point here in favour of dolls, which are considered of insignificant educational value by many other experts. They assert that a doll of acceptable characteristics, soft and huggable, of pleasing colours, with movable limbs and changeable costumes provide to the child a self assurance through feeling of companionship and stimulation to role-playing. A doll is a child's child whom he/she treats in a manner similar to which he/she is treated - talk to, teaches, smacks, scolds, washes hands before feeding, feeds, washes dresses, puts to bed, soothes, protects and even sleeps with it as if it is a perfectly human companion. The doll provides stimulus to the child's innovative faculties while it passes through these various 'daily-chores'.

2.4 The American and European Experiences

As a reaction to the success of the first sputnik launched into space by the Soviets in 1957, people in the USA got the feeling that this enormous technical advantage of the Russians was the result of a more efficient educational system in the USSR. So they started with a different educational approach with more than half a million pre-school children. However, the new approach did not meet the expectations they had raised. The follow-up studies on the subject revealed that this approach is not purposeful in the effort to teach pre-school children reading, writing and arithmetic. It is far better to train the child's basic abilities which are essential components of reading, writing and arithmetic skills. Children need discriminatory stimulation of their visual and auditory senses, practice in various motor activities, stimulation of tactile sense, of the co-ordination of eye movements and motor activities and of spatial perception. Many games were designed to stimulate the senses and the social abilities of children. And this guidance towards mastery of basic skills within the framework the child understands and interprets as "play" turned out to be the best preparation for school.

During the last ten years, many important improvements were made in primary schools in Europe. Curricula became more flexible and were adapted to the promotion of children's individual abilities, "open class rooms", "open learning", "differentiated teaching" help the children to have a good start in school and to develop their own gifts and talents. In the Austrian curriculum for Primary Schools, reformed in 1987, "learning by playing" is explicitly

mentioned as one of the recommended ways of learning in primary schools. Under an Austrian Government Project, researchers tested toys for their use in school by introducing play and toys as a component of learning process. The studies confirmed that children who had opportunity to play at school were more content with school and learning than others. They were less aggressive than children who did not play. They could find contact with each other more easily and they were more creative than children who had no chance to play. The studies concluded that primary school starts to integrate some methods of pre-school education, which is much better than the attempts to adopt school methods in pre-school education. Play and toys should not be restricted to the lower age group of children because, as Comeo-krou puts it, "play is an essentially human activity", it remains important throughout one's life. Above the age of twelve, children show interest in various construction sets for building models, like cars, ships, planes, houses etc. They appreciate toys for technical construction like machines, cranes, excavators etc. With constructional toys creative abilities are developed, children gain technical experiences and skills like working to precision, concentration and patience. More over in learning to handle technical apparatus they get rid of any inhibiting awe of material otherwise considered 'foreign' or 'incomprehensible' or 'hazardous'; an oft-observed reaction of the technically naive to unfamiliar technical devices. Often children, young people and adults are fascinated by electric trains, racing cars, helicopters, aeroplanes etc. in model; this play sometimes leads to a life long hobby. With the help of special technical sets young people gain important experiences in mechanics, electronics, chemistry, radio techniques and so on. Strategical games like chess, kalaha and various card games stimulate reasoning faculty, develop memory and planning and moderate behaviour in groups and families.

2.5 Non-educational Qualities of Toys

Now-a-days computer games and video games are a great attraction and almost every topic can be found in these games. Very often aggressive themes are offered, like wars, battles on earth, under water, in outer space; auto racing, competitive athletic games and so on.

Annette Shelley quotes from Oppenheim, "Like a toddlers interest in stamping through puddles, children's interest in war toys has traditionally been short lived. But today the toy companies prolong the interest with their relentless marketing. As a result, it becomes more and more difficult for children to outgrow what should be a short phase.' 'The best sellers are those that are won by pummeling out, leaping onto or hitting one's opponent with a fireball' which do not add to the value system of the children, but on the other hand are capable of destroying the same. One of the most detailed studies of preschoolers indicated that children who viewed violent cartoons played more violently than other children. In more than two dozen other studies researchers found that cartoon violence increased in children such behaviour as hitting, kicking, choking, throwing, pushing, holding other children down, hurting animals and selfishness. One study concluded that there is a correlation between viewing violence and increased anxiety. Heavy TV viewing was found to a belief that the world is a "mean and scary place" to live. Oppenheim's observation is worth noting.

"Whether you approve of toy guns or not, you should know that as the guns have become more realistic, the incidence of fatalities have risen. Most recently, a young teenager caught up in the excitement of group laser-gun game was shot to death by a policeman who mistook his 'playful' stance and gun for the real thing".

Another kind of toys which are considered of no-educational value are those known as musical toys or acoustic toys. They are mere imitations in form of real musical instruments like flutes, xylophones, mouth organs etc. which do not have technical qualities of actual instruments. Mechanical toys are also not considered as of any educational value as they operate without the child's intellectual involvement.

2.6 Toys and Culture

Mrs. Hoda Barakat was pointing towards the needs of the Egyptian children to understand their cultural heritage when she defined the need to know who they are, their family, their home, the animals and all that is around them" and explained that "they must feel with their hands, taste and listen to the different sounds of small and large seeds - listen to the music of the seeds". Egypt has a rich cultural heritage. Most of the culture images date back to the Pharoah times. Greek and Roman occupation periods have also left indelible marks on them. The enormous number of funery figures recovered by archeologists suggests various forms of images created by the traditional craftsmen of Egypt, though little evidence is available to establish their use as toys. Nevertheless these models could be used in designing 'cultural toys' to make the children understand and appreciate the historical characters and traditions. No less important is the fact that Egypt is an Islamic Republic with cultural values already modified with Islamic thought where certain human forms and replica of un-islamic gods and godesses (like Beds) may not be acceptable in form or content. For the present day, the toy designer has to look to the real life situation in the various regions of the country, including the deserts, banks of Nile and the coasts of the seas, for material and form and to translate the same into toys which the child can recognise and accept as belonging to his familiar environment and not reject as alien to him.

2.7 Criteria for Selection of Toys

The educational expert Dr. Hartmann has drawn up a list of categories of toys which may be considered as educational toys. The categories are based on various age groups and their educational needs and values which is presented in the following Table. Examples and photographs of the recommended toys are given in Annex 3.

0 - 3 months	Stimulation of visual discrimination
2 months - 1 year	- Coordination of eye movements - Satisfaction of the baby's need to suck and explore objects with mouth; - Development of motor activities in figures, hands, arms - Coordination of eye movements and motor activities - Concentration on the sounds.
6 months to 4 years	All the above plus - concentration - memory - patience
1 year to 4 years	- Training of balance
2 years to 4 years	- Training in keeping order among possessions and utensils - Technical experiences - planning - constructing - creative play - emotional and social behaviour
3 years to 8 years	- Imitation of everyday life experience - Mothering the dolls and animals - Development of social behaviour - Development of imagination - Stimulating creativity - Encouragement to speak and express feelings, problem and fears - Role playing - Practicing simple technical matters - Problem solving strategies - Planning and executing ideas - Learning precision - Reflect on self-made experiences - Getting rid of fear by acquainting with technical instruments and gadgets - Creation of a Play-world - Tolerance to frustration - Mathematical experiences
10 years and above	- All the above plus speed

12 years and above	- Technical experience - Development of construction skills - Precision - Concentration - Understanding of detailed technical drawings - Planning and execution skills - Experiences with tools - Handicraft skills - Development of special interests in various fields of natural science and electronics - Cultivating awareness of environmental and other related problems - Finding problem solving strategies.

2.8 Conclusion

Learning while playing is the most appropriate method of education at the pre-school stage. Toys play a very vital role in this process providing opportunities to the child to train its senses in a free and fearless environment at its own speed or leisure but secured in confidence. The learning gained through playing with appropriate toys is long lasting and forms a stable ground for their primary and further education. Toys must be selected carefully for their educational value, guarding against destructive or negative tendencies generated by toys or games which conduce to antisocial behaviours. The selected toys must also appeal to the child, create a belongingness or companionship and stimulate the various gross and fine motor activities of the child as are essential for the development of the physical and mental faculties.

2.9 References

A list of references used by the consultant on social and educational aspects is attached as Annex 4. Suggestions for further reading are contained in Annex 5.

3.0 DAY CARE CENTRES

3.1 Objectives of the Daycare Centres

Objectives of the daycare centres established under the Ministry of Social Affairs can be listed as under:

i. Providing social, health care for the children, develop their talents, capabilities, rehabilitate them physically, culturally, emotionally so that they start their education according to the goals of the society and its values through

   A- Training of the senses so that the child can see, observe and understand which is around him including things, creatures, distinguish between sounds, appreciate music, be aware of the similarity and the difference between things which would rehabilitate him for the obligatory stage of education;

   B- Develop talents in language and figures

ii. Disseminate awareness among the families of the children and raise them well.

iii. Strengthen the relationship between the daycare centre and the families of the children.

It appears to be the intention of the Government of Egypt, as expressed by Ms. Huda Barakat, to establish the daycare centres as Play-Learn Centres where there is "no reading, no arithmetic and no punishment" and where the children learn what is appropriate to their stage of development, so that when they enter school they are ready to learn to read." and "they learn through play". However, visits to the Daycare Centres proved the contrary. The methods employed mostly resembled the formal primary schooling system where the children intently listened to the teachers telling them stories. At Imbaba Daycare Centre, small groups practiced alphabets or worked on a big calculator shared by all. Playing was limited to sliding, climbing, swinging or similar physical exercises. There were no provision for special playing areas where the children could select their playing materials or toys or browse the books. This being the case in Cairo, the situation of the centres upcountry could well be imagined. Two particular reasons pointed out for this kind of state of affairs were:

(a) Failure of the toy-production workshops at Imbaba, Cairo and Alexandria to produce any worthwhile toys owing to the break-down of almost every piece of equipment, wearing out of dies and inadequacy of funds to rehabilitate them.

(b) General budgetary constraints which restricted the number and quality of staff and facilities.

In contrast to this members of the Project Team who visited some privately organised daycare centres could find that there existed good amount of play activity although they were not well equipped with toys or other materials of much educational value. Some of the toys even created frustration, with no possibility of overcoming the problem and gaining the experience of satisfaction derived out of successful solution to the problem. Younger children between 1 and 3 years hardly had any toys. (Please see Annex 6 for a few illustrative pictures).

3.2 Toys for the Daycare Centres

Provision of appropriate toys in sufficient numbers was a major problem faced by the Ministry of Social Affairs which has as its motto 'one child one toy' as a minimum objective. This calls for providing a basic minimum of a quarter of a million pieces of toys immediately and about 100,000 pieces as annual replacements for those wearing out or carried away by children or otherwise lost. With this in view, the Ministry had established two plastic toy production centres one at Imbaba, Cairo and another at Alexandria. At the time of the visits of the members of the Project Team all but one blow moulding machine had broken down and were beyond economic repair. A list of equipment is attached as Annex 7. The blow-moulding machine had also broken down but the work-supervisor was unsuccessfully trying to get it fixed locally. Until breaking down this machine was producing vinegar bottles for commercial sale. The same was the case with the only equipment at Alexandria, viz. an injection moulding machine which was being used for making bottles/cans for commercial purposes. This machine is understood to be working at an extremely low level of efficiency and breaking down very frequently. Some of the toys produced by the Imbaba workshop when it was functional were inspected by the experts. The toys were crude replica of skittles, animals on wheels, boxes, small balls, puzzles, building blocks etc. of limited educational value. As the machines are now unproductive and/or inefficient the experts did not find it logical to rehabilitate them.

Moreover as the machines are very old there was no possibility of obtaining appropriate spare parts. Nevertheless it is necessary that the children at the day-care centres be provided with adequate number of toys which promote development of the senses, for example, visual discrimination, coordination eyes and motor activities, memory, cognitive functions, concentration and patience, frustration tolerance and social behaviour. Instead of training pre-school children in the alphabet and numbers they should be prepared for school by interacting with and manipulation of such toys as have been found recommendable for their educational value.

3.3 Possible Solutions

Possible solutions to the situation must be looked from the point of view of the aspirations of the various ministries involved, budgetary constraints and cultural and developmental issues. The ministry of Industries desires that a certain number of appropriate educational toys be selected and developed for production by private enterprises, which shall sell them to

government for use in daycare centres as well as to the public for private purchase. However, the Ministry of Social Affairs does not favour production of toys by private sector as the Government has no funds to buy toys from a private company even at a bargain price. The situation therefore needs to be tackled on a non-commercial captive capacity basis on short term and long term footings.

3.3.1 Short Term Solution

Undoubtedly the daycare centres are in immediate need of some educational toys. These toys should be procured by outright purchase or gifts of grant from sources abroad. Using the broad criteria of a minimum of one child one toy about 250,000 pieces of toys would have to be procured. The rule of thumb average costs at importers C & F prices in Cairo and Alexandria of LE10 or US$4/= per piece would amount to one million US dollars. This approach is recommended because establishment of any manufacturing facility to produce own requirements of toys would take not less than three years to cover the needs of all age groups.

3.3.2 Long Term Solution

Whether the short term solution is accepted or not, need for the establishment of domestic manufacturing facility as a permanent solution cannot be overlooked. In essence this would call for

(a) procurement, erection and operation of a few basic equipment at Imbaba for production of plastic components of the toys;

(b) establishing production groups of mothers of the inmates of the daycare centres to develop and produce other components to suit local tastes and culture. For e.g.. the productive mothers group can develop costumes or coloring or painting of toys, or handle individual packing or even producing packing materials.

3.4 Project Outline

3.4.1 The Project is envisaged to contain the following components.

(a) Procurement and Installation of necessary equipment;

(b) Training of Personnel in product design, engineering and production methods;

(c) Providing exposure to supervisory personnel in the above fields by means of visits and attachments to Toy manufacturing establishments overseas;

(d) Providing training to social workers to manage daycare centres particularly to introduce play as a component of learning process.

3.4.2 The following is a brief list of equipment envisaged. Details are indicated in Annex 8.

Imported	Cost (US $)
1 Moulding machine	50,000
1 Plastisol filling machine	2,266
1 Set Mould repair equipment	3,000
256 Moulds: @ US 200/=EA	51,200
2 Rooting machines	9,000
1 Closing machine	1,900
1 Clicking Press	6,675
	124,041
Freight, Insurance (5% apx.)	6,202
	130,243

Local Purchases	
1 Air Compressor	3,000
1 Cooling Tank	2,000
1 Drier/Tumbler	300
1 Set Spraying Stations (8 nos.)	10,000
5 Spray masks	1,500
19 Straight Sewing Machines	16,610
5 Overlock machines	4,000
2 Steam iron Units	560
1 Cutting machine	300
Misc. Tools, equipment, Cutting Table etc.	5,000
	43,270
Installation	2,000
Contingencies	8,487
Total Equipment Cost	184,000

3.4.3 Training Costs are estimated to be US $880,000 as under
On the Job Training:

Designers:

1. Plastic moulded Toys — 11 m/m
(Baby squeak and Baby animals)

2. Cloth and stitched decoration toys (Egyptian Animals)	6 m/m
3. Dolls with vinyl head, hands, feet; cloth body.	14 m/m
Engineers for the above	26 m/m
	57 m/m

At an average cost of US $8,000 p.m, the total costs of expatriate personnel will be US $456,000

Training material (equivalent of one year's production at 1,000 toys/day for 200 days)

Plastisol	for	150,000 pcs.	$ 28,875
Paint	for	150,000 pcs.	1,625
Fabrics	for	100,000 pcs.	82,750
Stuffing	for	100,000 pcs.	55,000
Nylon Hair	for	50,000 pcs.	31,500
Sundries	for	50,000 pcs.	900
			290,650

Fellowships:

Product design 2 persons
Production methods 2 persons
Mould making 2 persons
i.e. 6 persons, 3 months each:

18mm @ US $2,000 p.m. 36,000

Study Tours for 2 design advisers and
2 Curriculum advisers
2 weeks each (8 weeks) 10,000

Training of Social Workers:

one training expert for 9 months	80,000
cost of teaching aids, facilities, and local travel	7,350
Total training component	790,000

3.4.4 Total Project cost will be US $ 974,000.

3.4.5 Government contribution towards the program will be the salaries and allowances of the machine operators, local design and engineering trainees/counterparts and trainees under fellowships, Study Tours and the social Worker Training, Plant operating costs including overheads, maintenance and transport.

3.4.6 It should however be noted that, even though the study does not deal at present with all the educational toys as identified by Dr. Hartmann, it should be possible to bring them under the purview of the above described scheme by an addition only of appropriate design/technical experts for about 12 manmonths. The Project cost would then be increased by about US $ 96,000 making a total of US$1,070,000.

3.4.7 The annual operation costs of the Project after the initial training period of about 15 months, will be as follows and is expected to be met from the normal budget allocations of the Ministry of Social Affairs.

	US $
Cost of materials (for 200,000 pcs./yr.)	240,000
Maintenance of Equipment, Plant overheads and transport	100,000
Wages and Salaries of personnel	50,000
	390,000
	(LE 975,000)

One of the pre-requisites of any international assistance to the establishment of the project would be a firm indication by the Government that it would be possible to allocate the above sum of money annually (subject to inflationary adjustments).

