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What is CGI?

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Alison Sage asserts her moral right to be identified as the author of this work.

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Illustrator: Jon Stuart, Jonatronix Ltd – [www.jonatronix.co.uk](http://www.jonatronix.co.uk)

Design Manager: Niki Whitehorn, [niki@whitehorndesign.co.nz](mailto:niki@whitehorndesign.co.nz)

Ideas for reading author: Linda Pagett

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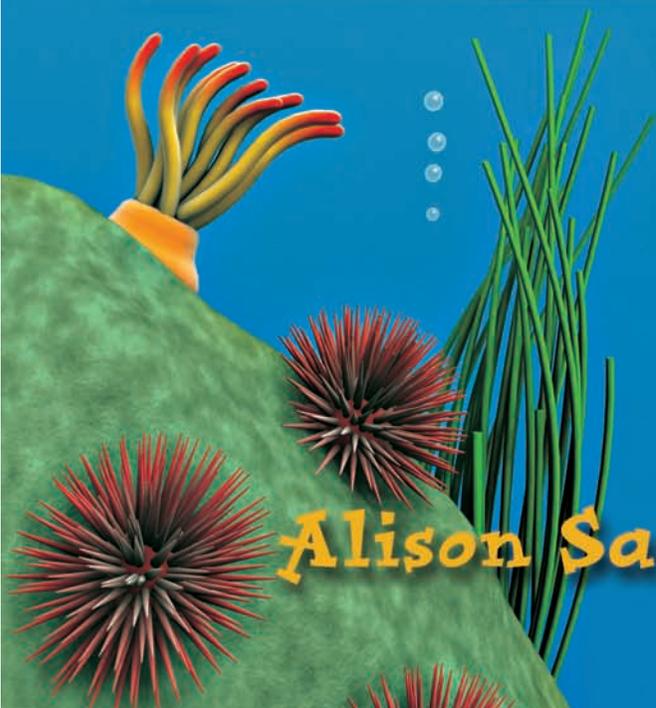
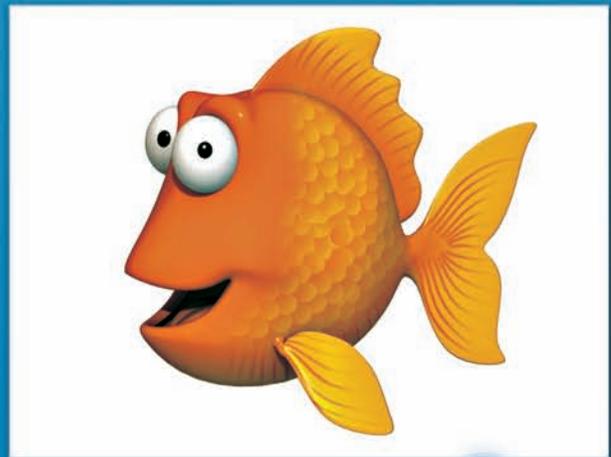
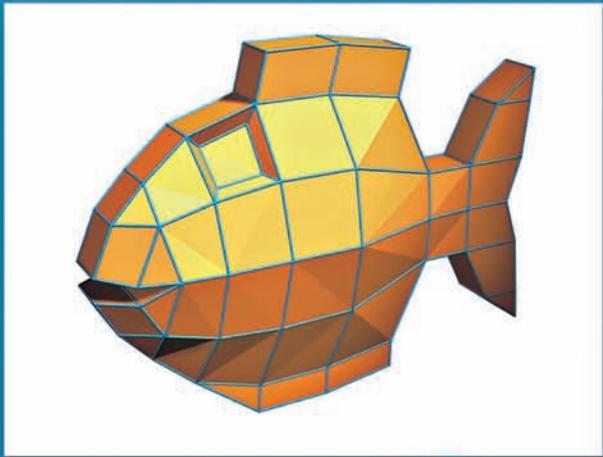
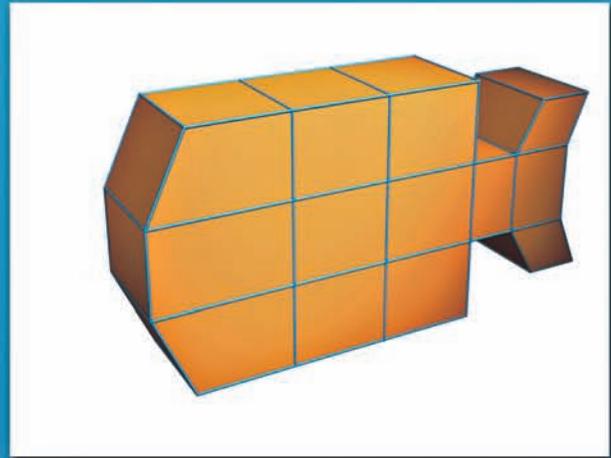
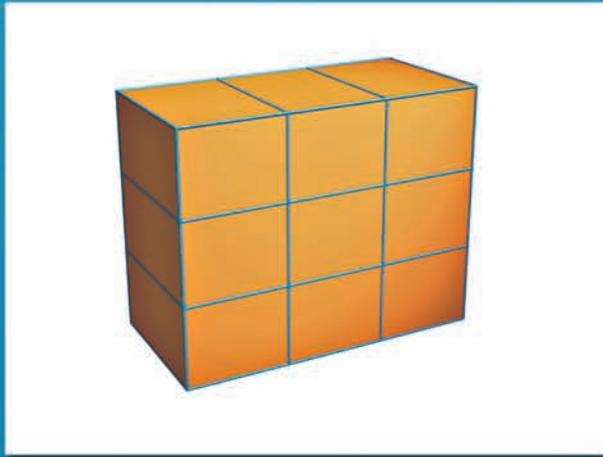
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Orange  
Band 6

