DESIGN for MAXIMUM IMPACT



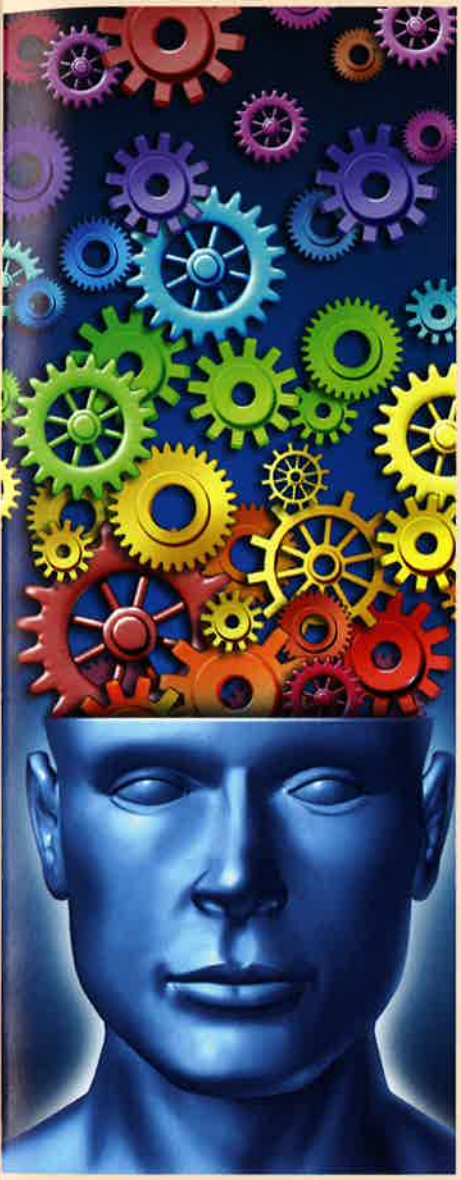
Balancing form and function

Sharon Parsons

Nelson Literacy Directions

DESIGN for Maximum Impact

For teachers' inspection ONLY



Dear Reader

When I am writing my books, I think about how I would like to design each page so that they're interesting for you to read. This book has been a pleasure to write because there are many ideas about how to design all kinds of things with maximum impact.

> **DESIGN SHOULD NEVER SAY 'LOOK AT ME'. IT SHOULD ALWAYS SAY 'LOOK AT THIS'.**

In Chapter 7, we provide you with a persuasive argument for the design value of a manual toothbrush over an electric toothbrush. Which do you use?

Chapter 5 explains some of the principles of designing clothes for kids and designing a children's clothing store.

I hope the ideas provide you with inspiration for your own projects.

Sharon Parsons

NELSON CENGAGE Learning™
For learning solutions, visit **cengage.com.au**

Contents

DESIGN for Maximum Impact

For teachers' inspection ONLY

1 **Designing for Maximum Impact**

The best designs are for things people can't get by without. page 4

2 **Design Changes Over Time**

As needs, technology and materials change, so too does design. page 6

3 **Impact Designs = Ideas and Designers**

Designers must be able to come up with great ideas and creative solutions. page 16

4 **How to Become a Designer**

Start thinking about how to design things differently, and you're halfway there. page 18

5 **Fashion Designing for Kids**

Before new fashions appear on the catwalk, there's a lot of work to do. page 20

For teachers' inspection ONLY



6 **Designing Ergonomic Furniture**

Form, function and safety are vital to furniture design.

page 24

7 **The Manual Toothbrush Is More Effective than the Electric Toothbrush!**

It's a humble design, but it's worked for over a thousand years!

page 28

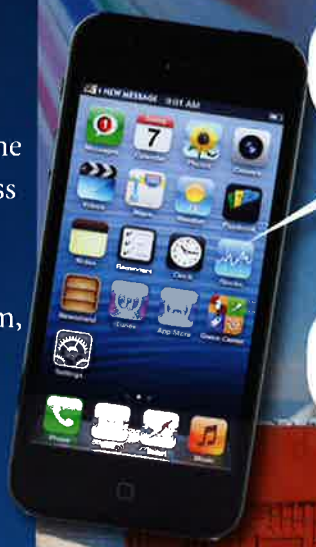
TEXT TYPE
Exposition
pages 28–29

Index and Glossary page 32

1 Designing for Maximum Impact

For teachers' inspection ONLY

Think about something you use that has a major impact upon you and your life. Everyone will think of something different. Some people may nominate their smartphone because they can use it to conveniently access the internet, instant messages, music and games. People working in extremely cold climates, like Antarctica, may regard a warm, strong building that withstands freezing blizzards as having a major impact on their lives. Astronauts working in a zero-gravity space station may choose pressure suits. And people living in a remote village in a developing country may say a new system that provides clean, uncontaminated drinking water is crucial to their lives.