3.5 Cost Structure of the Toys

An approximate cost structure of a piece of toy of the main size in each type is shown below:

	Baby Squeak	Baby Animals	Egyptian Animals	Toddlers
Average Size	3.5"	6.5"	11"	13"
	US $	US $	US $	US $
Material	0.109	0.287	1.100	3.254
Packing	0.010	0.010	0.010	0.020
	0.119	0.297	1.110	3.274

Wages and Salaries	0.200	0.200	0.300	0.300
Maintenance and } Overheads }	0.550	0.550	0.350	0.550
Depreciation	0.065	0.065	0.088	0.065
Total Cost per pc. $	0.934	1.112	1.848	4.189

4.0 PLASTICS IN TOY MANUFACTURE

4.1 Attitude of the Manufacturers in the Plastic Subsector

Egypt produces PVC of pipe grade at the moment. This PVC is not suitable for good quality toys, which require plasticised variety. As mentioned in the introduction, the plasticiser production in the country is expected within a very short time, when the required raw material would become available. It would be advisable to initiate necessary actions to establish a toy development centre to develop appropriate designs for the toys and to develop quality standards for the required moulds and train a reliable work force, in the meantime. Some of the manufacturers in the plastic sector whom the consultants visited were, sometimes in the past, engaged in the production of toys - though not necessarily educational toys. The toys produced by them included beads, rings, animals and dolls. Some of the samples were inspected by the consultants and were found to be of acceptable quality, comparable with imported ones. Production of toys was, however, discontinued some 15 to 20 years before. The following are a few of the reasons advanced by the manufacturers to justify the discontinuance.

i. Toy market is very small in Egypt and does not warrant heavy investment in equipment;

ii. The market, nevertheless, looks for different varieties of toys and the models change pretty fast. Investments in moulds is uneconomic. Efforts to rent moulds from manufacturers overseas also were not encouraging because of the high rental rates which could be justified only if the volume of production using each such mould is substantially large, which was not the case in Egypt;

iii. Toy market is controlled by wholesalers. Manufacturers are obliged to leave their goods with the wholesalers for long periods incurring high interest costs and at the same time debt recovery (from the wholesalers) was very poor;

iv. Too much dependence on wholesalers also caused in reduction of prices for the manufacturer. At some stage, the manufacturers had to sell the products at distress prices in order to get rid of the stocks in hand. (One manufacturer showed a substantial quantity of rings, beads and similar items still in his stock);

v. With the expansion of food, beverage and pharmaceutical industries plastic packaging has become a very lucrative industry for reasons such as:

   (a) The manufacturer is now in the sellers market because he deals directly with the consumer who in turn is willing to place advance orders with substantial cash deposits which shifts the burden of working capital financing from the manufacturer to the buyer to a considerable degree.

(b) There are no more bad debts;

(c) Due to the still prevailing demand - supply gap, profit margins are quite high compared to toys and the clientele is much steady;

(d) Almost all the producers have their capacities fully booked for months in advance; Production planning, training and skill development and maximum plant utilisation are possible;

vi. None of the manufacturers visited showed any real interest to re-commence manufacture of toys because

(a) their plant capacities were fully booked by packaging industry;

(b) moulds possessed by them have already worn-out and would now need extensive repairs which is not economic nor can they divert their moulding department personnel from the more urgent current business;

(c) competition from foreign exporters of Chinese, Korean etc. origin is very keen and their wares more attractive both in appearance and mechanical performance;

(d) Re-training of the workers and developing new designs to produce goods in competition with the imported ones is a time consuming exercise involving a substantial investment;

(e) existing tariff system is more favourable to the import of finished goods (around 5%) compared to the import of raw materials. (about 30%). (The toy importers, however, claimed that they were paying 40% and upwards as import duty).

4.2 Import of Toys

Visits to a few of the dealers (both retail and wholesale) in imported toys confirmed that the local current demand is not substantial to warrant establishment of a toy-making unit in preference to a packaging unit. The annual import figures were generally indicated as being between US $750,000 and 900,000 per year. It was however contended that the import duties were quite high and were of the order of:

60% on all games
100% on battery or power operated toys
and 40% on all others.

Though duty levels were higher for the toys than for raw materials the contention was that the quantity of all varieties of games and 'educational toys' remained below 50,000 pcs. per year. There was however no immediate possibility of verifying this figure as the toys are imported in assorted

varieties on a full container basis. The only rule of thumb cross checking was possible by looking at the average market price for the toys which were in the range of EL30 to 120 a piece.

4.3 Development Possibilities

Inspite of the apparent reluctance of the established manufacturers in the plastics sector and the pessimistic estimates of the importers, there remains a need and possibility to locally produce some items of toys which could be within the affordability range of the common man in the country, for

(i) the import figures reflect the low demand owing to unaffordable prices;

(ii) reluctance of manufacturers to produce due to the presence of otherwise lucrative demand in other areas.

During discussions with the Director and officers of the Plastic development Centre and of manufacturers both in public and private sectors, it transpired that there are quite a number of small scale producers who are engaged in businesses other than packaging, such as household utensils, machinery spares and accessories, electrical accessories etc. These producers are not able to reap full benefit out of the packaging industry because of the limitation of their capacity to undertake large orders, engage highly qualified or experienced technicians or to organise necessary working capital. This target group could present a reliable opportunity to develop the toy industry in the plastics sector. Naturally, it calls for considerable support and encouragement from the Government.

4.4 The Plastic Development Centre

The Plastic Development Centre in Alexandria was established with a view to

(i) Conduct research into production and use of various plastic materials;

(ii) Conduct Quality -related studies and develop new and improved applications;

(iii) Function as a data centre and referral organisation in respect of all matters concerned with plastics;

(iv) Assist and guide manufacturers of plastic based products in designing products, processes, materiai compositions and the like;

(v) Develop technical and scientific manpower in the Research and Manufacture related areas.

It is considered that it is well within the objectives of the centre to undertake development of plastic toys or toys where components made of plastics would be used.

A number of pure plastic toys have been identified by Dr. Hartmann as desirable. The Centre could profitably develop product designs, raw materials compositions and mould designs for these toys, to begin with, and make them available to the prospective toy manufacturers.

The General Organisation For Industrialisation (GOFI), Cairo and also the National Research Centre, Cairo have capabilities to prepare feasibility studies. One of these institutions may be requested to carry out opportunity studies based on the data to be generated by the Plastic Development Centre so that the prospective manufacturers could make their choices and decisions.

4.5 The Egyptian Company for Plastics and Electrical industries

The Consultants visited the Egyptian Company for Plastics and Industries At the time of the visit the company was erecting its electroplating facilities which are very essential in the manufacturing of moulds for the plastics industry. The company has a well developed mould development department and it is understood that they also have much surplus capacity. This surplus capacity could be tapped to make moulds for prototypes and commercial use by the prospective toy manufacturers. The moulds could be made using the designs to be produced by the Plastic Development Centre and under their guidance. One of the major problems of the toy makers is the cost of moulds. The company could establish a system by which the moulds could be rented out to the industry.

However, it was mentioned by the company's management that the proposed mould development project could be successful and economically viable only with the addition of a few equipment as under:

1 set of spark erosion equipment

A heat treatment unit (Salt Baths)

X-ray inspection unit and

a grinding machine for cylinder grinding.

Obtaining or training of necessary manpower to handle those equipment would not pose any problem as similar expertise is available in the country at the Industrial Training Centre, Cairo as well as the Middle East Plastics, Alexandria. As the equipment and relevant manpower is at the moment tied up for the exclusive use of these two sources it would be highly desirable to obtain the services of one expert each in the operation of spark erosion equipment and Heat treatment unit.

5.0 TOY DEVELOPMENT CENTRE

Summing up the discussions in the previous chapters it can be said that

(a) A need exists to domestically develop toys which should on one hand have an educational value and on the other reflect the Egyptian cultural background;

(b) Plastics offer a good raw material to produce a good number of toys and components for toys;

(c) Suitable plastic material, plasticised poly vinyl, though not presently produced locally will be available in necessary quantities by 1991-92;

(d) Egypt also has the required raw materials like textiles, fibres etc. which could also be used for making dolls and similar toys to meet the needs of the children and collectors.

(e) Scattered facilities are available at different organisations, primarily at Plastic Development Centre and the Egyptian Company for Plastics and Electrical industries to design, test and produce prototypes and moulds.

5.2 Toy Development Centre

What lacks is an organisational set up to co-ordinate these facilities and to develop and research with the toys including complete and partial plastic toys on a professional basis. It is therefore suggested that a Toy Development Centre be established to undertake the following specific tasks viz.

1. Design, develop and standardise toys made of plastics, wholly or in combination with other locally available materials and the moulds, fixtures, jigs, templates and other accessories required for the manufacture of these toys.

2. Research into the traditional literature, folklore paintings, engravings and other works of art to identify or locate forms and motifs that could be translated into a toy or dressing or decoration for a toy.

3. Create prototypes for market introduction and experimental use.

4. Research on the educational value of the toys so developed.

5. Research into the sanitary and safety aspects of the toys, keeping in view the levels of environmental sanitation in the areas where the ultimate users (children) live, hazardous nature of the ingredients used which have a bearing on the physique and health of the children.

6. Assist and guide the mould-makers in producing the required moulds.

7. Assist and guide the manufacturers in production, marketing and pricing the toys.

8. Act as a referral centre for recovering ideas for new toys, improvements on the existing ones or for curing defects in the mould designs.

9. Establish mould repair and maintenance facility with particular reference to moulds required for toys.

10. Distribute the tasks among various cooperating organisations and coordinate their efforts.

5.3 Outline of the Proposed Set-up

The Plastic Development Centre, at Alexandria is already engaged in Research and Development exercise involving plastics, materials and products. This centre would be the ideal site to locate the Toy Development Centre. However, from the specialised nature of the research and other activities expected of the centre it would be advisable to keep it detached from the mainstream of the Plastic Development Centre, while that centre should be available as a resource base. A schematic diagram of the proposed setup is in Annex 11.

5.4 Assistance for Initial Set up

The existing facilities of the PDC being fully committed and the basic activities of the proposed TDC stretching beyond the framework of PDC it would be necessary to provide the initial set-up with adequate support in the form of manpower, auxiliary equipment and samples. To start with the following inputs are suggested:

Manpower (excluding administrative personnel)

(1) A Project Coordinator
who shall have extensive experience in adopting art forms in toy designs with proven capability in directing art and child related research. The selected person shall be capable of assessing the educational value of the toys and their impact on the various faculties of the child with emphasis on development of gross and fine-motor actions.

(2) Toy Designer (Traditional)
a person with extensive experience in translating traditional and folk art forms into industrial products or one with a good background in developing toys/models out of folk-lore characters.

(3) Toy Designer (Non-traditional)
a person with extensive experience in actual toy design work of significance.

(4) Art Researcher
who shall have extensive experience in researching and exploring traditional and folk arts and legends for the purpose of ultimate use in toy or other product designs. He shall be conversant with the Egyptian Art forms.

(5) Artist
with experience in preparing two and three dimensional representations of art forms for use by the mould designers.

(6) Mould Designer
with extensive experience in designing moulds for plastic products and capable of guiding and instructing the mould maker technicians.

(7) Educational Researchers (Plastic Toys - 1, Non plastic Toys - 1)
Must be persons with extensive experience in conducting or guiding research in Toy-child relationship with particular emphasis on the impact of the toys in the child's development. The person must be capable of guiding the toy-design and design modifications both for the purposes of research and production.

(8) Materials Adviser
Shall be a person with thorough knowledge of materials that can be used in toy manufacture (other than plastics), their local availability, characteristics, safety and hazard in relation to infants and children of various ages. Must possess good knowledge of the environment in which the children in Egypt live.

Equipment

PDC has all the required equipment and a well equipped laboratory for plastics.It would, however, need some mould and toy samples, and small equipment to develop prototypes. The non-plastic section may need a few simple equipment. The total cost is estimated to around US $36,000 as follows:

	Cost US $
One rooting machine	4,500
Two straight sewing machines	1,780
One overlock machine	800
One steam unit	280
One cutting machine	300
One closing machine	1,900
One clicking press	6,765
Tools, accessories etc.	5,000
Books and publications	5,000
Samples	2,000
Sundry equipment	5,000
Freight and contingencies	2,675
	US$ 36,000

Study Tours

It is also desirable that the national officers who would be responsible for the Toy Design Centre be provided with a meaningful exposure to the practices elsewhere in the Toy industry. It should however be borne in mind that toy business is very secretive as regards the subtle matters of design while the production and other related routines may not be of much of a problem to be observed. A definitive program should therefore be worked out with the designers and manufacturers who are willing to let outsiders closely observe their activities. The programme should in advance spell out the needs of the visitors and the cooperation expected.

5.5 Project Proposal for Assistance

The following is a summarised version of the inputs required to be provided through an external donor for a minimum period of three years.

A. Toy Design Centre

		m/m	Cost US $
(a)	Manpower		
	International:		
	1-Project Coordinator	36	360,000
	2-Toy designers	72	360,000
	1-mould designer	36	180,000
	National: (To continue beyond the Project period)		
	1 Art researcher	36	36,000
	1 Artist	36	36,000
	2 Educational researchers	72	72,000
	1 Materials adviser	36	36,000
	T o t a l		1,080,000

It may be desirable (if possible) to obtain the services of one or two volunteers or Associate Experts from abroad to provide assistance in the field of non-plastic toy designs and to impart training to productive women in assembly and costume work.

(b)	Equipment	US $ 36,000
(c)	Training Fellowships etc.. (Token provision - details be worked out by the Chief Coordinator and the Ministry of Industries)	100,000
	Subtotal - Toy Design Centre:	$ 1,216,000

B. Egyptian Company for Plastics and Electrical industries (ECPEL):

		m/m	Cost US $
(d)	Manpower		
	Mould maker 1	24	112,000
	Spark erosion trainer 1	6	48,000
	Heat Treatment trainers 2	12	96,000
(e)	Equipment:		
	Spark erosion equipment		200,000
	Salt baths (Heat Treatment Units)	}	
	X-ray equipment	}	100,000
	Grinding machine	}	
	Subtotal - ECPEL		556,000
	Total Project Cost		1,772,000

It may however be noted that the above indications are tentative and for budgetory purposes. It would be necessary to field an expert conversant with the requirements as above mentioned to draw up a detailed Project document bringing out the essential input-output relationships and Project time frame. It is estimated that such an exercise would need six to eight weeks.

6.0 MARKET INFORMATION

6.1 Methodology of Data Collection

Toy market in Egypt is composed of three elements:

- Whole sale importers
- Local manufacturers
- Retailers.

In the absence of any information about an official or authoritative body of toy dealers data had to be collected by visits to a small number of whole sale and retail merchants. The informants had very scanty information about the over all picture of the trade. It was however said that the toy importers association or the Chamber of Commerce were not provided by the members with accurate information about their dealings. Usually the figures included the members' non-toy businesses. Moreover a majority of the members of the toy dealers association were importing mechanical and electronic toys which were not of immediate concern of the present study. The information presented in the remaining part of this chapter should therefore be used with the caution that they reflect only the knowledge or assessment of a few dealers. Price data was collected by actual viewing of the items. There was considerable variance from shop to shop even for the same brand of toys. The mean figures or ranges only are indicated.

It may be useful to conduct a detailed survey of the existing toy market structure. However it is not imperative for the toy development in Egypt for the following reasons:

(i) No toy worth the name is being manufactured in the country;

(ii) Presently imported toys do not reach the vast majority of children owing to their ill-affordability;

(iii) The toys proposed to be developed fall in the category of educational toys with an overtone of local culture, which are not in the market nor importable;

(iv) For any manufacturer abroad the present Egyptian market does not appear to be significant, though it could at some remote time be possible that a stray manufacturer may be tempted to copy the ideas and produce similar toys as proposed for marketing in Egypt as well as culturally similarly placed countries in the neighbourhood. It is not likely that any research would reliably assess such tendencies by studying Egyptian market. It is therefore suggested that the market study may be limited to assessing gross potential demand and identifying interested dealers.

6.2 Estimates of Present Imports

The wholesalers visited by the experts made their own estimates which yielded the following results:

- Average annual import of all toys was 30 containers. (mechanical and non-mechanical)
- Value of Toys per container used to be in the region of US $25,000 to 30,000
- Annual value of all imports would be between US $750,000 to 900,000; may be rounded up to one million dollars.

A more optimistic indication was presented by some of the retail dealers. According to them average import of legos and match-box type toys, dolls and assembly type of toys put together (excluding pure plastic dolls and plasto-mechanic toys) amounted to an average of 4 containers per dealer per year, accounting for some 100 containers being imported by 25 leading dealers. Each container was valued at US $20,000. This would mean a total import of 2 million US Dollars.

6.3 Duty Structure

The toys and games were subject to the following import duties:

All games	60%	Ad Valorem
Power Operated toys	100%	"
All others	40%	

6.4 Data Sources

As already mentioned the main data sources for information on toys are the wholesale dealers (importers) and retailers. The Customs Office, Port Said could be another source. However, the records are maintained on the basis of the Tariff Codes. Hence it is very unlikely that any ready-made information could avail from Port Said. With the help of the Customs office it may be possible to extract data from the entry documents. This is a time consuming exercise. However, it should be noted with caution that a good amount of toys imported through Port Said, according to some wholesale dealers, find their final destination in neighbouring countries, particularly Sudan and Saudi Arabia, via the land route. The wholesalers even alleged that toys landed at Port Said in transit to neighbouring countries, often found their way into Egyptian market. Particular mention was made of Match box toys. The market analyst would well look into the veracity of these statements and assess the extent of data-distortion before arriving at realistic consumption figures.

6.5 Market Study

It is suggested that the Plastic Development Centre should conduct a detailed market study including the customer parent reaction to the toys proposed to be produced. Possibilities of exports to the neighbouring Arab countries with comparable cultures may also be explored.

6.6 Sample Prices

A list of average prices for a few standard items of toys in the retail market are indicated in Annex 9.

7.0 Commercial Production of Dolls

7.1 Market for Dolls

The present toy market is dominated by dolls. All imported. A variety of dolls are found in the market.

- simple plastic dolls, with hair, eyes and costumes painted;
- dolls made of vinyl body, hair and eyes painted and with fabric clothing;
- dolls made of vinyl head, limbs and/or body with nylon hair, moving eyes and fabric costume;
- motorised vinyl body dolls;
- talking dolls.

They range from the cheapest far eastern toys to very expensive Barbie toys from USA. Prices range between LE 3 to LE 150.

The total volume of import of dolls could not be readily assessed. One Barbie dealer put his principals' import volume at around 8 containers a year valued at US $250,000. Retail price for the Barbie dolls were indicated as follows:

Barbie No. 7797	LE 29/60
81360	34/40
4629	47/00
3101	47/00
4439	41/00

7.2 Production Programme

Considering the need for a minimum set of equipment and possible market the following programme is suggested (at 100% attainable capacity)

No. of working days per year 250
No. of shifts per day one of 8hrs.

Product mix:- Baby squeak 3" - 4" size, weighing 30 to 40 gms, four colour decoration closed, chipboard box packing, (60 shifts) - 60,000 pcs. per year.

- Vinyl dolls and Baby animals (like camels, cats, donkeys lamb, buffalo) 6" to 7" size, weighing 100 to 140 gms. four colour decoration, display box packing (125 shifts) - 150,000 pcs. per year.

- Stuffed dolls (Cloth body vinyl head and limbs) 13" height, 3 skin colors and rooted hair with fabric costumes, window box packing (65 shifts)
  - 162,500 pcs./year

However, the actual operations during first two years would be restricted to 65% and 80% of the figures shown above to allow for the market stabilisation.