# What is CGI?



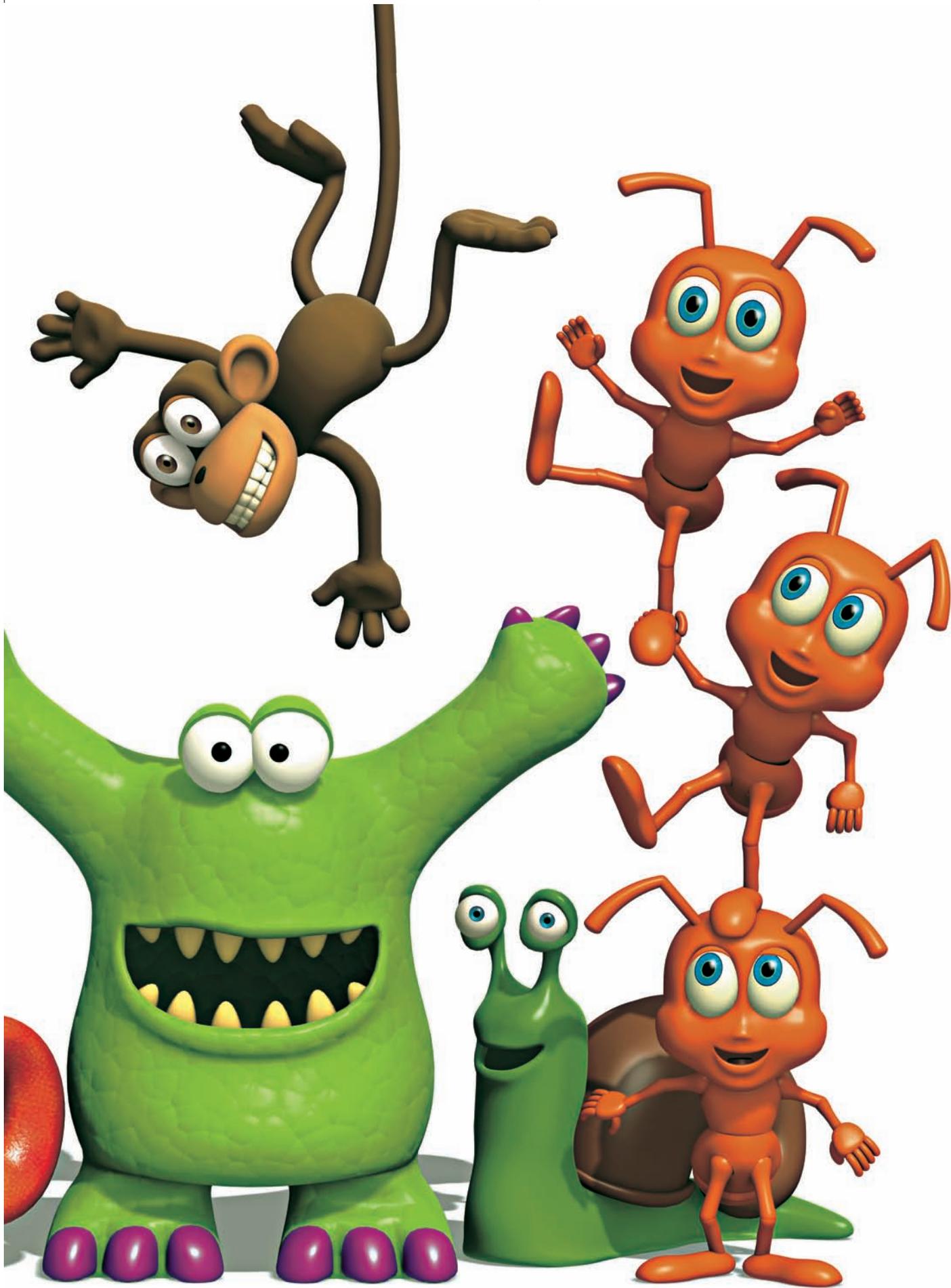
Alison Sage

Jon Stuart

# CGI

Have you ever looked at computer-generated images (CGI) and wondered how the characters are made? They look solid, as if you could pick them up. But you can't.