What's important to me?
You can't beat ... oops, hang on, I've just received a text!

What's important to me?
You can't beat a strong building to stay warm in!

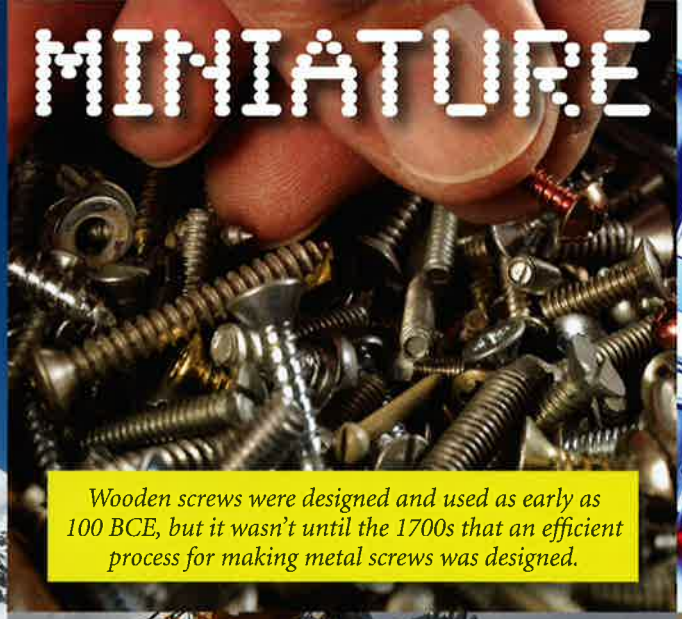
What's important to me?
You can't beat a good pressure suit to stay safe in!



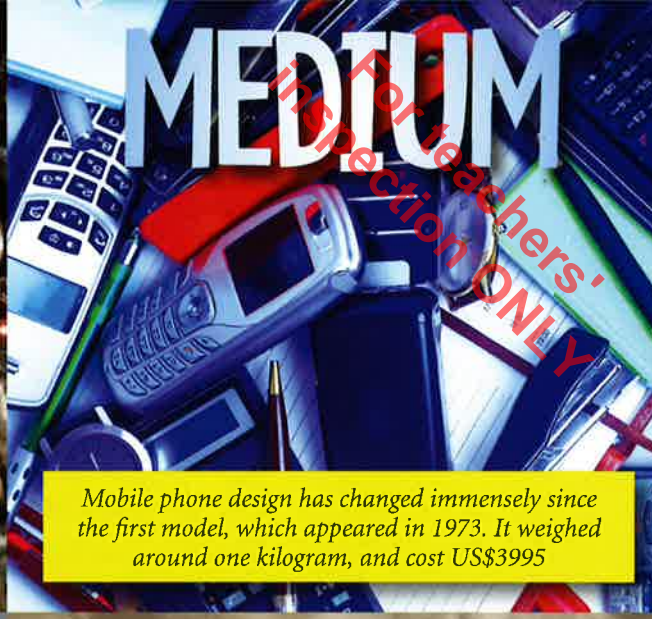
What's important to me?
Wondering when it's going to be my sister's turn to work this pump!

What's important to me?
You can't beat a clean, safe supply of drinking water!





Wooden screws were designed and used as early as 100 BCE, but it wasn't until the 1700s that an efficient process for making metal screws was designed.