7.3 Equipment

The above production programme is based on one rotocast moulding machine Linea PRM/900. Full specifications of the equipment required is given in Annex 8. The following cost indications are available.

		FOB Price US $
Imported Equipment:	LINEA PRM/90	50,000
	: Plastisol filling m/c	2,266
	: Air compressor	3,000
	: Painting Booth	10,000
	: Rooting machines (2)	9,000
	: Closing machine	1,900
	: Clicking machine	6,765
	: Misc. tools and equipment	5,000
	Add freight 4%	3,517
	Spares 25%	22,862
	Erection costs	5,000
		119,310
Local Equipment	: Cooling Tank	2,000
	: Spray masks, spray frames etc.	5,000
	: Drier, Tumbler	300
	: Straight sewing machines (12)	10,680
	: Overlock machine (3)	2,400
	: Steam iron units (2)	560
	: Cutting table and knife edge	400
	: Sundry items	2,000
		23,340
Other local costs	(Handling, transport and Insurance on imported Equipt. 5% on c & f value)	5,716
		29,056

7.4 Land and Buildings

Approximately 1,000 sqm. of Land will be required. At an average of LE35/sqm the cost of land would be LE 35,000 or US $14,000.

It is estimated that 650sqm of building space would be needed to house the industry as follows:

	Sq.m
Moulding Section	90
Sewing Section	240
Packing Section	30
Stores & Office	290

At an average cost of LE 120/sqm. the building cost would be about US $31,200.

7.5 Moulds and Mould Repair

One of the reasons for the discouraging development of the toy industry in Egypt was the high mould cost. Entrepreneurs who were trying to hire mould from outside mentioned that they could not envisage to produce and market enough toys even to cover the insurance and hire charges for the moulds. It is, therefore, necessary that any private industry in toy sector is supplied by locally produced moulds on hire until the market is fully stabilised justifying own acquisition of moulds. In view of the proposals contained elsewhere in this report for the establishment of Toy Design Centre in Alexandria under the Plastic Development Centre, it is presumed that the designs will be provided by this centre at no cost or nominal charges. It is also assumed that the moulds will be hired out by the Egyptian Company for Plastics and Electrical industries at affordable prices and mould repairing will be done by them. A nominal provision of US $ 5,000 is made for training of personnel at the above two centres.

7.6 Initial Inventory

Initial inventory requirements are calculated as under:

Imported materials:	3 months	73,750
Local materials :	1 months	23,490
		$ 97,240

7.7 Summary of Investment

The total investment envisaged is US $339,000 (LE 847,300) as under

		LE	US $
Land		35,000	14,000
Building		78,000	31,200
Equipment:	Foreign Cost	298,275	119,310
	Local Cost	72,640	29,056
Training		12,500	5,000
Initial Inventory		243,100	97,240
Interest during construction		46,885	18,754
Contingencies	10%	60,893	24,357
	Total	847,293	338,917
	Say	847,300	339,000

7.8. Financing

Assuming a debt:equity ratio of 70:30 the following financing structure is indicated:

	IN L.E, 000S			IN US$ 000S		
	Local Currency	Foreign Currency	Total	Local Currency	Foreign Currency	Total
Equity	254.2	-	254.2	101.7	-	101.7
Loans	168.3	424.8	593.1	67.4	169.9	237.3
Total	422.5	424.8	847.3	169.1	169.9	339.0

7.9 Material Requirements

Cost estimates are made taking into account prices current in October 1989.

	Baby Squeak	Vinyldoll	Stuffed doll
Production	60,000	150,000	162,500
Raw materials: (Quantity/1000pcs.)			
Plastisol:	40kg	120kg.	225kg
Paint	4 lit	2.8 lit.	4 lit.
Stuffing	-	-	250kg.
Fabric	-	-	640sqm.
Hair	-	-	90kg
Other decoratives			$ 18.00

Value (FOB prices for imported items)			
Plastisol @ $1.5/kg	$60.0	$180.0	$337.5
Paint @ $3.0/lit.	12.0	8.4	12.0
Stuffing @ $2.0/kg.			500.0
Fabric @ $1.8/sqM			1,152.0
Hair @ $7.0/kg.			630.0
Sundry items			18.0
30% duty on plastisol, Paint, hair & sundry items, Freight, Insurance, handling storage etc. cost 15 %	21.6	56.5	299.3
	10.8	28.3	149.7
5% wastage	5.2	13.7	155.3
Total material cost per 1,000 pcs.	109.6	286.9	3,253.8

Annual material requirement

	Quantity		Value (US$)
Plastisol	59,811	kg.	130,088
Paint	1,376	lit.	5,983
Stuffing	42,656	kg.	85,312
Fabric	109,200	sqm.	196,560
Hair	15,356	kg.	155,866
Sundry items	L.S		4,453
Total value		US$	578,262
		LE	1,445,655

7.10 Manpower

The project requires the following manpower:

				Annual Cost L.E
Management	: Manager	1		18,000
	Sales officer	1		15,400
Clerical	: Accounts, purchase, sales, general		5	22,500
Skilled Workers	: Moulders	3		
	Painters	5		
	Hairrooting	2		
	Tailors	15	25	90,000
Semi skilled		6		16,200
Watchmen & helpers		12		32,400
Total manpower Cost				194,500
(including 40% for social insurance and benefits and 10% incentives)				(US$ 77,800)

7.11 Utilities

The moulding machine operates on diesel fuel. Consumption is indicated at 5kg/hr. Other equipment operate on 220kv. electric power. The power rating will depend on the actual equipment to be procured. However, the following estimates are made on the basis of rule-of-thumb approximations.

Fuel 12,000 litres @ LE 0.16/lt.	LE 1,920
Electricity 16,000 kwH @ LE 0.065/kwH.	1,040
Water (appx.)	40
Total	LE 3,000

7.12 Summary of Costs

The total expenses for a normal year are summarised below (Figures in 000S)

	LE	US $
Raw materials	1,446	578
Packing materials	170	68
Manpower	194	78
Utilities	3	1
Mould rent	25	10
Spares	15	6
Factory overheads	200	80
Depreciation	50	20
Factory Cost	2,103	841
Admin. Overheads	50	20
Interest (average)	50	20
	2,203	881

7.13 Product-wise Distribution of Costs

	Baby squeak	Vinyldolls	Stuffeddolls	Total
Raw materials	6,540	43,035	528,687	578,262
Packing	7,800	19,500	40,700	68,000
Manpower - direct	2,765	5,760	27,475	36,000
- indirect	10,032	20,900	10,868	41,800
Depreciation	3,872	8,067	8,061	20,000
Other expenses	32,880	68,500	35,620	137,000
Total US $	63,889	165,762	651,411	881,062
LE	159,722	414,405	1,628,528	2,202,655

7.14 Pricing of Dolls

Pricing is done taking into account

(i) the target consumers and their affordability

(ii) reasonable return on investment, IRR expected at about 30%

For the baby squeaks and vinyl dolls the main target consumer is the low-income group of the population, whose income levels do not exceed LE 2,700 per annum. The toys for this target group need not necessarily be packed in very attractive boxes or cartons. Simple plastic bag packing or attractively printed paperboard cartons would suffice. Such packing per piece is not expected to go beyond LE 0.25 (US 10 cents). 80% of the production can be addressed to this group. The remaining 20% may be packed more attractively for the middle and higher income groups. Similarly the stuffed dolls are to be generally addressed to the middle and higher income groups. The following pricing is assumed for the purpose of this study:

Average cost per 1,000 dolls

	Baby squeak		Vinyl dolls		Stuffed dolls	
	US$	LE	US$	LE	US $	LE
without packing	935	2,337	975	2,438	3,758	9,396
with cheap packing	945	2,587	985	2,688	-	-
with good packing	1,185	2,962	1,225	3,063	4,008	10,021
Proposed Selling Prices:						
with cheap packing	1,300	3,250	1,400	3,500	-	
with good packing	1,600	4,000	1,700	4,250	5,200	13,000

Estimated Sales volume is shown below:

Toy	Quantity	Price L.E	Value (L.E)
Baby squeak	48,000	3.25	156,000
	12,000	4.00	48,000
Vinyl dolls	120,000	3.50	420,000
	30,000	4.25	127,500
Stuffed dolls	162,500	13.00	2,112,500
			2,864,000
	Less 10% dealers commission		286,400
	Net Sales	LE	2,577,600
		US $	1,031,040

7.15 Profitability

	LE (000)	US $ (000)
Sales	2,578	1,031
Cost	2,203	881
Gross Profit	375	150
Taxes (50%)	187	75
Net Profit	188	75

Net Profit as a percentage of	
sales	7.25
cost	8.50
investment	22.10
equity	73.75

Payback period: 6.71 years including one year of construction

Breakeven point: 61%

Internal Rate of return : 33%

Annex 1

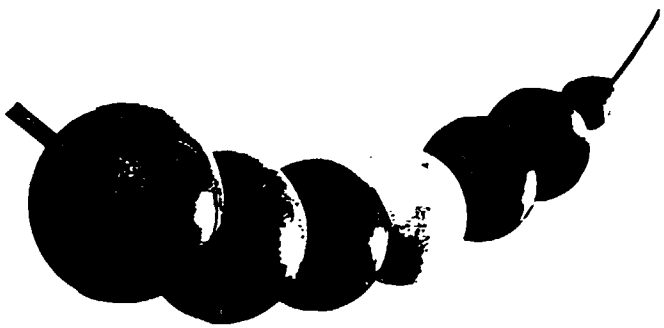
GOVERNORATE WISE LIST OF DAY-CARE CENTRES UNDER THE MINISTRY OF SOCIAL AFFAIRS

Sl no.	Governorate	number of centres	number of children
1	Cairo	412	60,000
2	Garbiya	154	13,000
3	Menoufia	341	12,000
4	Dakahliya	180	10,000
5	Sharkiya	159	10,000
6	Qalyoubia	121	9,759
7	Giza	179	8,710
8	Qena	142	8,292
9	Alexandria	148	8,000
10	Menia	150	7,393
11	Behara	134	7,000
12	Demyat	67	7,000
13	Assiout	120	6,580
14	Sohag	102	6,455
15	Bani Souaf	84	6,377
16	Fsmailia	53	6,000
17	Kafr-el-Sheik	103	6,000
18	Fayoum	100	5,667
19	Aswan	99	5,000
20	Suez	43	4,000
21	Port Said	39	4,000
22	Marsa Matrouh	19	3,000
23	Red Sea	23	2,000
24	El Wadi el Gadid	37	2,000
25	North Sanai	18	2,000
26	South Sanai	7	1,000
	Total	3,034	221,233

RECOMMENDATIONS FOR EDUCATIONAL TOYS: EXAMPLES

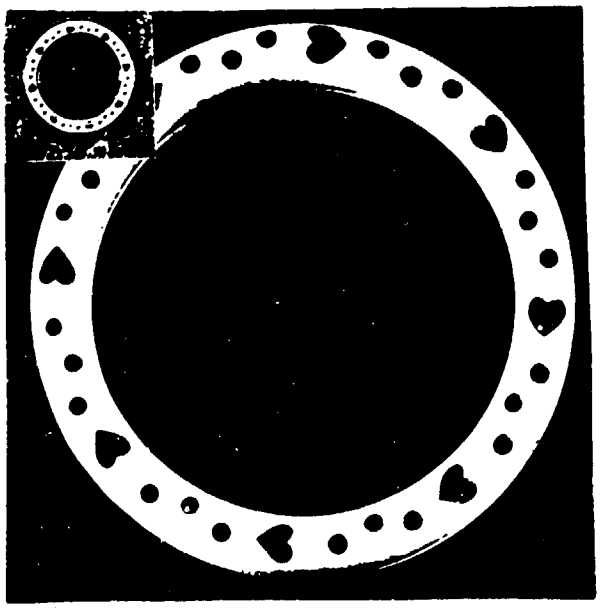
No.	AGE	VALUE/PURPOSE	DESCRIPTION
1	baby: 0-3 mos.	- stimulation of visual discrimination - coordination of eye movements	chain of plastic balls of different colours, to be affixed to the baby's bed or pram; it should be mounted so as to allow the baby to reach and handle it

EXAMPLE: Chain of balls: the bright balls make noises (rattle and knock) when the baby pulls or turns them. Baby learns that he himself is able to determine their movement and noises.



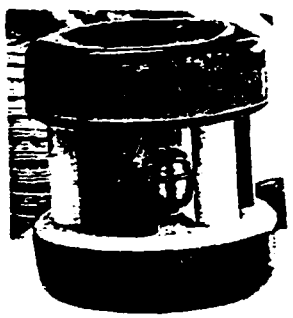
No.	AGE	VALUE/PURPOSE	DESCRIPTION
2	baby 2 mos.- 1 year	- relief from teething pains - satisfaction of the baby's need to suck and explore an object with the mouth	teething ring: must not hurt the baby's jaws and/or tongue, should be smooth and cool

EXAMPLES:



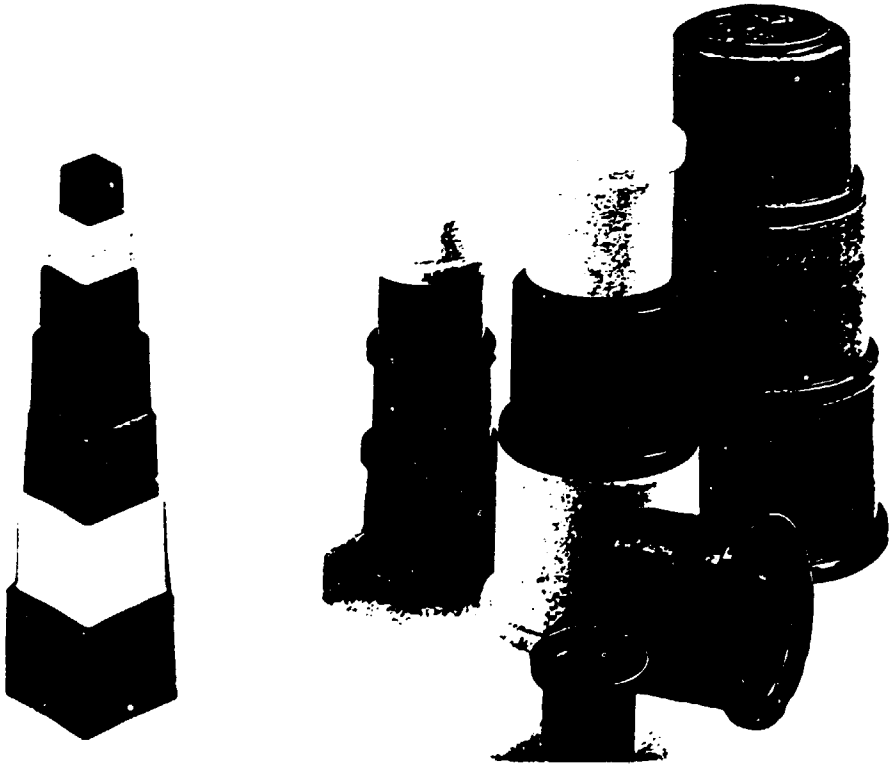
No.	AGE	VALUE/PURPOSE	DESCRIPTION
2	baby 3 mos.- 1 year	- development of motor-activities in fingers, hands and arms - coordination of eye-movements and motor activities - concentration on the sound of the rattle	rattle: the colorful pieces should not be too small; the chain must be strong; the lock, secure (only to be opened by adults!)

EXAMPLES:



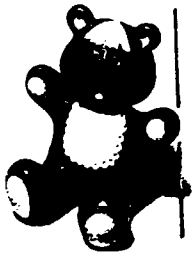
No.	AGE	VALUE/PURPOSE	DESCRIPTION
4	9 mos.- 4 yrs.	- coordination of oculo-motor activities (eyes/ fingers & hands) - development of the motor activities of fingers and hands - visual discrimination - concentration - memory - patience	plastic boxes of different sizes and colours, fitting into each other; can also be used in water and sand

EXAMPLES: Fitted boxes and building cups - cups of different basic colours invite the child to play and experiment with them. The little ones delight in playing with them - also at the beach and in the sandbox, indoors and out-of-doors.



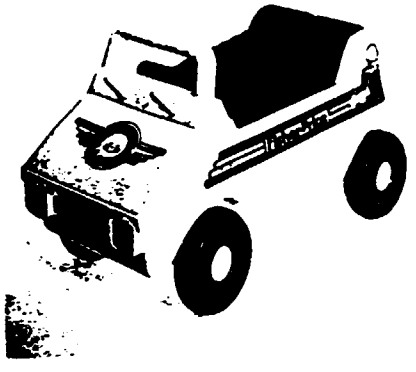
No.	AGE	VALUE/PURPOSE	DESCRIPTION
5	2 mos.- 2 yrs.	- development of hearing and of the motor activities of hands and fingers - coordination of hearing and motor activities	doll or animal with device for eliciting a distinct sound (squeel or squeek, etc.)

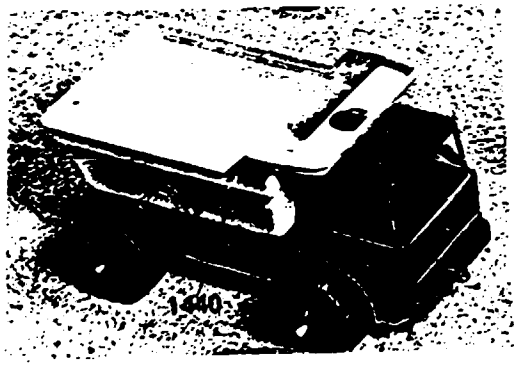
EXAMPLES:



No.	AGE	VALUE/PURPOSE	DESCRIPTION
6	1-4yrs.	- development of motor activities - training of balance	big plastic car: very popular is a car so big as to allow small children to sit on it and to load it

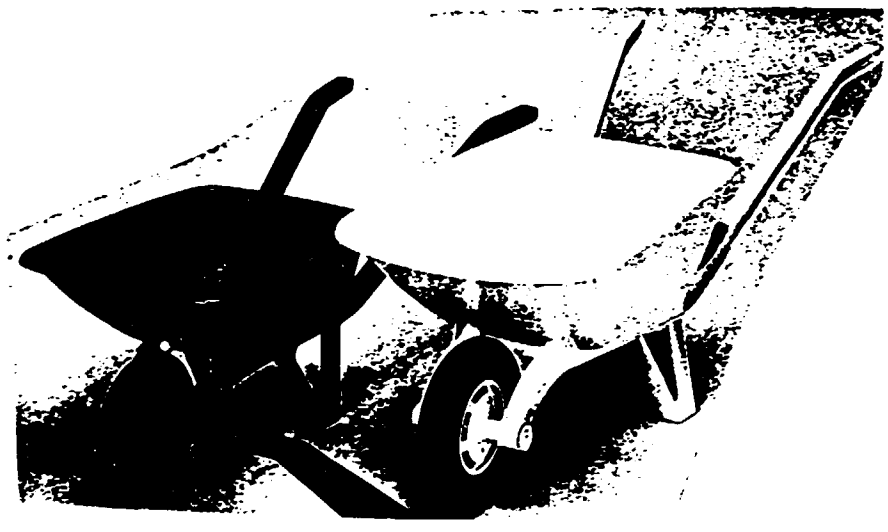
EXAMPLES: Walking-learner or loader-car: when the seat is folded out, the car can further be used as a walker or transport cart (loader). Storage room is provided under the seat.