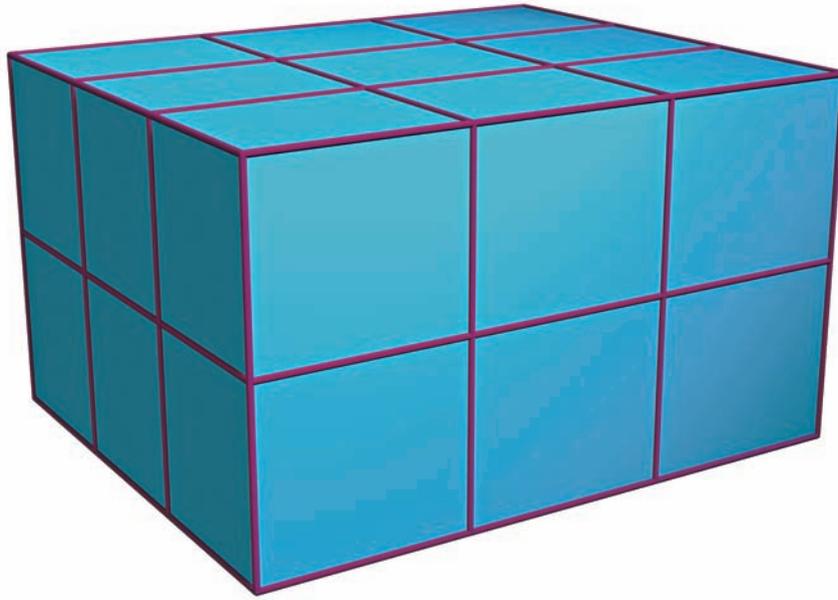


# Making models

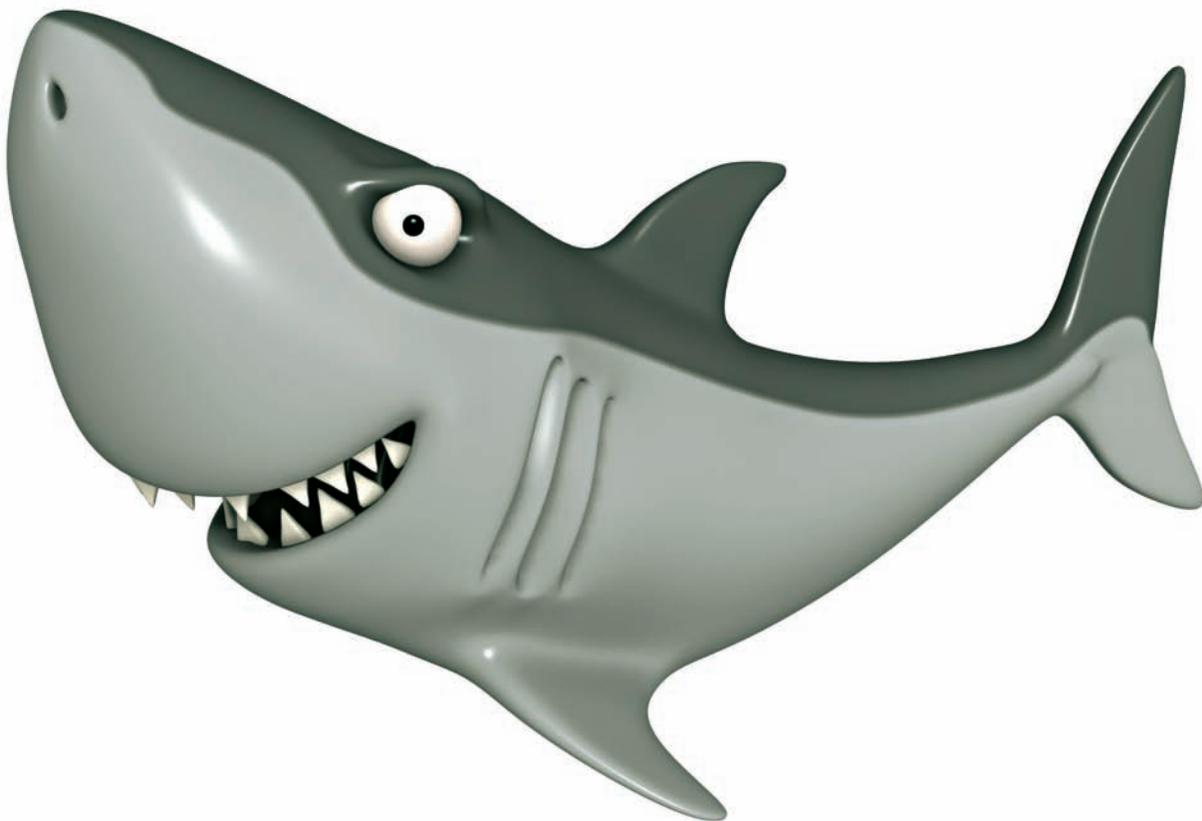
My name is Jon Stuart and I'm an artist.  
Here I am, working in my studio.  
I create my CGI models on a computer.  
I can do things on a computer that I can't  
do with pencils and paper.