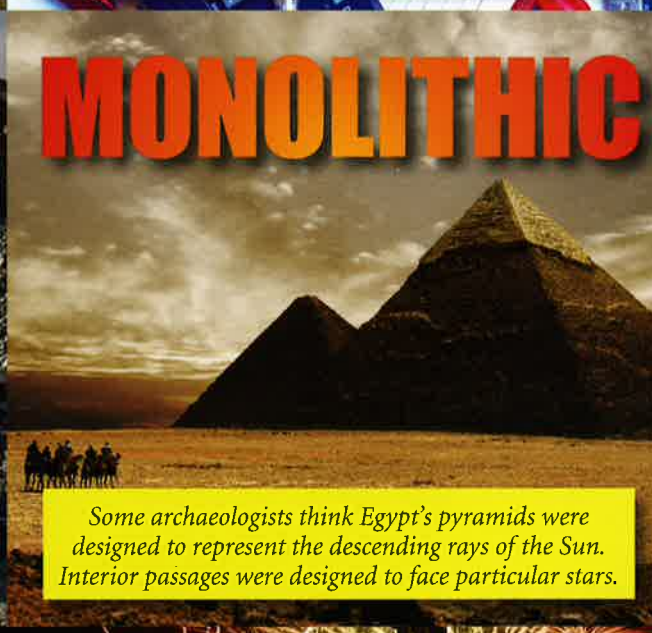


for teachers' inspection ONLY

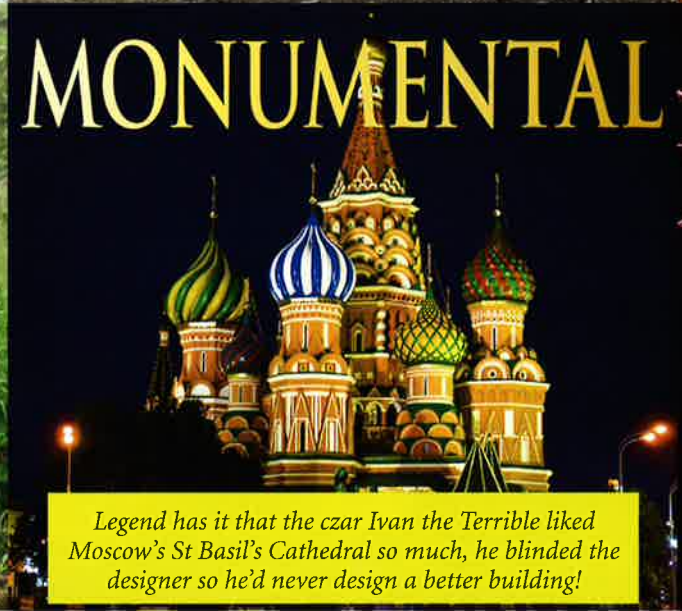
Mobile phone design has changed immensely since the first model, which appeared in 1973. It weighed around one kilogram, and cost US$3995



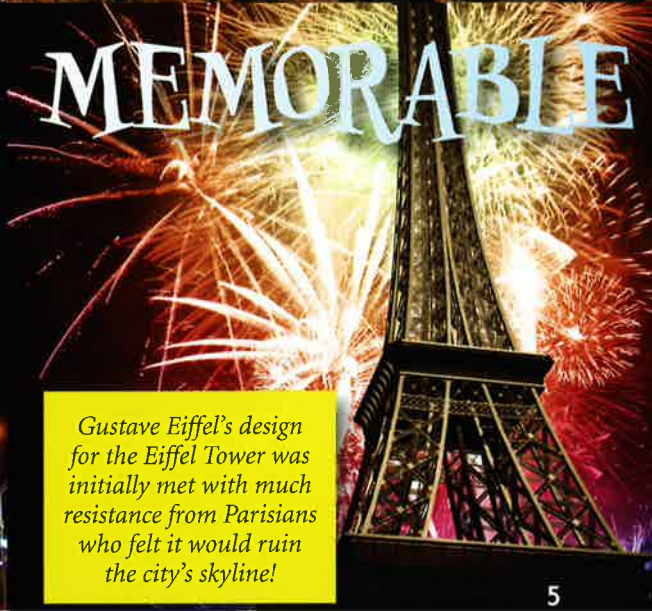
With the power to carry over 400 tonnes, giant mining trucks are designed for heavy work. Their tyres are over 4 metres tall and weigh more than 5 tonnes each.



Some archaeologists think Egypt's pyramids were designed to represent the descending rays of the Sun. Interior passages were designed to face particular stars.



Legend has it that the czar Ivan the Terrible liked Moscow's St Basil's Cathedral so much, he blinded the designer so he'd never design a better building!



Gustave Eiffel's design for the Eiffel Tower was initially met with much resistance from Parisians who felt it would ruin the city's skyline!

2 Design Changes Over Time

For teachers' inspection ONLY

Designing is the process of taking an idea and, using technical knowledge and creativity, preparing a plan to create a product, a process or a system. Physical factors, such as technology and materials, and social factors, such as the requirements of users (or consumers), are important considerations in design.

Designing in Prehistoric Times

Designing is a basic human activity. Since prehistoric times, people have been finding ways to use the materials around them to improve their lives. As materials, technology and knowledge have changed, so too have design solutions. Many of our needs and desires are the same as they were 40 000 years ago, but the things designed to satisfy them have undergone change over time.





For teacher's inspection ONLY

The **Evolution** of **Design**

For teachers' inspection ONLY

HUMAN NEED: TO BUILD STRUCTURES FOR SHELTER

Design 1 (Early Civilisations)

Need for Change: Scarcity of natural protection from the elements and predators, requirement for temporary structures to suit nomadic lifestyle

Materials and Technology: Natural materials found in immediate environment, unprocessed

Design Solution: Simple reed and branch structures

a reed house in South America



a brick, timber and tile house in Europe

Design 2 (Middle Ages)

Need for Change: Necessity of more permanence to suit settled lifestyle

Materials and Technology: Natural materials processed into bricks, timber and tiles

Design Solution: Permanent structures

For teachers' inspection ONLY





a skyscraper in Dubai

Design 3 (Now)

Need for Change: Scarcity of energy, scarcity of available land, requirement for maximum comfort

Materials and Technology: Natural and artificial resources, processed into durable, environmentally responsible materials

Design Solution: Contemporary "green" building of multiple storeys, to maximise available land