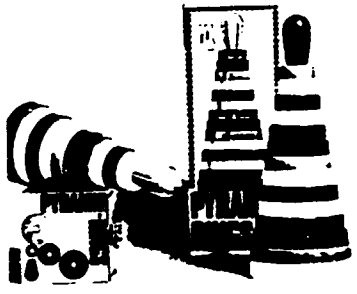
No.	AGE	VALUE/PURPOSE	DESCRIPTION
7	1-5yrs.	- training of motor activities	wheelbarrow: should be strong enough to be loaded and unloaded

EXAMPLES:



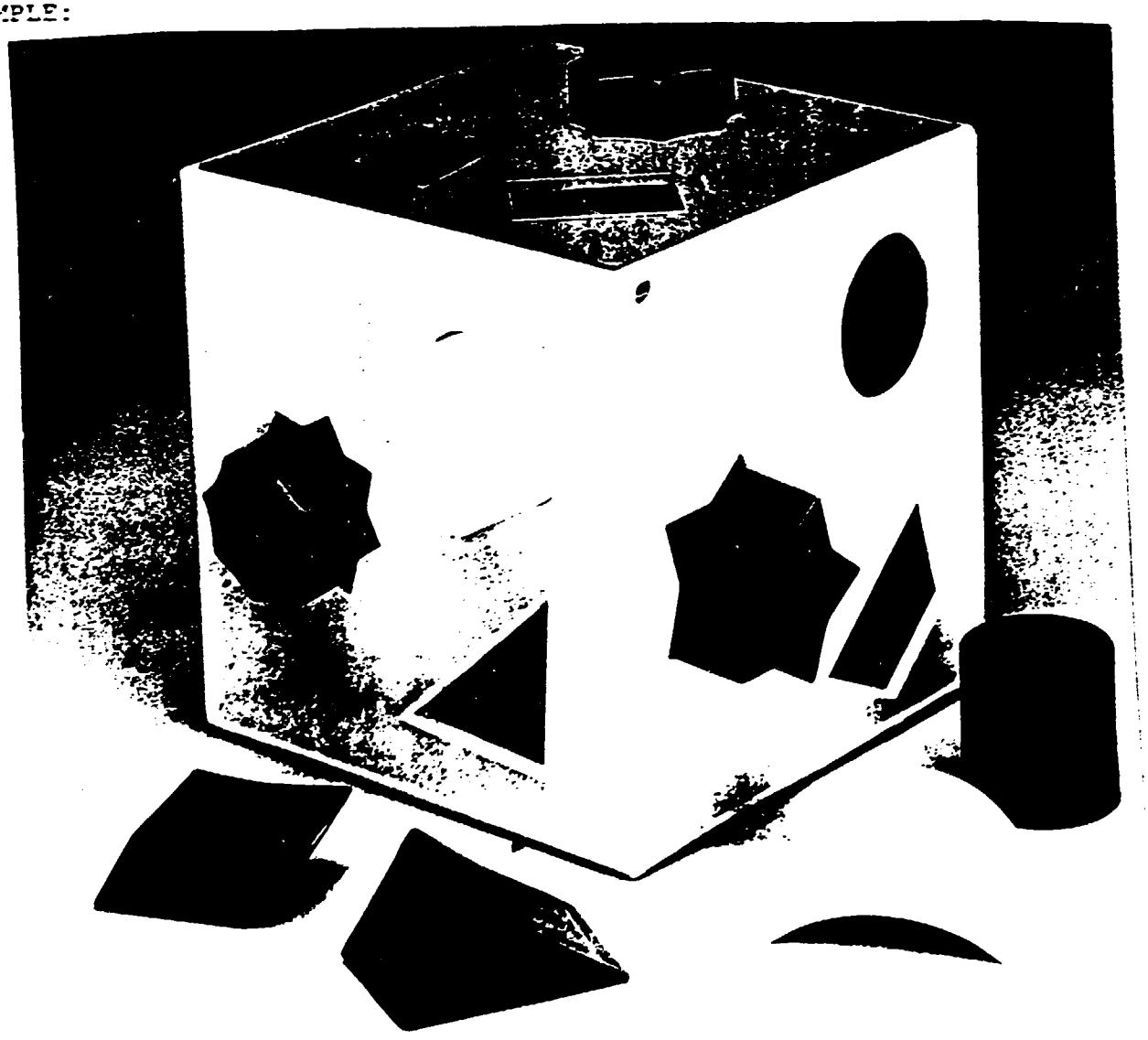
No.	AGE	VALUE/PURPOSE	DESCRIPTION
9	2 yrs.- 4 yrs.	- visual discrimination - training of fine-motor activities - coordination of eye movements and motor activities - concentration - patience - training in keeping order among possessions and utensils	pyramid-rings: consist of rings in different sizes and colours

EXAMPLES: Pyramid-rings of 10 or 14 pieces: a teaching toy to learn colours and dimensions. Threaded ax to screw and unscrew cap, holding all the rings together - inviting the child to learn to keep order among different devices.



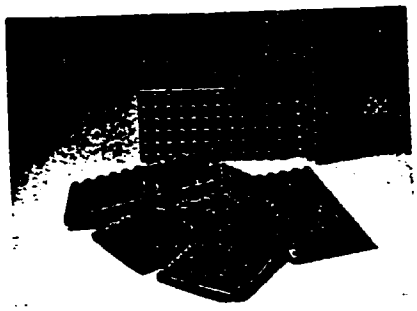
No.	AGE	VALUE/PURPOSE	DESCRIPTION
9	2 yrs.- 3 yrs.	- visual discrimination - training of the motor activities of fingers and hands - coordination of eyes and motor activities ("oculo-motor coordination") - concentration - patience	"posting box": box into which children throw differently shaped pieces; the pieces should be of proper size so that the child can easily grasp them

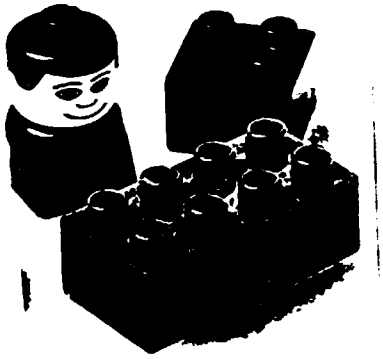
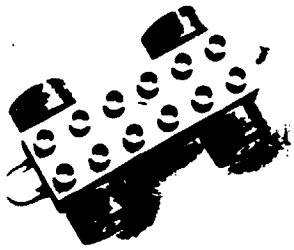
EXAMPLE:



No.	AGE	VALUE/PURPOSE	DESCRIPTION
10	2 yrs.- 4 yrs.	- technical experiences - planning - constructing - creative play	big building blocks: different sizes and colours, fitting together well - e.g., LEGO, NOPPER... small cars, figures, animals which fit into the building blocks

EXAMPLES:

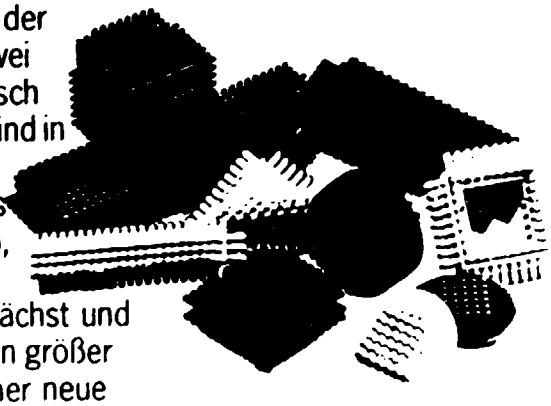




Nopper

ad 10.)

Nopper. Das Steckspielzeug für kleine Hände und große Phantasie.

Nopper ist für Kinder der Schlüssel zur Welt: Zwei bunte Steine, spielerisch zusammengesteckt, sind in ihrer Phantasie schon ein Tier oder ein Haus oder ein Auto. Und so, wie ihre kritische Beobachtungsgabe wächst und ihre Lust am Probieren größer wird, hält Nopper immer neue Möglichkeiten bereit, die Welt der Erwachsenen im wahrsten Sinne des Wortes „begreifen" zu lernen.



Es gibt nichts Schöneres, als Kindern bei der Entwicklung ihrer Phantasie, Kreativität und Handfertigkeit zu helfen. Dazu gehört das richtige Spielzeug, dazu gehört Nopper.

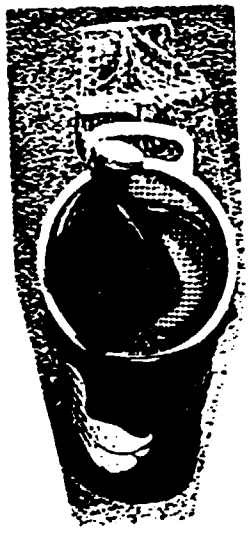
Und so vielseitig das Nopper-Programm auch ist, seine Möglichkeiten für die Zukunft sind noch längst nicht ausgeschöpft. Das zeigen die fünf kleinen Spielwelten.

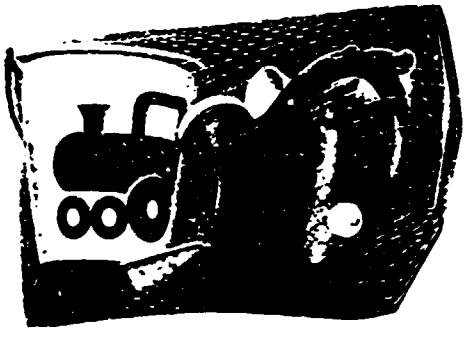
ab 10.)


BIG
Ideal geformt speziell für kleine Hände von Vorschulkindern. Ein Spielspaß für drinnen und draußen, für groß und klein, für jung und alt. Ein wunderbares Spielelement zur Erweiterung der Spielmöglichkeiten mit dem seit Jahrzehnten bewährten, klassischen BIG-Bobby Car. BIG-BIG-BLOCKS gibt's in Packungen mit 25, 50 oder 75 Super-Bausteinen.
NEU
das große, umfassende, bunte Bausteinsystem
5 Jahre BIG-Garantie
BIG®-BIG-BLOCKS
BIG

No.	AGE	VALUE/PURPOSE	DESCRIPTION
11	2 yrs.- 6 yrs.	- creative skills - constructive skills - social behavior	plastic set for playing with sand: bucket, shovel, sand-moulds, riddle/strainer, watering can

EXAMPLES:



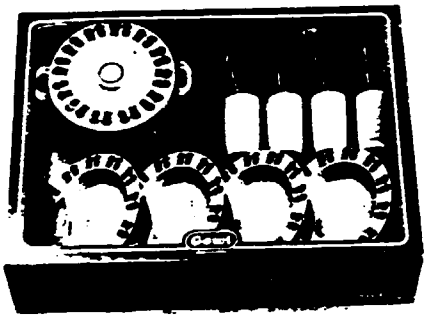


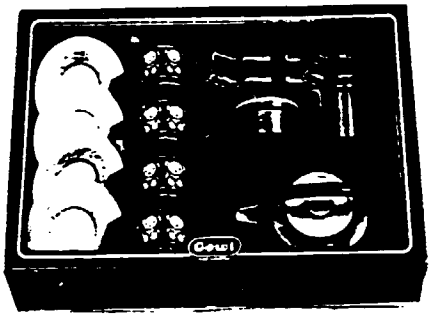
No.	AGE	VALUE/PURPOSE	DESCRIPTION
12	3 yrs.- 14 yrs.	- development of emotional and social behaviour	plastic baby (doll) with sleeping eyes: should be washable, not too big (about 45cm), no hair; plastic doll: can stand and sit, 52cm, black hair, colour of skin: dark brown or black (has to be adapted to the different colours of skin and to taste of the Egyptians)

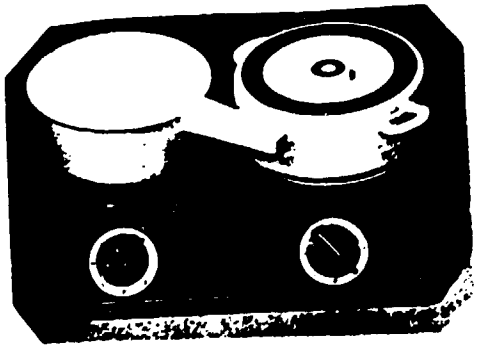
EXAMPLES:

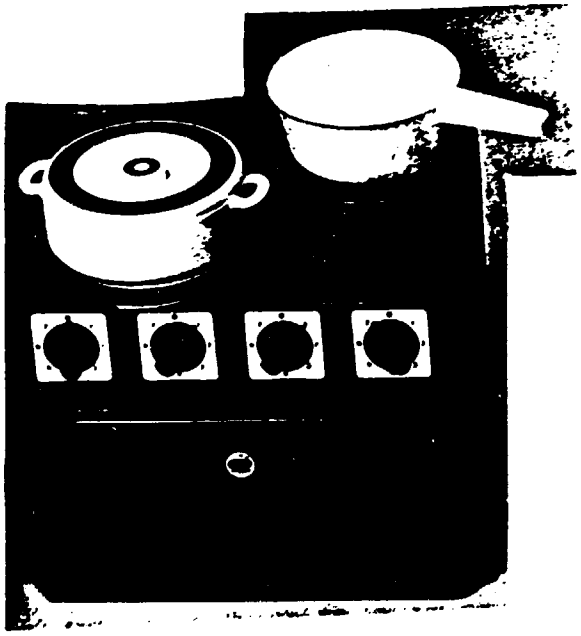
No.	AGE	VALUE/PURPOSE	DESCRIPTION
13	7 yrs.- 9 yrs.	- imitation of everyday life experiences - mothering the dolls and animals - development of social behaviour	set of small dishes for dolls: pots for cooking, stove (as commonly used by target group, i.e., electric, gas, coal- or wood-burner types)

EXAMPLES:



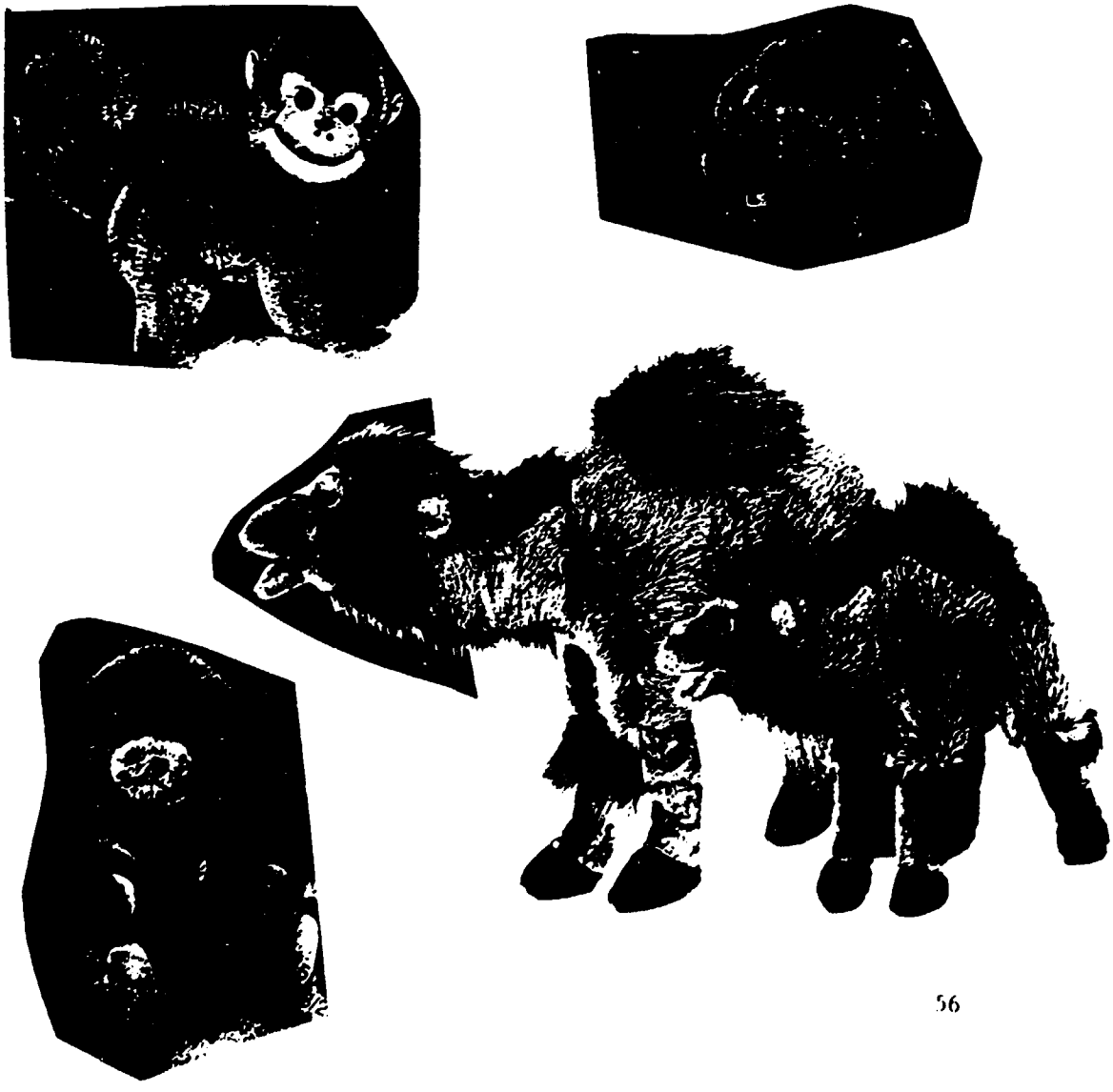






No.	AGE	VALUE/PURPOSE	DESCRIPTION
14	2 yrs.- 9 yrs.	- development of emotional behaviour - development of social behaviour	pets made of soft, furry materials: pets must not be too big, children should be able to carry them around with them, they must be washable, the quality of the material and construction of the toy must correspond to the Int'l Safety Standards for toys

EXAMPLES:

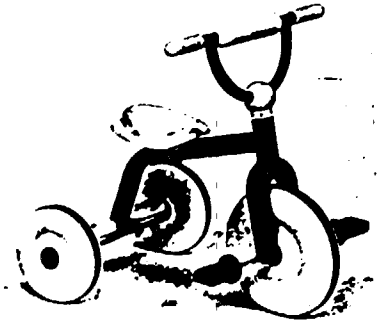


No.	AGE	VALUE/PURPOSE	DESCRIPTION
15	3 yrs.- 6 yrs.	- developing imagination - stimulating creativity - encouragement to speak and express one's own feelings, problems and fears	hand puppets: different characters taken from the traditions of the country - e.g. fairytale figures like "Goha", animals from traditional fables, figures from children's songs, etc.; the puppets should fit children's hands and fingers, the faces can be made of plastic, textiles or wood, the clothes, made from scraps of colourful textiles

EXAMPLES:

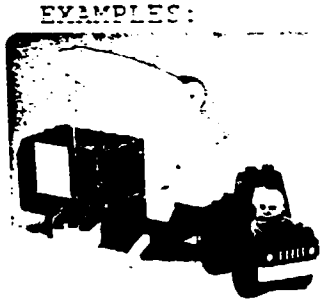
No.	AGE	VALUE/PURPOSE	DESCRIPTION
16	3 yrs.+	- coordination of gross-motor development	tricycle: should be correct size so that feet comfortably reach the pedals, may have a container for transporting toys, e.g., a basket attached in front of the handle bars, or, a small cart attached to the hind axle

EXAMPLES:



Nr.	AGE	VALUE/PURPOSE	DESCRIPTION
17	2 yrs.+ 1 yrs.	- imitation of everyday experiences - role-playing	small vehicles: imitations of various types of cars and trucks

EXAMPLES:



DUPLO Kranwagen mit Fahrer. (Ab 3 Jahren).