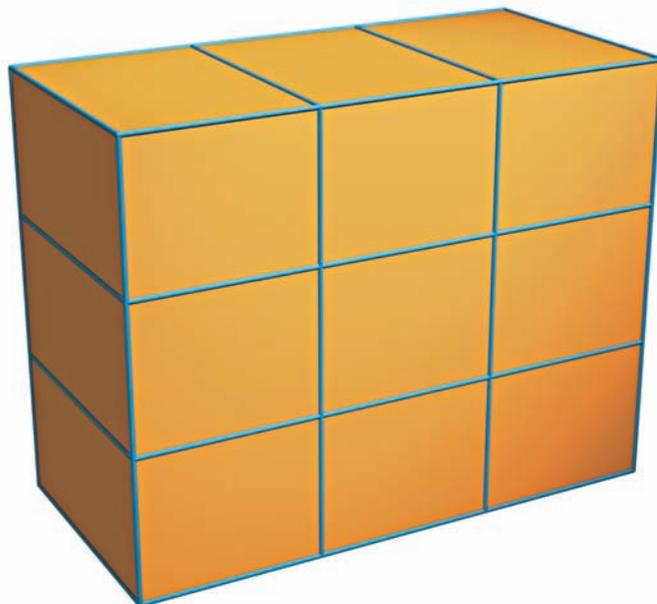
My models start out looking like this ...



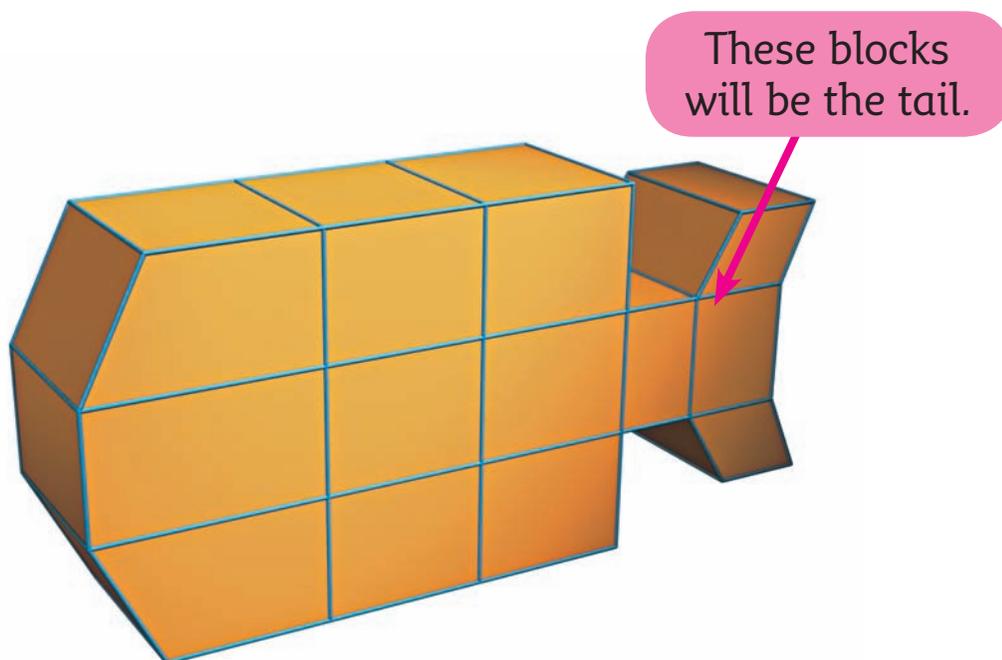
... and they can end up looking like this!



I'm making a model of a fish.  
First I make a block of cubes.