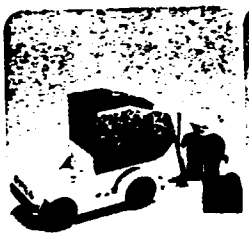
DUPLO Personenwagen mit Fahrerin.

DUPLO Motorrad mit Fahrer.

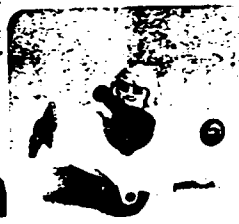
DUPLO Mutter mit Kind und Kinderwagen.

DUPLO Auto mit Boot und Matrose

DUPLO Lastwagen mit Fahrer und Pferd.

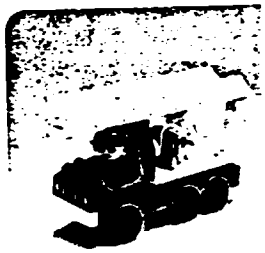


DUPLO Lastwagen zum Kippen mit Fahrer.

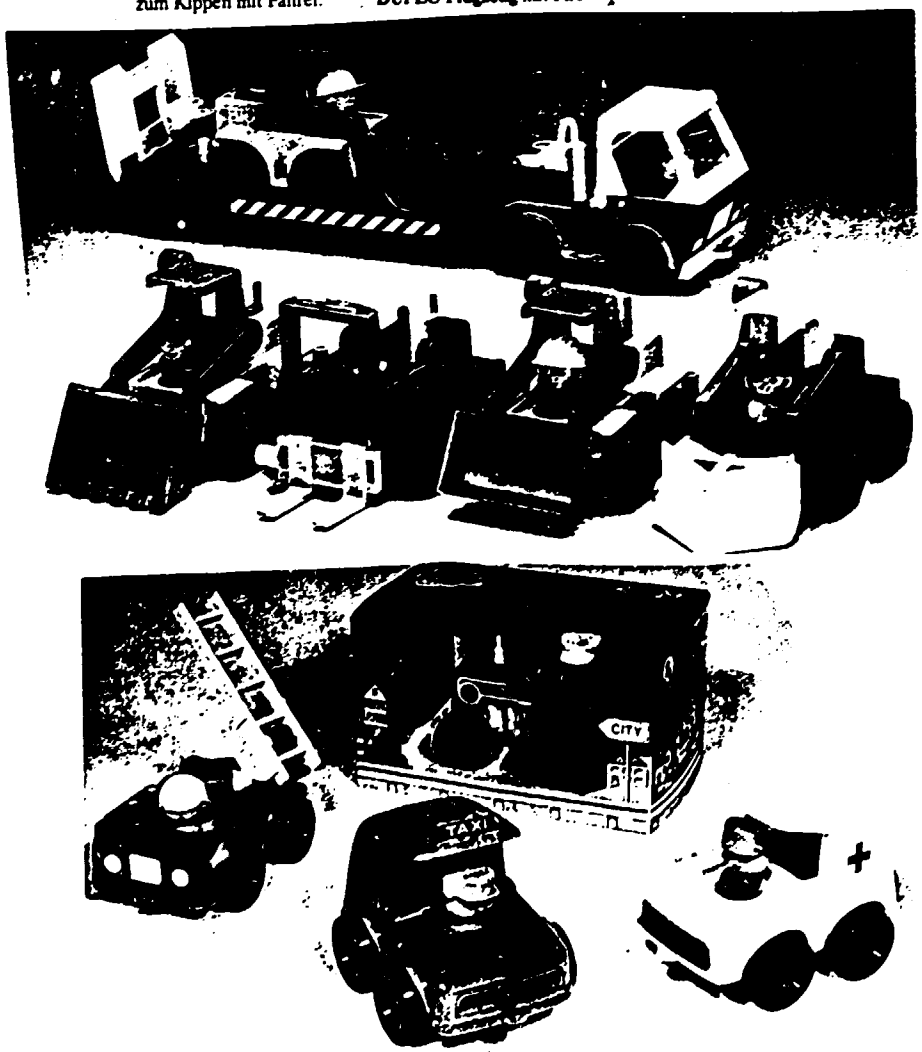


DUPLO Flugzeug mit Pilot.

DUPLO Möbellastwagen mit Fahrer.

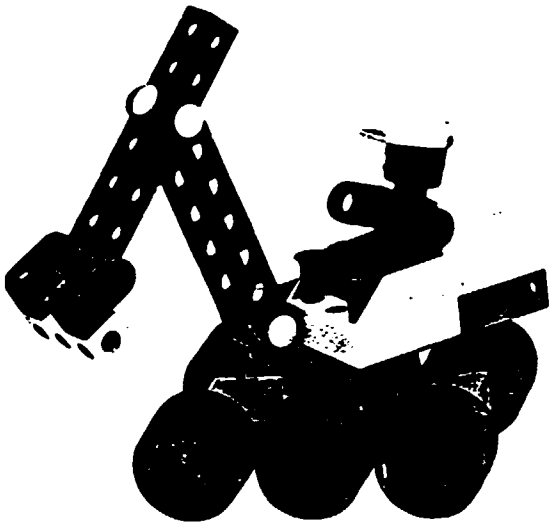


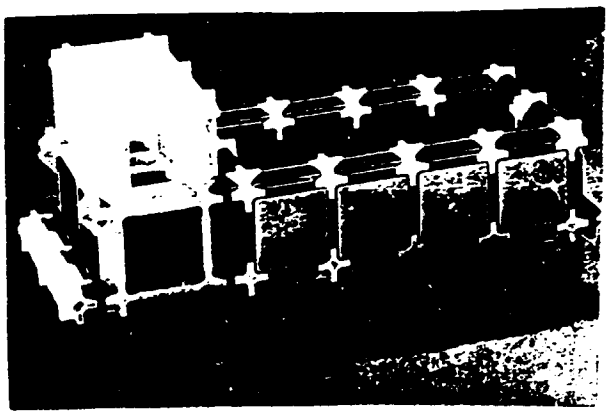
DUPLO Feuerwehr mit Feuerwehrmann.

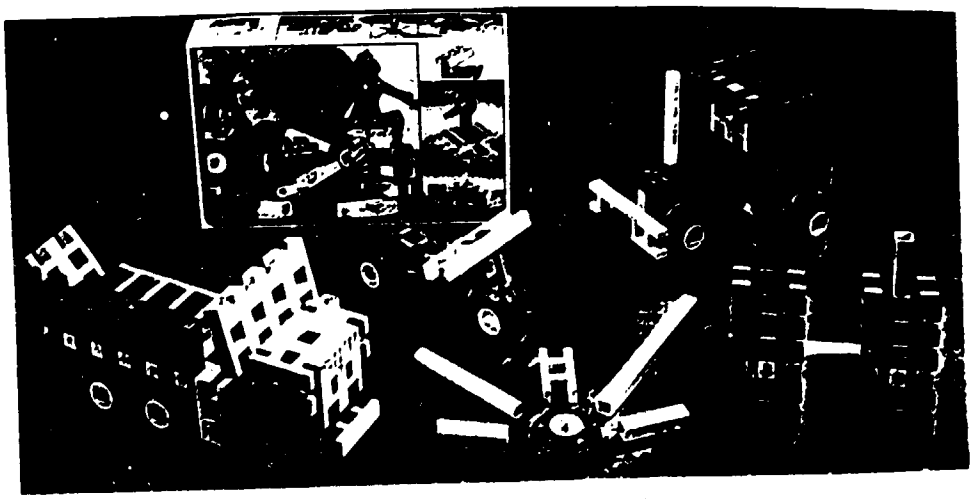


No.	AGE	VALUE/PURPOSE	DESCRIPTION
19	3 yrs.- 6 yrs.	- development of creative skills - ... of constructive skills - practice in simple technical matters - learning problem-solving strategies - planning and executing ideas - learning precision - concentration - patience	plastic elements for technical constructions, e.g.: vehicles, houses, fantasy forms...

EXAMPLES:

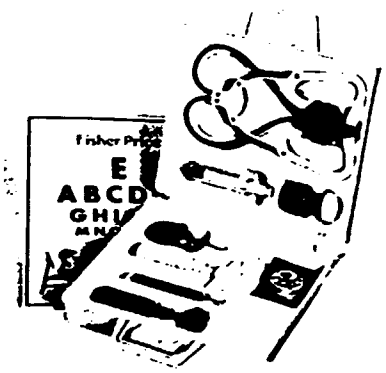






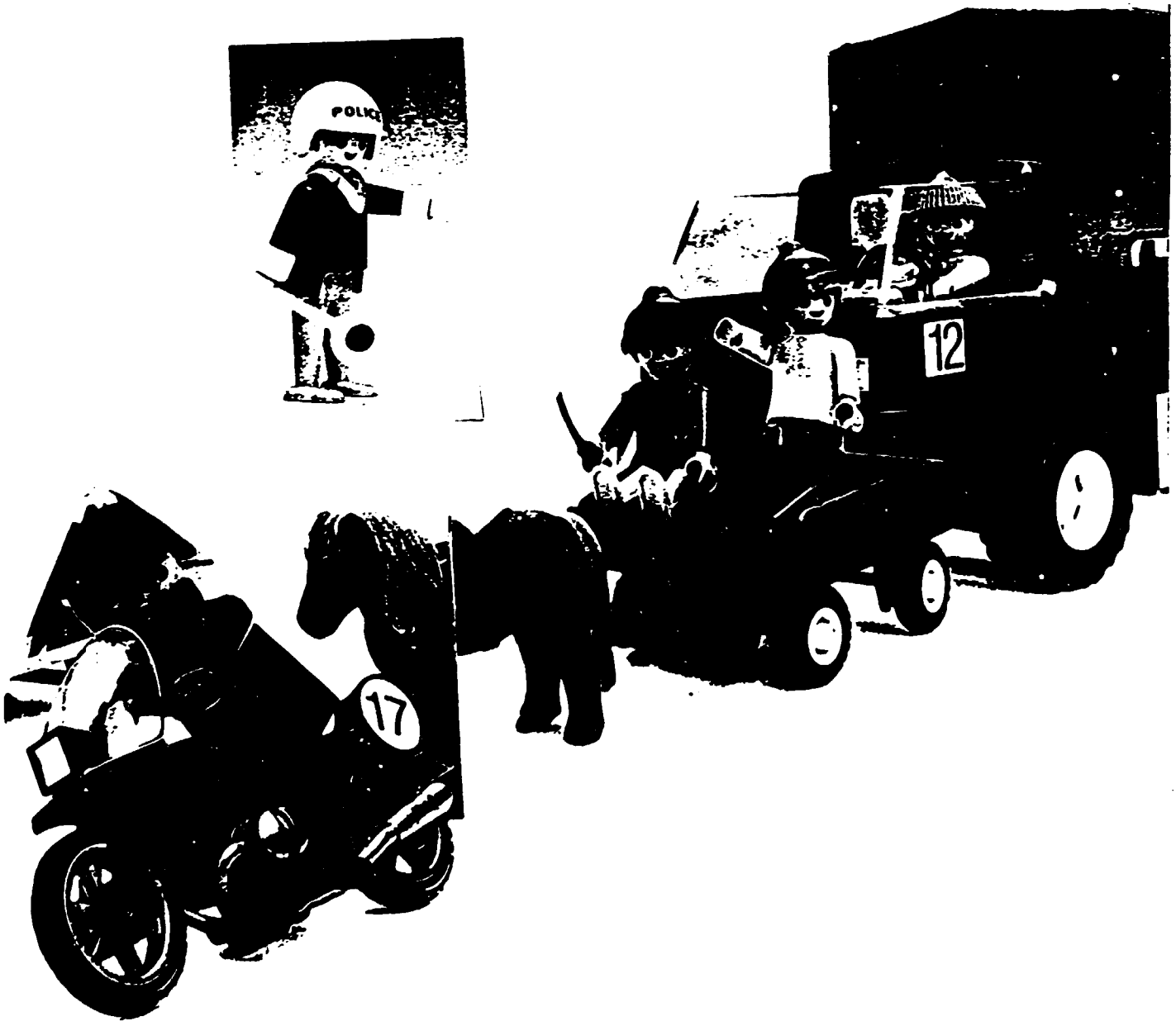
No.	AGE	VALUE/PURPOSE	DESCRIPTION
19	3 yrs.- 6 yrs.	- imitation and reflection on self-made experiences - loosing fear by getting acquainted with the technal instruments a doctor uses to examine patients	play-doctor sets

EXAMPLE:



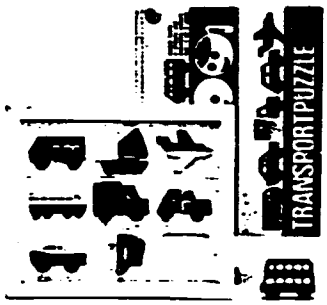
No.	AGE	VALUE/PURPOSE	DESCRIPTION
20	3 yrs.- 6 yrs.	- creation of a play-world - imitating and reflecting on self-made experiences - finding solutions to certain problems by "changing the world" in play	small figures, such as: children, grown-ups, animals, cars, houses, trees, tools, fences, etc.; the small figures should be taken from the child's everyday life, i.e., environment

EXAMPLES:

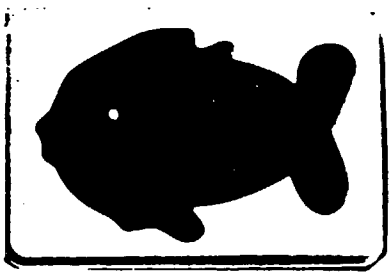


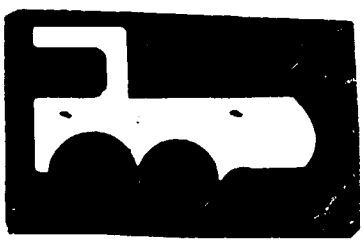
No.	AGE	VALUE/PURPOSE	DESCRIPTION
21	3 yrs.- 6 yrs.	- visual discrimination - coordination of eye-movement and motor activities - concentration - patience	puzzles with different shapes: may have small handles for grasping the pieces more easily

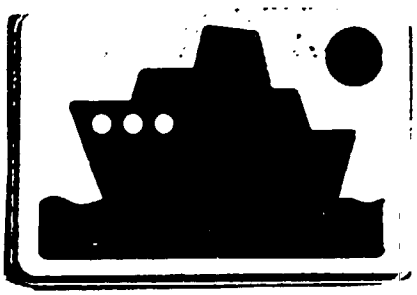
EXAMPLES:

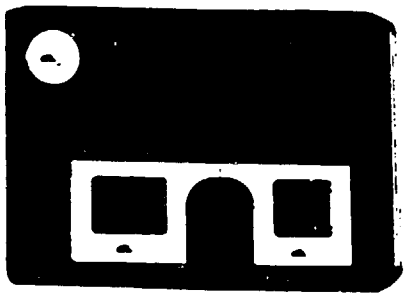


E 19 - TRANSPORT PUZZLE.
Assembling two-coloured vehicles in the right spot is great fun, and instructive



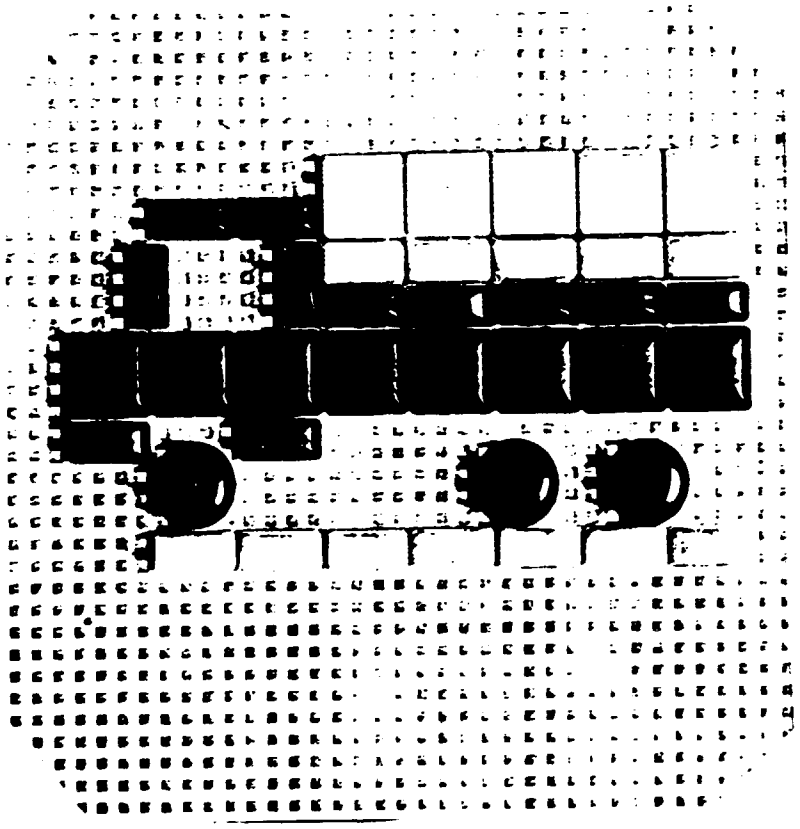






No.	AGE	VALUE/PURPOSE	DESCRIPTION
22	3 yrs.- 6 yrs.	- creativity - motor activities of the fingers and hands - concentration - patience	mosaic: consists of plastic elements which are stuck or plugged into a fitting underground board

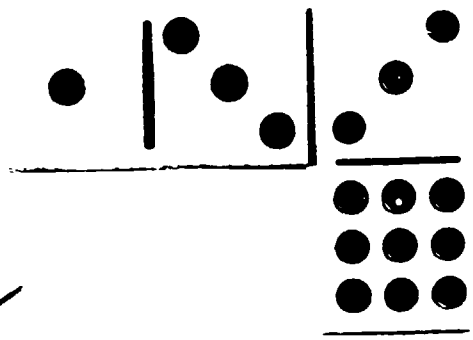
EXAMPLE:

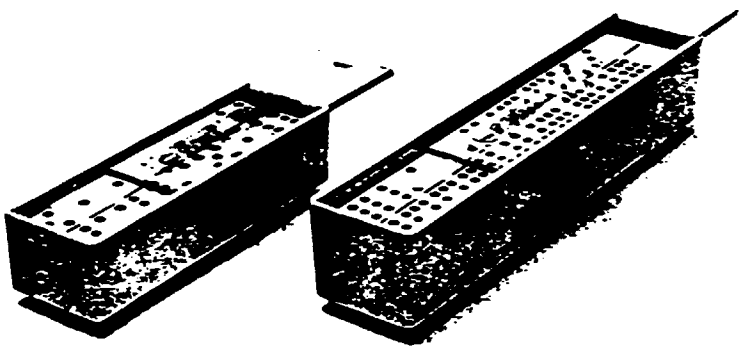


No.	AGE	VALUE/PURPOSE	DESCRIPTION
23	4 yrs.- 6 yrs.	- visual discrimination - social behaviour - frustration tolerance - mathematical experiences	dominoes: either with various pictures or with dots from 1 to 6

EXAMPLES:

This parlour game first came to the German-speaking countries in the first half of the 18th century via Italy and France. Its most amazing quality is its versatility.

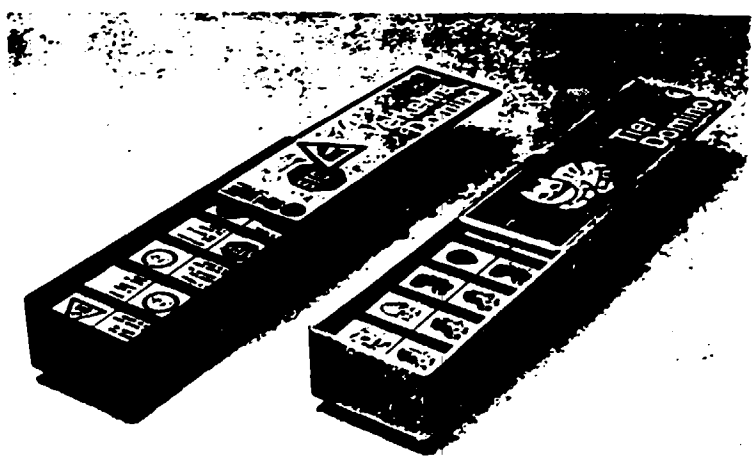




Dominoes, double 9, 56 pieces, plastic box with transparent cover, pieces 48x24x7 mm
28x6x5 cm 700 g 6/1

Dominoes, double 6, 28 pieces, wooden box with printed cover, pieces 80x40x10 mm
30x10.5x5.5 cm 1200 g 8/1

Early attempts to replace domino dots with pictures are known to us from the 19th century. The types of pictures preferred are either educational or entertaining in nature.



Dominoes with traffic signs, 28 pieces, plastic box with 4-colour printing on the cover, pieces 80x40x10 mm, pieces adapted for small children
29x9x5 cm 560 g 10/1

Dominoes with pictures of animals, 28 pieces, plastic box with 4-colour printing on the cover, pieces 80x40x10 mm, pieces adapted for small children
29x9x5 cm 560 g 10/1

No.	AGE	VALUE/PURPOSE	DESCRIPTION
24	4 yrs.- adult	- motor activities of the fingers and hands - patience - coordination of eye movement and motor activity - learning frustration tolerance - social behaviour	tiddlywinks, flea game

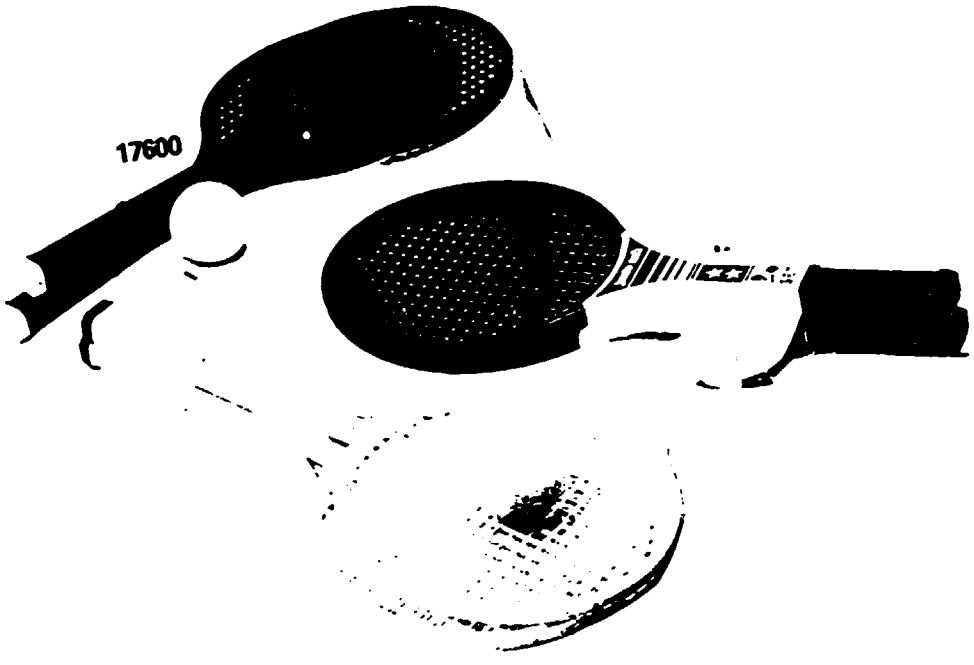
EXAMPLES:

The common flea (Pulex irritans) is an irritation to man and beast. It is just 3 mm long and is capable of jumping a distance of 35 cm and a height of 20 cm. This ability gave the "Flea Game" its name

130 02
Flohpilz, Fliegenpilz mit roter Kappe und weißen Punkten, 28 Scheibchen in 4 Farben
Mushroom, flea game with a red cover and white points, 28 pieces in 4 different colours
8x7 cm ∅ 50 g 24/1

No.	AGE	VALUE/PURPOSE	DESCRIPTION
25	10 yrs. adult	- training of gross-motor activities - coordination of eye and movements - speed - social behaviour	"family tennis": consists of two plastic rackets and one soft ball, easy to carry around

EXAMPLES:

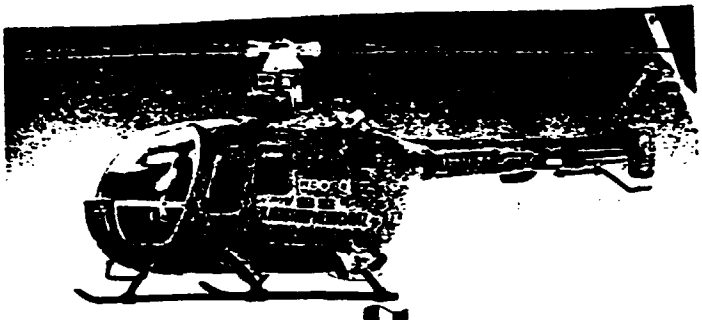


No.	AGE	VALUE/PURPOSE	DESCRIPTION
26	6 yrs.- adult	- coordination of eyes and movements - concentration - patience	plastic skittles + ball

EXAMPLES:

No.	AGE	VALUE/PURPOSE	DESCRIPTION
27	12 yrs.- adult	- technical experiences - development of construction skills - precision - concentration - patience - understanding of detailed technical drawings	construction sets for various technical models in plastic, e.g.: land vehicles, ships, airplanes, spaceships, etc.

EXAMPLES:

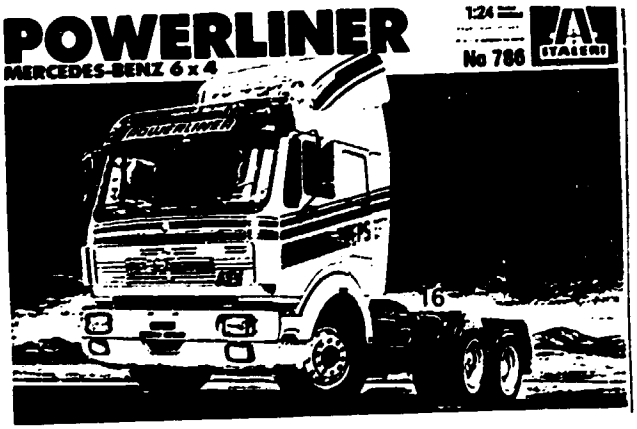


MBB BO 105 "Katastrophen-schutz".

MBB BO 105 Rescue mission.

Hélicoptère de sauvetage du service anti-catastrophes, type MBB BO 105.

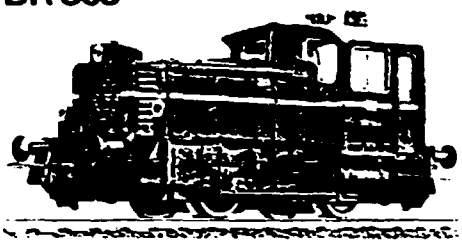
MBB BO 105 "Katastroohen-schutz".



DB Diesellokomotiven

od 27.)

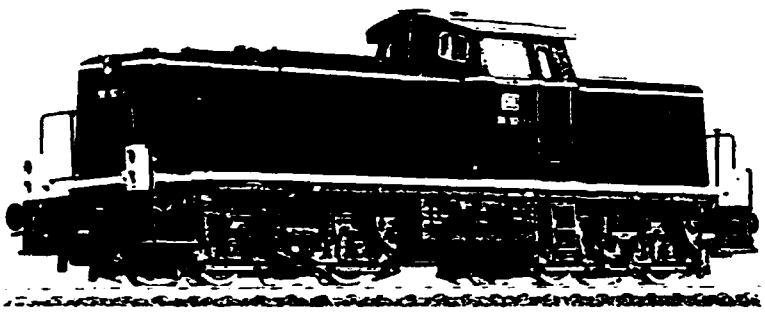
BR 333



43477 85042, — 40243, 40270, 40244

Diesellokomotive Baureihe 333 (KOF III) der DB, Achsfolge B. 1959 wurden die ersten KOF III in Dienst gestellt. Sie sind für den leichten Rangierdienst und für den Einsatz vor Arbeitszügen bestimmt. Diese Baureihe, von der die DB über 576 Maschinen verfügt, hat eine Leistung von 175 kW und eine Höchstgeschwindigkeit von 45 km/h.
Fein detailliertes Modell der Lokomotive 333155-0 der DB. Authentische Farbgebung und Beschriftung Epoche IV. Rahmen und Gehäuse aus einbrennlackiertem Metallspritzguß. Lokführerkabine aus Kunststoff. Durch eingebaute Pendelachse sehr gute Stromabnahme. Antrieb auf beide Achsen, beidseitig automatische Kupplung, angetriebener Kühlventilator. Kurzkupplungsköpfe und Tauschkupplungen liegen bei. LüP 90 mm.

BR 290

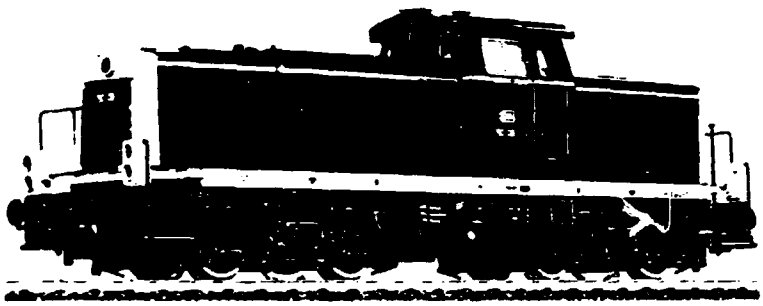


43457 85009, 10021, — 40204, 40273, 40210, 85602

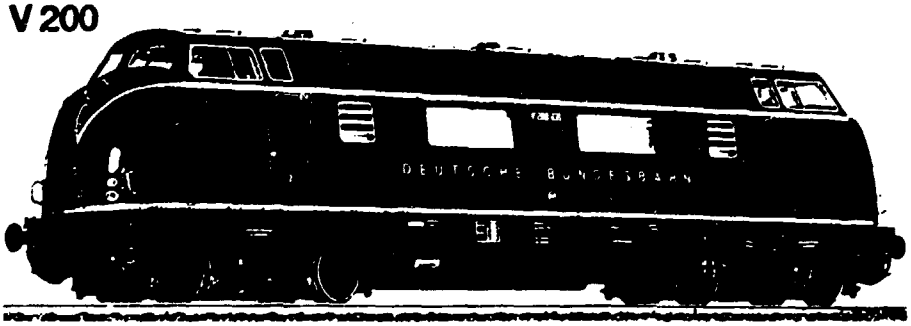
Diesel-hydraulische Lokomotive Baureihe 290 der DB. Achsfolge B'B'. Für den schweren Verschubdienst und für Übergabezüge wurden zwischen 1964 und 1974 407 Lokomotiven dieser Baureihe in Dienst gestellt. Sie leisten 994 kW und haben eine zulässige Höchstgeschwindigkeit von 80 km/h. Diese Lokomotiven sind vorwiegend auf großen Rangierbahnhöfen in ganz Deutschland anzutreffen.
Fein detailliertes Modell der Lokomotive 290110-6 der Deutschen Bundesbahn. Authentische Farbgebung und Beschriftung Epoche IV. Kunststoffgehäuse, Antrieb auf alle 4 Achsen, 2 Räder mit Haftreifen, fahrtrichtungsabhängiger Lichtwechsel, beidseitig automatische Kupplung. LüP 165 mm.

BR 290

43459
Fein detailliertes Modell der Lokomotive 290200-5 der DB. Authentische Farbgebung und Beschriftung Epoche IV. Technische Ausführung wie Modell 43457.



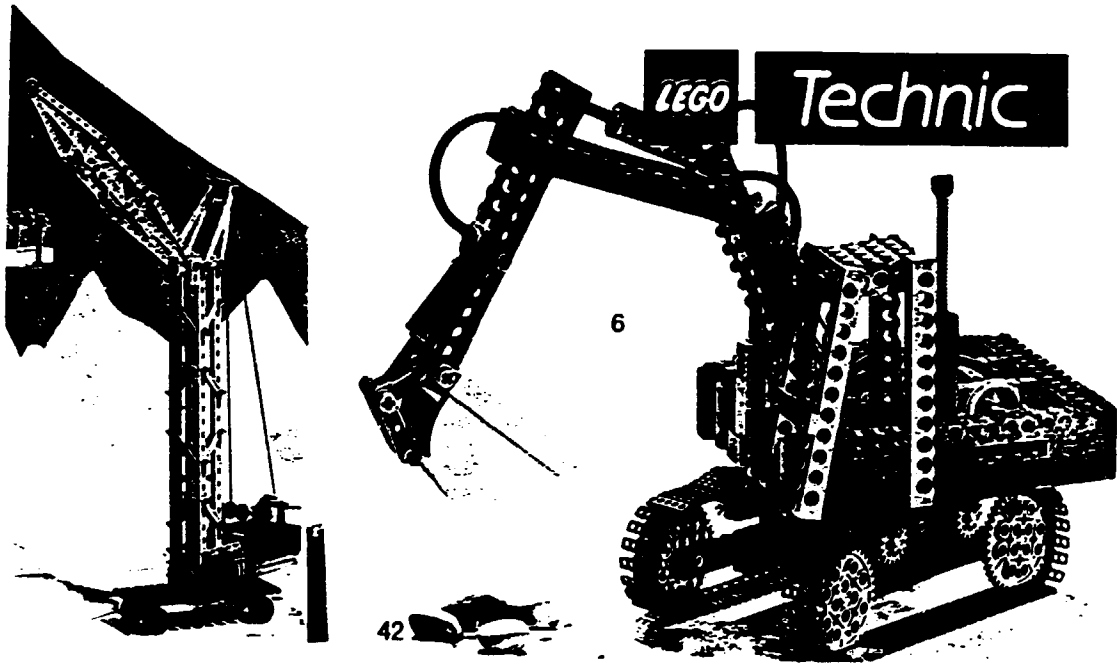
V 200

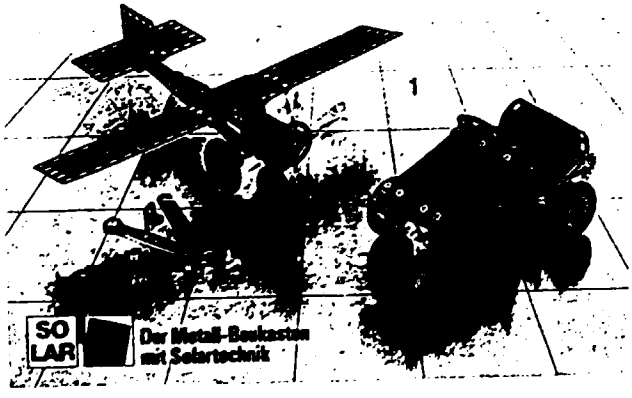


43522 85040, 10023, 85602, — 40243, 40270, 40244

No.	AGE	VALUE/PURPOSE	DESCRIPTION
28	10yrs.- adult	- development of creative and constructive skills - planning and completing a certain construction - development of problem-solving strategies - precision - concentration - learning to understand technical drawings	construction sets for building all kinds of plastic and metal constructions such as excavators, cranes, vehicles, houses, etc.