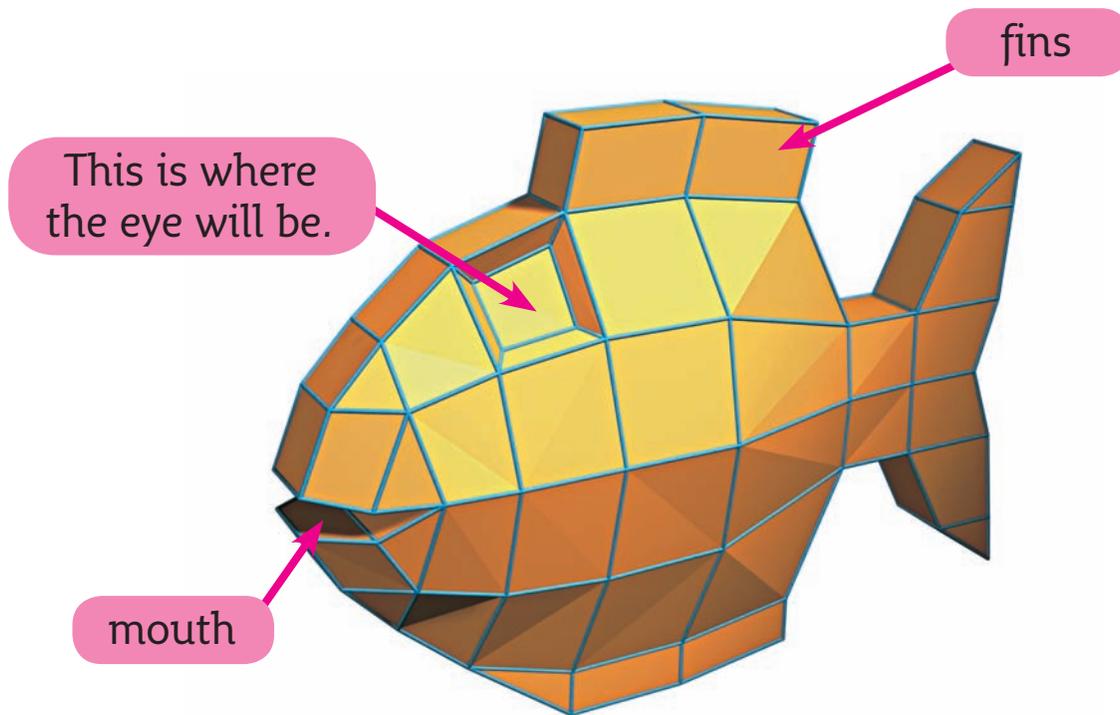


Then I add more shapes to make the tail.

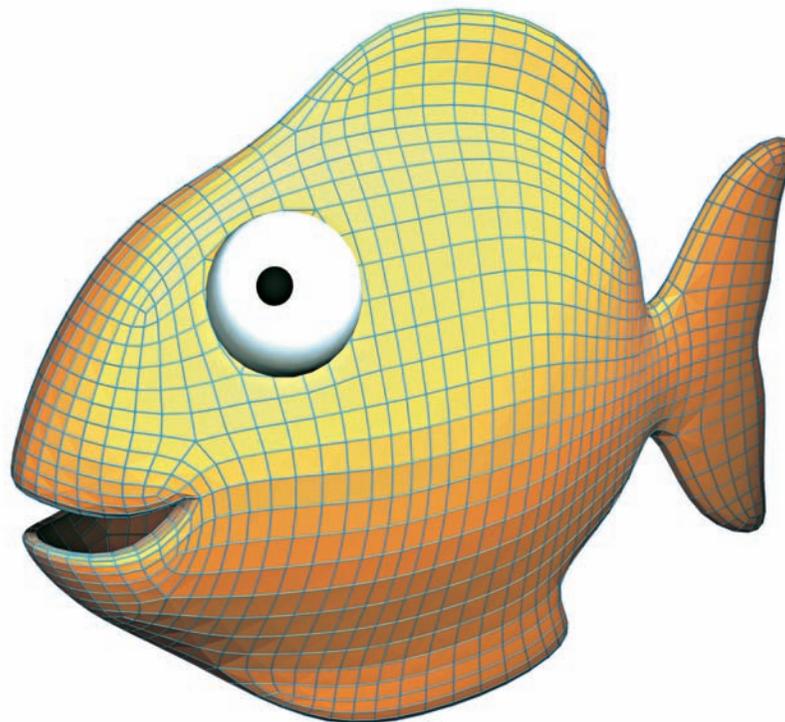


The model is starting to look like a fish.

Next I add more cubes and shape them to make the mouth and fins.