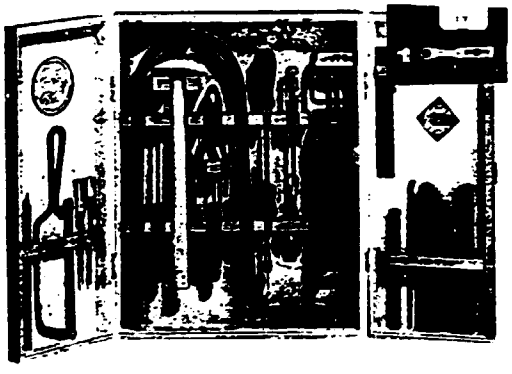
EXAMPLES:





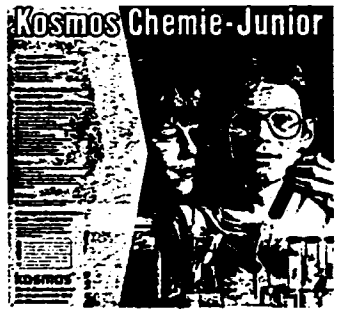
No.	AGE	VALUE/PURPOSE	DESCRIPTION
29	8 yrs.- adult	- experiences with tools - handicraft skills - technical understanding - precision - concentration - development of problem-solving strategies	set of tools: the tools must be of good quality and have to be fully functional

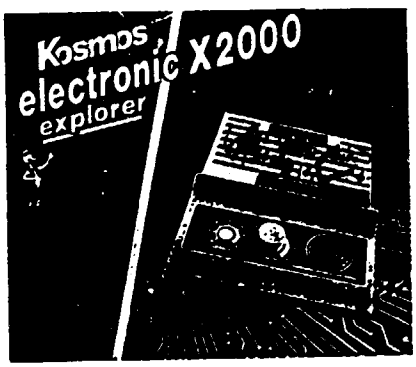
EXAMPLE:



No.	AGE	AIM/PURPOSE	DESCRIPTION
20	12yrs.- adult	- development of special interests in various fields of natural science and electronics - cultivating awareness of environmental problems - finding problem-solving strategies	experimental sets for electronics, chemistry, physics, biology, radio kits of various degrees of complexity...

EXAMPLES:





kosmos

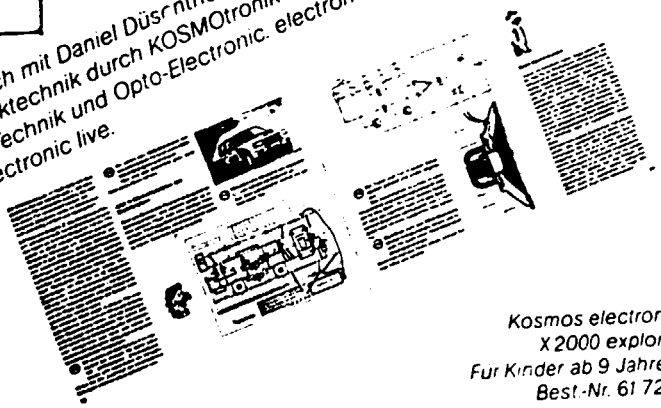
ab 30.)

ELEKTRONIK live

electronic X 2000 explorer

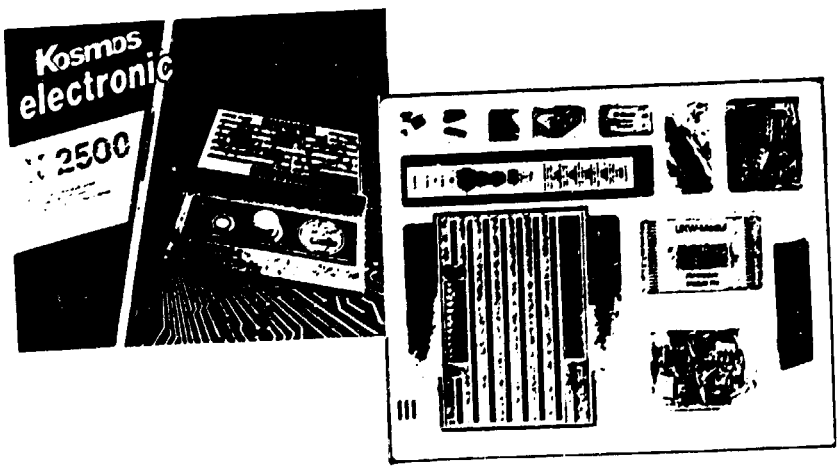
Lautsprecher-Radio. Lichtorgel. Applausometer. Electronischer Babysitter. Zweiklanghorn. Geister-Schalter. Automatisches Parklicht. Belichtungszeitgeber... Mit dem Kosmos electronic X 2000 explorer werden schwierigere Electronic-Aufgaben spielerisch gelöst. Das leichtverständliche Experimentierbuch hilft dabei. Transistor-Module. Leuchtdioden (LEDs). Verstärker-Modul (IC). Lautsprecher. Germanium-Diode. Pultgehäuse. Potentiometer. Drehknopf. Fototransistor. Widerstände. Kondensatoren. Steckplatte...

Einfach mit Daniel Düsentrieb bauen und experimentieren. Kontaktsichere Stecktechnik durch KOSMOtronik®-Stecksystem. 174 Experimente in der IC-Technik und Opto-Electronic. electronic X 2000 explorer. Electronic live.



Kosmos electronic X 2000 explorer
Für Kinder ab 9 Jahren.
Best.-Nr. 61 7219

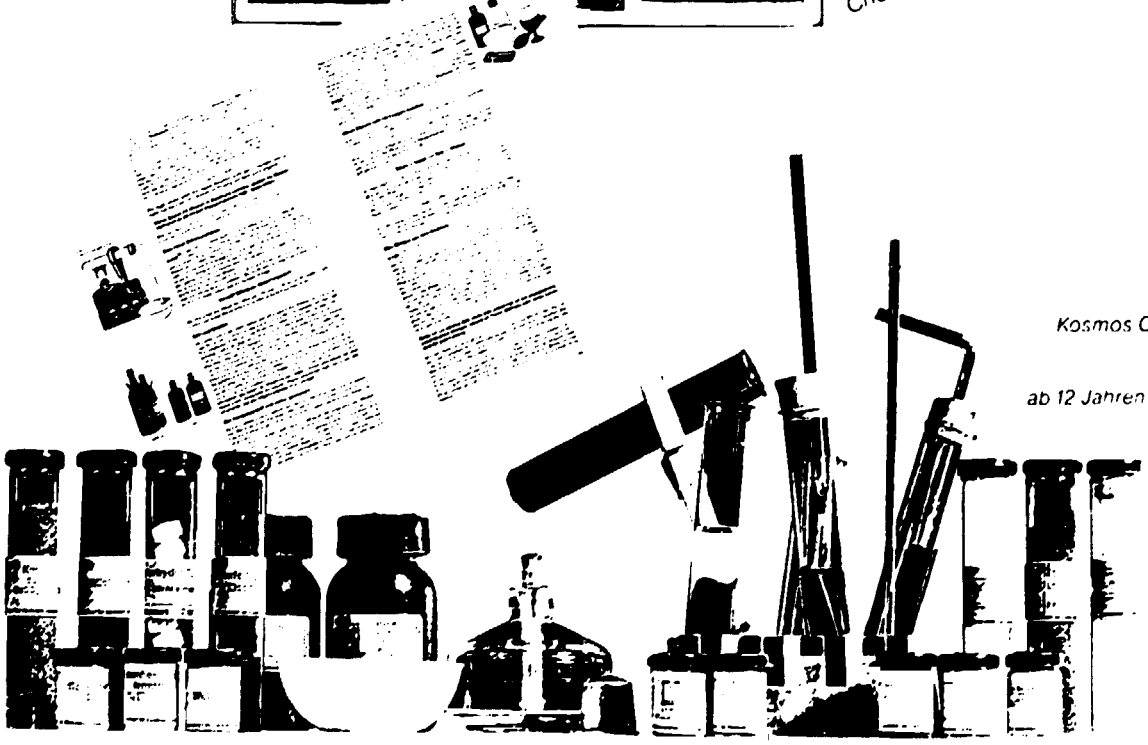
electronic Übergangskasten X 2500



Spielend aufsteigen vom explorer zum specialist. Der Kosmos electronic X 2500 erweitert den electronic X 2000 explorer zum electronic X 2000 specialist.

ad 30.1

Geheimtinte. Mini-Feuerlöscher. Künstlicher Nebel. Kristallwasser. Eisennachweis. Alkoholische Gärung. Seifenherstellung. Säuren. Basen. Salze. Versuche mit Kohlehydraten und Eiweiß. Nachtleuchtende Flüssigkeiten. Kosmos Chemie-Praktikum All-Chemist. Der ideale Experimentierkasten für alle angehenden Chemiker. Chemikalien. Spiritusbrenner. Reagenzgläser. Doppellöffel. Abdampfschale. Glasröhrchen. Gummischlauch. Lackmuspapier. Grundplatte. Trichter. Filtrierpapier... Das leichtverständliche Anleitungsbuch erklärt rund 240 Versuche. Praxisbezogen. Spannend. Aufschlußreich. Mit ausführlichen Sicherheitshinweisen. Chemie-Praktikum. Chemie erleben und verstehen. Chemie live.



Kosmos Chemie-Praktikum
All Chemist
Für Jugendliche
ab 12 Jahren und Erwachsene
Best.-Nr. 62 361-6

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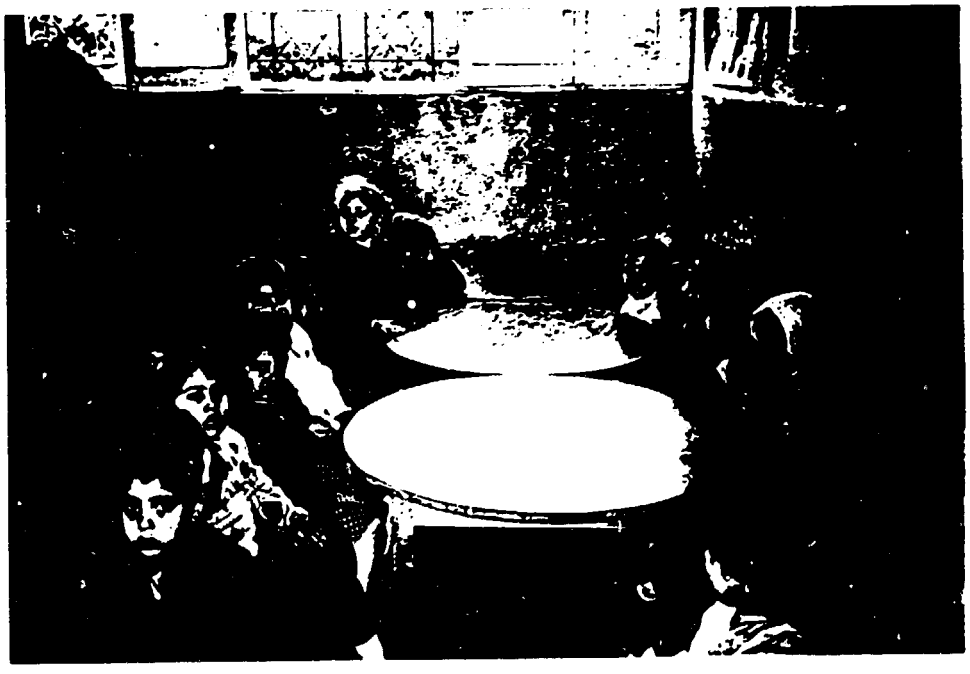
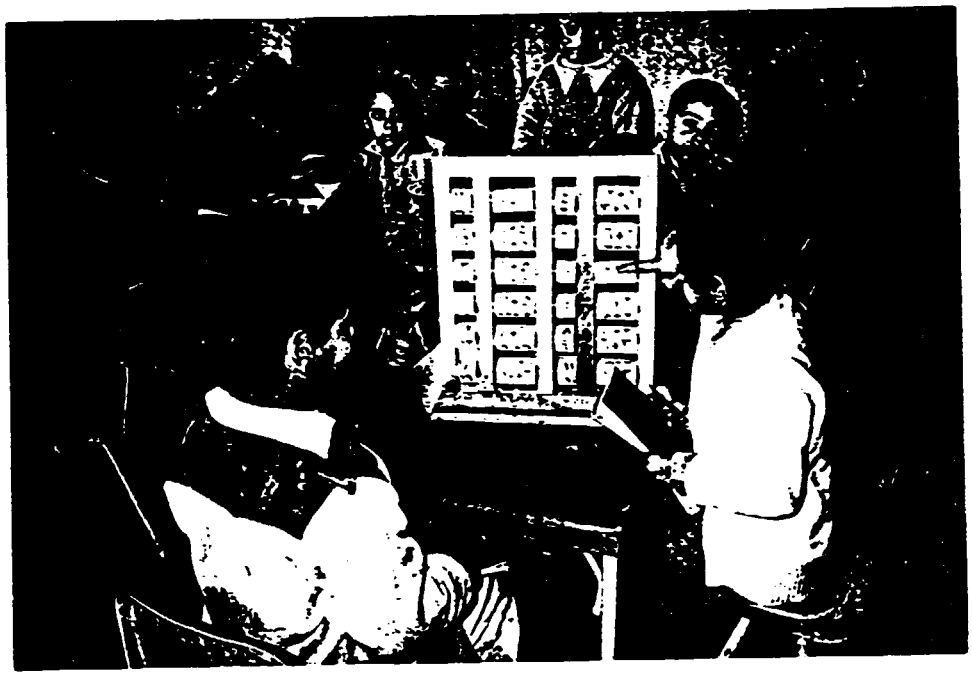
IMBABA CENTER: the age-group from 6 months to 2 years



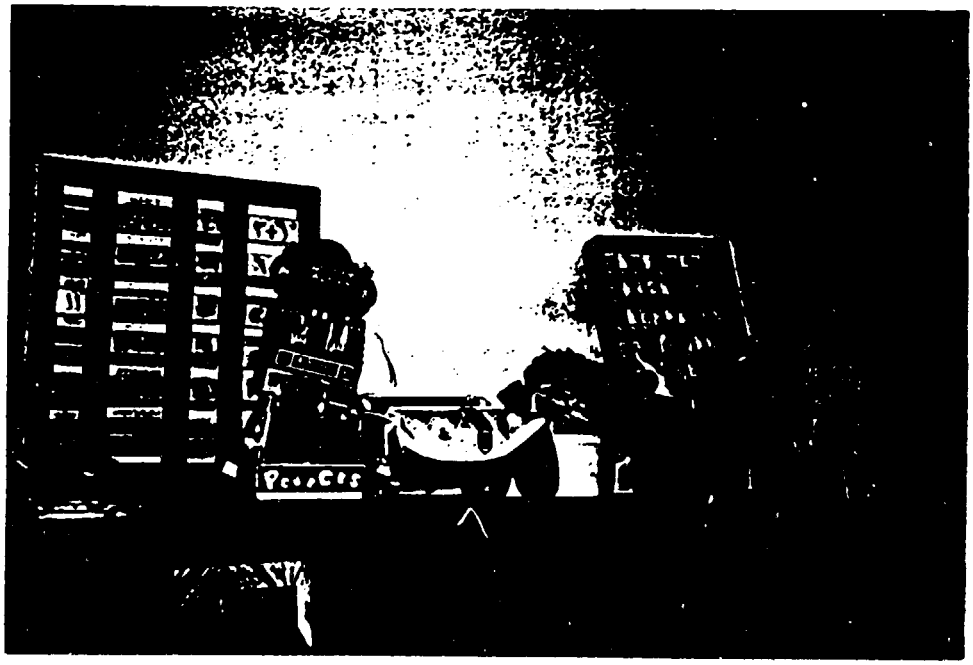
IMBABA CENTER: the age-group from 2 to 3 years



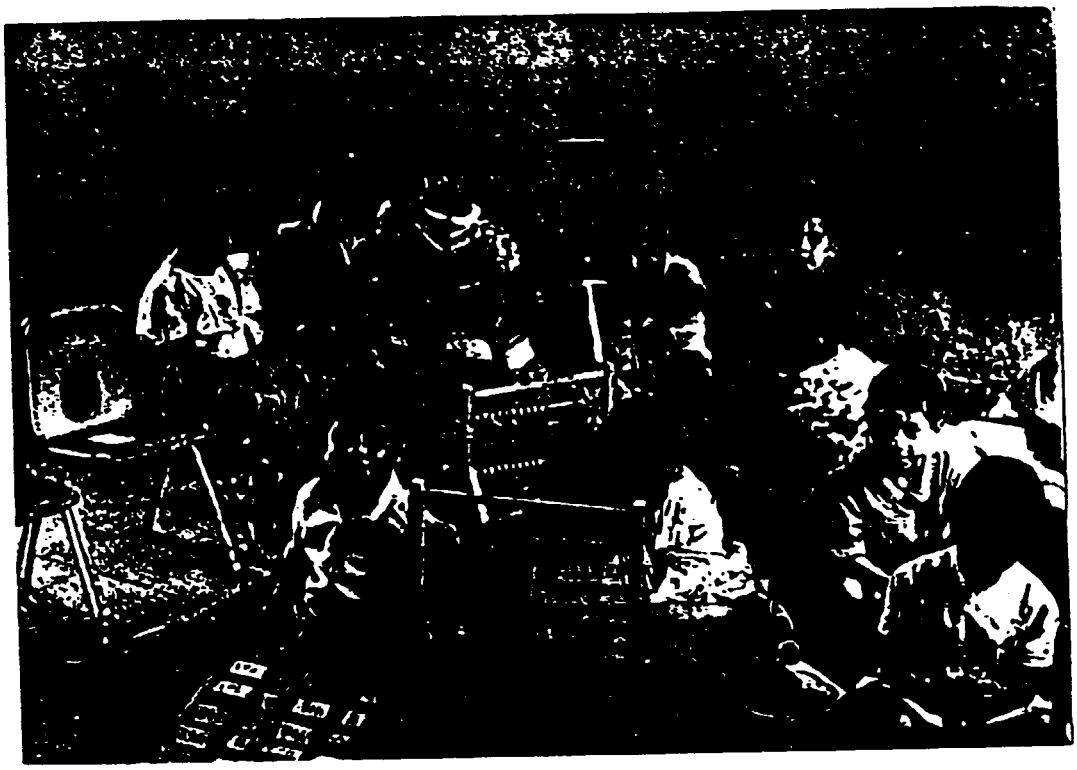
IMBABA CENTER: the group of pre-schoolers from 3-6 years