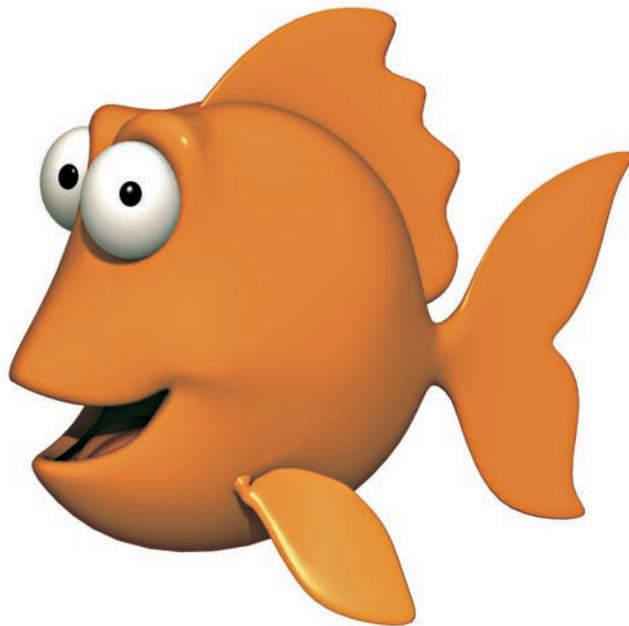


Now the computer adds more shapes to make the fish look smooth.



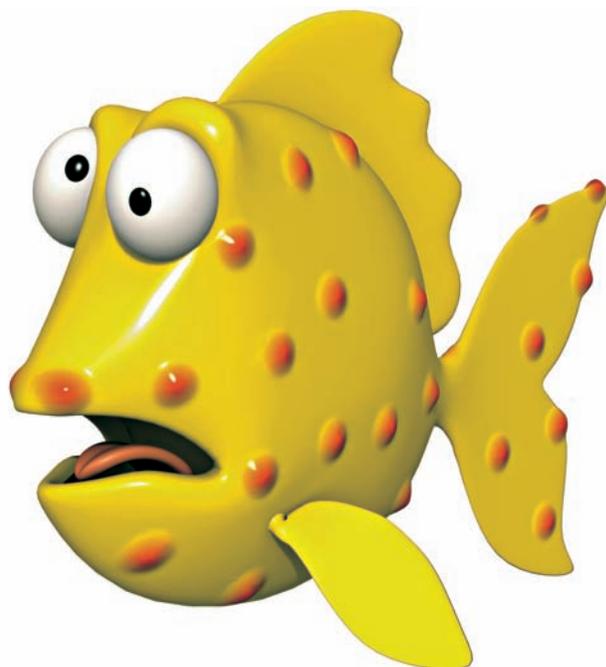
# Texture

When I'm happy with my model I give it a texture.  
I can wrap different textures around my model.

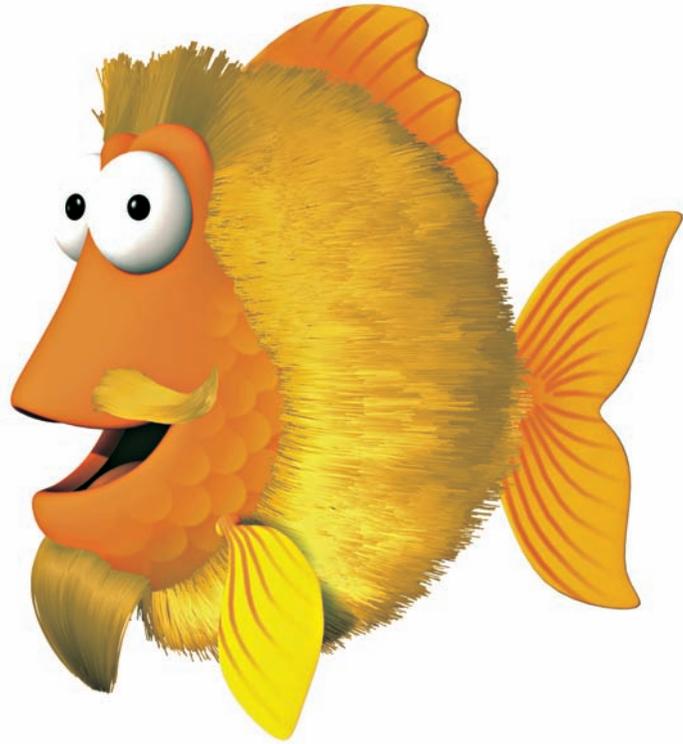


This is what the fish looks like without a texture.

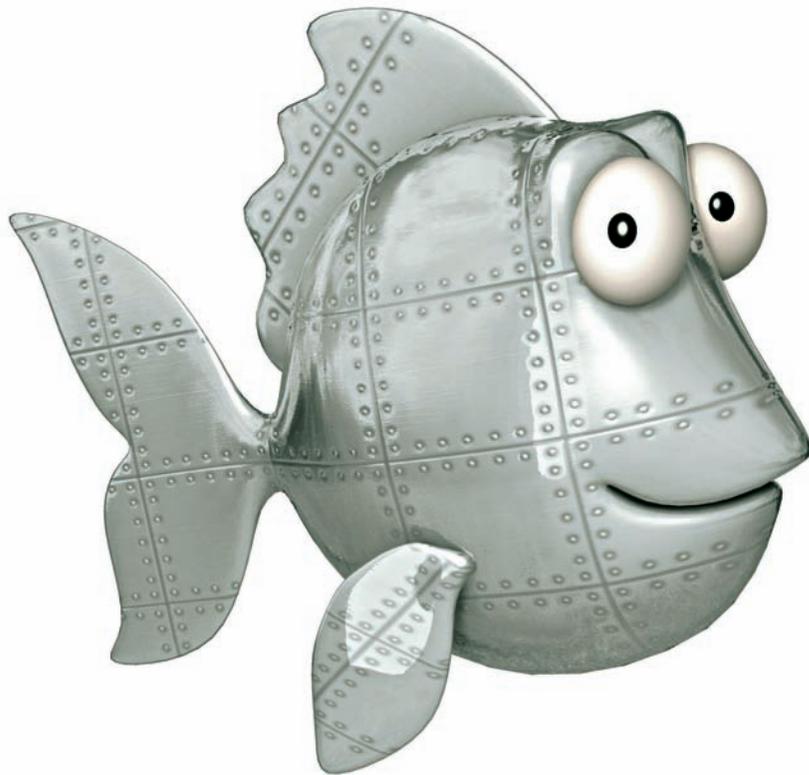
This is what the fish looks like with  
a bumpy texture.



This texture is furry.

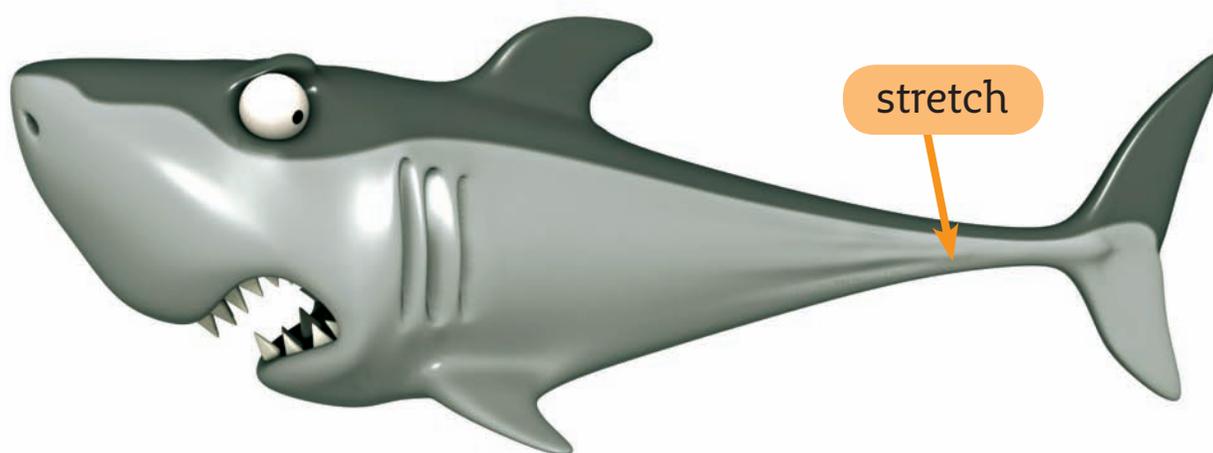
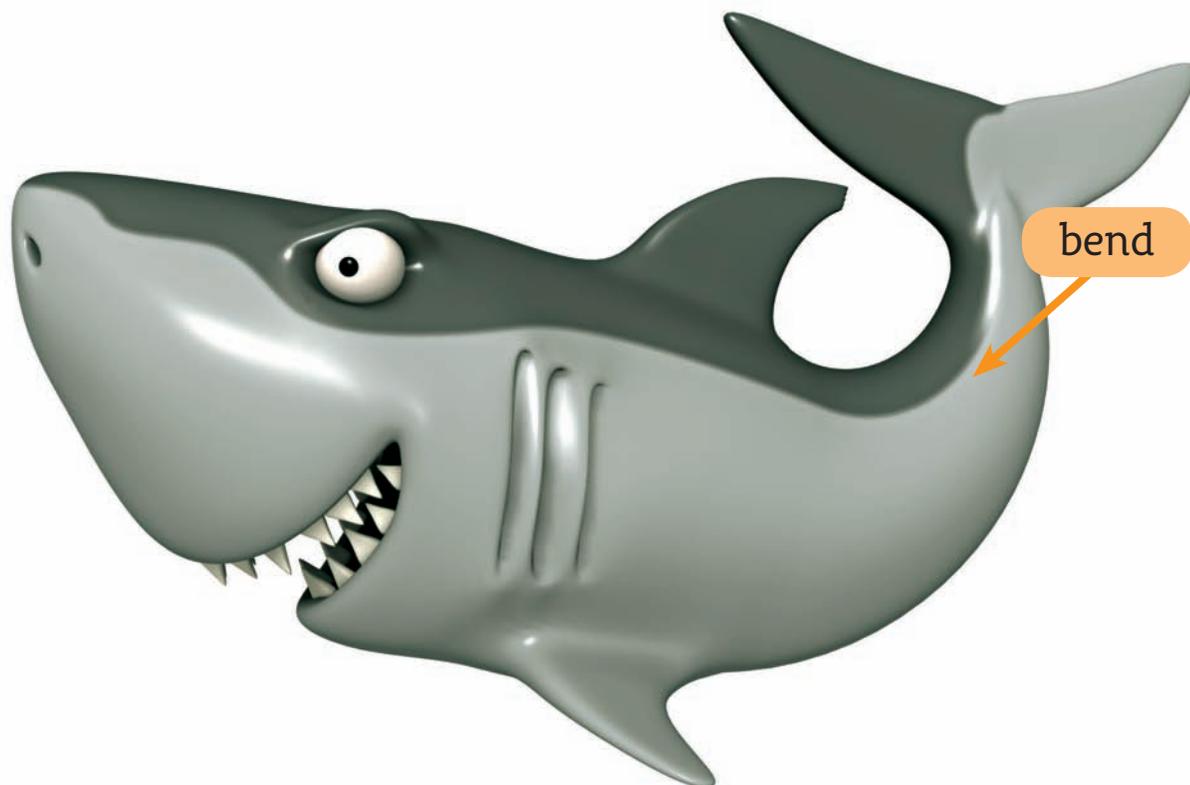