IMBABA CENTER: the group of pre-schoolers from 3-6 years

A.5 Gizeh Society Center for Mother-and-Child-Day-Care, IMBABA

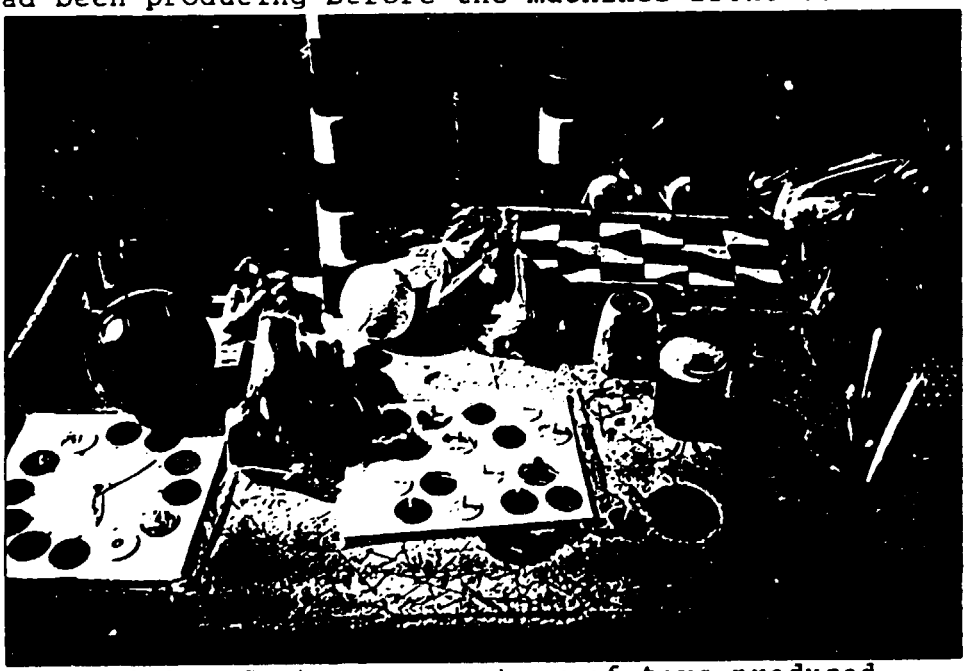


A.6 Garden City Child Day-Care Center (Rotary)



A.7 Learning Arithmetic - Imbaba Day-Care Centre

The illustration (photo) below shows those toys which the Imbaba Center had been producing before the machines broke down:



A.8 Imbaba Center - repertory of toys produced when all machinery is in working order: skittles, animals on wheels, boxes in different sizes, small balls, puzzles, clock, colour game, building blocks

List of Machines at Imbaba Day-Care Centre Workshop

Blow-Moulding - Machine Triulzi Capacity	2 liters volume,1 Cavity in production,under maintenance	Under repair
Blow-Moulding-Machine no name Capacity	Volume not known, 2 cavities not in production	Out of-order
Injection-Moulding-Machine Bipel Capacity	35 gr.	Out of order
Injection-Moulding-Machine Manumold MK 3 Capacity	15 gr.	Out of order
Thermoforming-Machine no name Table - size	500x600 MM	Out of order
Mixer of plastics with paints according to requirements (recommanding for the use by SMI-entrepreneurs)	2x25 kg	Out of order
Cracking - Machine to recycle runners, scrape and waste-material of thermoplastics.		Out of order

Phase I

RECOMMENDED LIST OF
- TOYS AND EQUIPMENT -

EGYPTIAN TOY PROJECT (UC/EGY/88/069)
EFFECTIVE JANUARY 1,1990

1. RECOMMENDED ITEMS AND SPECIFICATIONS, SEPTEMBER 26, 1989

	DESIGN	ENGINEER	MARKET INTRO.	PRODUCTION START
A. BABY SQUEEK TOYS(3 ITEMS) 3 TO 4 INCHES, 30 TO 50 GRAMS 4 COLOR DECORATION CLOSED BOX 4 COLOR PACKAGE	3 MONTHS	3 MONTHS	3/91	6/91
B. BABY ANIMALS,FIRST DOLL(5 ITEMS) CAMEL,DONKEY,LAMB,W.BUFFALO 6 TO 7 INCHES, 100 TO 140 GRAMS 4 COLOR DECORATION DISPLAY BOX PACKAGE	8 MONTHS	6 MONTHS	3/91	6/91
C. EGYPTIAN ANIMALS(5 ITEMS) 8 TO 14 INCHES, CLOTH STICHED DECORATION,ETHNIC WEAVE WINDOW BOX PACKAGE	6 MONTHS	3 MONTHS	3/91	4/91
D. MIDDLE EASTERN TODDLERS(5 ITEMS) VINYL HEAD,HANDS,FEET,CLOTH BODY PAINTED FACE DECORATION 3 SKIN COLORS,ROOTED HAIR, 13 INCHES, GARMENTS,ACCESSORIES WINDOW BOX PACKAGE	8 MONTHS	8 MONTHS	8/91	8/91
E. FAVORITE BABY DOLL (3 ITEMS) VINYL HEAD,HANDS,FEET,CLOTH BODY ROOTED HAIR, 3 SKIN COLORS, 17 TO 20 INCHES,PAINTED FACE DECORATION, GARMENTS, ACCESSORIES WINDOW BOX PACKAGE	6 MONTHS	6 MONTHS	1/1/92	1/1/92
TOTAL	31 MONTHS	26 MONTHS		

NOTE: PRODUCT DESIGN AND ENGINEERING EFFORT IS BASED ON ONE PERSON PER MONTH (40 HRS/WK.)

EGYPTIAN TOY PROJECT (UC/EGY/88/069)
EFFECTIVE JANUARY 1,1990

2. LIST OF EQUIPMENT,LABOR/TOY	MOLDING	PAINTING	SEWING
1. BABY SQUEEK TOYS(3 ITEMS) 3 TO 4 INCHES, 30 TO 50 GRAMS 4 COLOR DECORATION CLOSED,CHIPBOARD BOX	36 CAV/PLATE 4 PLATES/MACHINE 3071 PARTS/8 HRS. 2 TO 4 OPERATORS/SHIFT	40 HRS/1000 TOYS 5 WORK STATIONS/8HRS.	
3. BABY ANIMALS,FIRST DOLL(5 ITEMS) CAMEL,DONKEY,LAMB,W.BUFFALO 6 TO 7 INCHES, 100 TO 140 GRAMS 4 COLOR DECORATION DISPLAY BOX PACKAGE	14 TOYS/PLATE 4 PLATES /MACHINE 1194 TOYS/8 HRS. 2 MOLDS/TOY REQ. 2 TO 4 OPERATORS/SHIFT	40 HRS/1000 TOYS 5 WORK STATIONS/8HRS.	
4. EGYPTIAN ANIMALS(5 ITEMS) 8 TO 14 INCHES, CLOTH STICHED DECORATION,ETHNIC WEAVE WINDOW BOX	NONE	NONE	19 MIN. PER TOY 32 TOYS/MACHINE/8HRS. 4 MIN/TOY HAND SEWING
5. MIDDLE EASTERN TODDLERS(5 ITEMS: VINYL HEAD,HANDS,FEET,CLOTH BODY PAINTED FACE DECORATION 3 SKIN COLORS,ROOTED HAIR, 13 INCHES, GARMENTS,ACCESSORIES WINDOW BOX PACKAGE	36 HEADS/PLATE 4 PLATES/MACHINE 4320 HEADS/8 HRS. 48 SETS,HANDS,FEET/PLATE 5760 SETS/8 HRS 2 TO 4 OPERATORS/SHIFT	60 HRS/1000 NONE	HAIR ROOTING,STYLING 40 HRS/1000 SEWING 60 HRS/1000 STYLING BODY/DRESS 17 MIN/TOY TOTAL 6 MIN MANUAL OPERATIONS 9 MIN 201-1 MACHINE 2 MIN OVERLOCK MACHINE NOTE: PRODUCTION SEWING RATES AFTER TRAINING.

EGYPTIAN TOY PROJECT (UC/EGY/86/069)
EFFECTIVE JANUARY 1,1990

MATERIALS REQUIRED	PLASTISOL	PAINT	FABRIC	OTHER ITEMS
BABY SQUEEK TOYS(3 ITEMS) 3 TO 4 INCHES, 30 TO 50 GRAMS 4 COLOR DECORATION CLOSED,CHIPBOARD BOX	@1000 TOYS/DAY 40 KGRAMS/DAY PRE-COLORED DUBLON,NYC, $1.50/KG	1 GAL/1000 TOYS $12.00/GAL DUBLON,NYC (LOCAL SOURCES)	NONE	PACKAGE DESIGN,PRINTING, PURCHASE FROM LOCAL SOURCES FOR EACH ITEM. (EST. $0.25 TO$.65 EA.)
BABY ANIMALS,FIRST DOLL(5 ITEMS) CAMEL,DONKEY,LAMB,W.BUFFALO 6 TO 7 INCHES, 100 TO 140 GRAMS 4 COLOR DECORATION DISPLAY BOX PACKAGE	@1000 TOYS/DAY 120 KGRAMS/DAY SOURCE NOTED	.7 GAL/1000 TOYS SOURCE NOTED	NONE	
EGYPTIAN ANIMALS(5 ITEMS) 8 TO 14 INCHES, CLOTH STICHED DECORATION,ETHNIC WEAVE WINDOW BOX	NONE	NONE	18 X 30 SQ.IN. 2 TOYS/SQ.YARD@$1.00,LOCAL 500 SQ.YDS./DAY AT 1000 TOYS/DAY STUFFING,300 GRAMS/TOY $2./KG LOCAL PURCHASE	
MIDDLE EASTERN TODDLERS(5 ITEMS) VINYL HEAD,HANDS,FEET,CLOTH BODY PAINTED FACE DECORATION 3 SKIN COLORS,ROOTED HAIR, 13 INCHES, GARMENTS,ACCESSORIES WINDOW BOX PACKAGE	HEADS @1000/DAY 105 G/TOY 105 KGRAMS/DAY HAND,FEET 120 G/TOY 120 KGRAMS/DAY	1GAL/1000 TOYS SOURCE NOTED NONE	24 X 36 SQ.IN. 1.3 TOYS/SQ.YD. AT 1000 TOYS/DAY 770 SQ.YDS./DAY $1.50/SQ.YD.LOCAL PURCHASE STUFFING, 250 GRAMS/TOY SOURCE NOTED	90 GRAMS/HEAD, NYLON HAIR @$7/KG. DOLLYFILL,ITALY RIBBON,LACE PURCHASE AS REQ.@$7/ VELCRO, AS REQ.($5/1000) THREAD,COATS&CLARK,AS REQUIRED NYLON TWINE,1 EA, $4/1000

EQUIPMENT SPECIFICATIONS

LDING

NEA PRM/900
0,000 + INSTALLATION
B GENOA
X6/HR DIESEL OIL
. 3000 KG.
000X5200X3000 MM-AREA

MACHINE WILL PRODUCE 150 PLATES
X 8 PRODUCTION HOURS
LASTISOL FILLING MACHINE
IR OPERATED
2,266 FOB NYC

IR COMPRESSOR
5HP $3,000

OOLING TANK,W/TIMER
2000,LOCAL PURCHASE

DR MOLD REPAIR EQUIPMENT
3000

OLD COST,$200/CAVITY
ED MOLD MFG.CO.
ONY GENARDID,MT.VERNON,NY.

RIER,TUMBLER,$200
OCAL PURCHASE

PAINTING

$15,000/8 STATIONS
BOOTH,SPRAY GUNS
LOCAL PURCHASE
SPRAY MASKS,$300 EA.
SPRAYFORMS
FALMOUTH,KY

SEWING

STRAIGHT SEWING MACHINE
PFAFF,CONSEW,JUKI
$890 EA. LOCAL PURCHASE
BABYLOCK OVERLOCK MACHINE
$800 EA. LOCAL PURCHASE
PLUSHMASTER CLOSING MACHINE
$1,900 FOB NY, 1 REQ.
2 ROOTING MACHINES @$4,500,EMMECI,ITALY
NOTE:EACH SEWING MACHINE HAS 220V.,0.5HP MOTOR
ASSUMING PRODUCTION OF 1000 DOLLS/DAY:
19 STRAIGHT SEWING,261-1 MACHINES ARE REQUIRED
5 OVERLOCK MACHINES REQUIRED
85 SQ.FT. SPACE PER MACHINE REQ.
2 STEAM IRON UNITS
$280 EA. LOCAL PURCHASE
1800 WATTS
CUTTING TABLE
65 IN. WIDE,15 FT. LONG

UPRIGHT KNIFE CUTTING MACHINE
$300, LOCAL PURCHASE
1 HP,22V
CLICKING PRESS
$6,765 FOB NY
2HP,220VAC

MISC HAND TOOLS,EQUIPMENT
$5000

MATERIAL STORAGE
RAW MATERIAL 1200 SQ.FT.
FINISHED GOODS 1200 SQ.FT.

ANNEX 8

SAMPLE PRICES OF TOYS
(MAY 1989)
(figures in L.E.)

IMPORTED

Model kits (Match box)	Small (Scale 1-72/76)		6.00
	Medium (Scale 1-48/56)		9.00
	Large (Scale 1- 32)		12.00
	Extra Large (Scale 1-12)		21.00
Barbie Dolls	no. 7797 Height 7"		29.60
	no.81360	8 1/2"	34.40
	no. 4439	10"	41.00
	no. 4629	12"	47.00
	no. 3101	12"	47.00
Counters	Baby counters for 6 months olds 6 pcs		25.00
	Bead counters with shape recognizers 15 beads in 3 colors and 5 heads with different bottom shapes		37.95
Building blocks	Chico activity school Baby playset beads for two months to two years to make forms, rings and for counting		165.00
	Baby blocks 50 pcs		52.25
	Baby train 105 pcs		23.65
	Meccano construction Blocks for 6yrs+		50.70
		12yrs+	54.10
	Assorted blocks	small pack	7.00
		large pack	14.00
	Mosaic peg sets	280 pcs	18.70
		160 pcs	13.25

Activity Kits	Flower making basket	for 4 years+	67.00
	Home scale kit	95 pcs 6 1/2" x 5"	21.75
	Medical kit		24.75
Trains	Lima model train/rails		47.00
	Tony train		96.75
Lego basic	varying from LE 25.00 to LE 40.00		

LOCAL

Miramer Counter 10 x 10 frame		2.50
Assorted blocks	50 pcs	2.00

PVC balls 4-6" dia varying between LE 2.00 and LE 3.50

ANNEX 9

LIST OF PERSONS MET

MINISTRY OF SOCIAL AFFAIRS

CAIRO

Mrs. Amal Osman, Hon.Minister for Social Affairs
Mrs. (Dr) M.A.A.S. El Banna, First under Secretary
Mrs. Ibtesam Abd el Wahab, Under Secretary
Mrs. Huda Barakat, General Director, Family and Child Welfare
Mrs. Ib Enas el Khodary, Director, Research and Translation
Mrs. Sausan Salem, Coordinator
Mr. Fakhri Mustafa, General Director, Imbaba child care centre
The General manager, Plastic factory, Imbaba
Mrs. Amina, Giza Society centre for mother and child day care
Director, Child day care centre, Garden city
Mrs. Lola Katil, Director, Kangaroo day care centre

ALEXANDRIA

Director, Day care centre, Alexandria
Foreman, Factory in charge, Day care centre, Alexandria

MINISTRY OF INDUSTRIES

CAIRO

Dr.Engr. Yusef.K. Mazhar, First Under Secretary
Mrs. Fatma Moursi Nazmy, General Director, International Conferences, General Organisation for Industrialisation.
Dr.Mohamed Ismail Abd el Latif, General Director, Chemical, Building Material and Refractory Industries Deptt, GOFI

ALEXANDRIA

Dr.Hassan Said Mahmood, General Manager, Plastic Development Centre (PDC)
Mr.Magdy Gharib Farag, Dy. General Manager, PDC
Mr.Mohamed Kamal, Dy. General Manager, PDC
Mr.Samir F. el Alaily, Chairman, Egyptian Company for Plastic and Electrical Industries (ECPEIL)
Mr.Mohamed Abd el Magid el Shazli, General Manager, ECPEIL
Mr.Hazem el Khouly, Head, Plastics sector, ECPEIL
Chemist. Mr. Saad Iskander, Director, Artificial leather and wall paper factory, ECPEIL
Engr. Salim, General Manager, Mechanical Department

UNDP/UNIDO CAIRO

Mr.T.I.Sabry, Senior Programme Officer.

Mrs. Nanacy Terreri, Deputy Representative, United Nations Childrens Fund.

OTHER INTERNATIONAL AGENCIES

Mr.Werner.O.Blasek, Chief Technical Adviser, IDDC, Dar-es-salam, Cairo.

PRIVATE SECTOR

INDUSTRY

Mrs. Laila Sadek
Mr. A.M. Sirry, General Manager, Modern Furniture Co., Cairo
Mr. Rafiq Habashi, Al Kholoud Plastics, Alexandria
Mrs.Vivien Farag, Middle East Plastics, Alexandria

TOY DEALERS

Personal Contacts

Fouad and Haddad, 116, Mohamed Bay Farid St., Cairo
Raymonds, 7, Brazil Street, Zamalek, Cairo
Bazar el Zamalek, Brazil Street, Zamalek, Cairo
Le Petty Coin, Dar el maref, Downtown, Cairo
Mang Trade, Lego importers, Madinat Naser, Downtown, Cairo
Quasid Karim, Rue Green, Down town, Cairo

Telephone Contacts

El Safa (Barbie importers)	Tel:	2433393
I.C.Company		3482809
Chicco Toys		34314280
Bright & Co		2424895
Fuat & Co		3505208

ANNEX 10

SET UP OF THE TOY DEVELOPMENT CENTRE