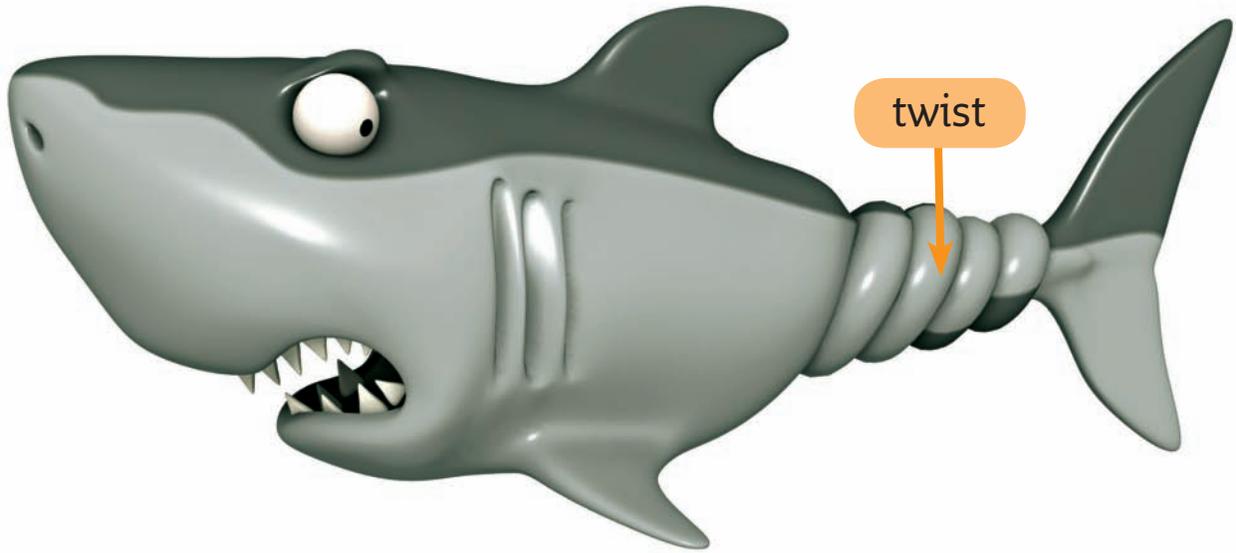
This texture is shiny.



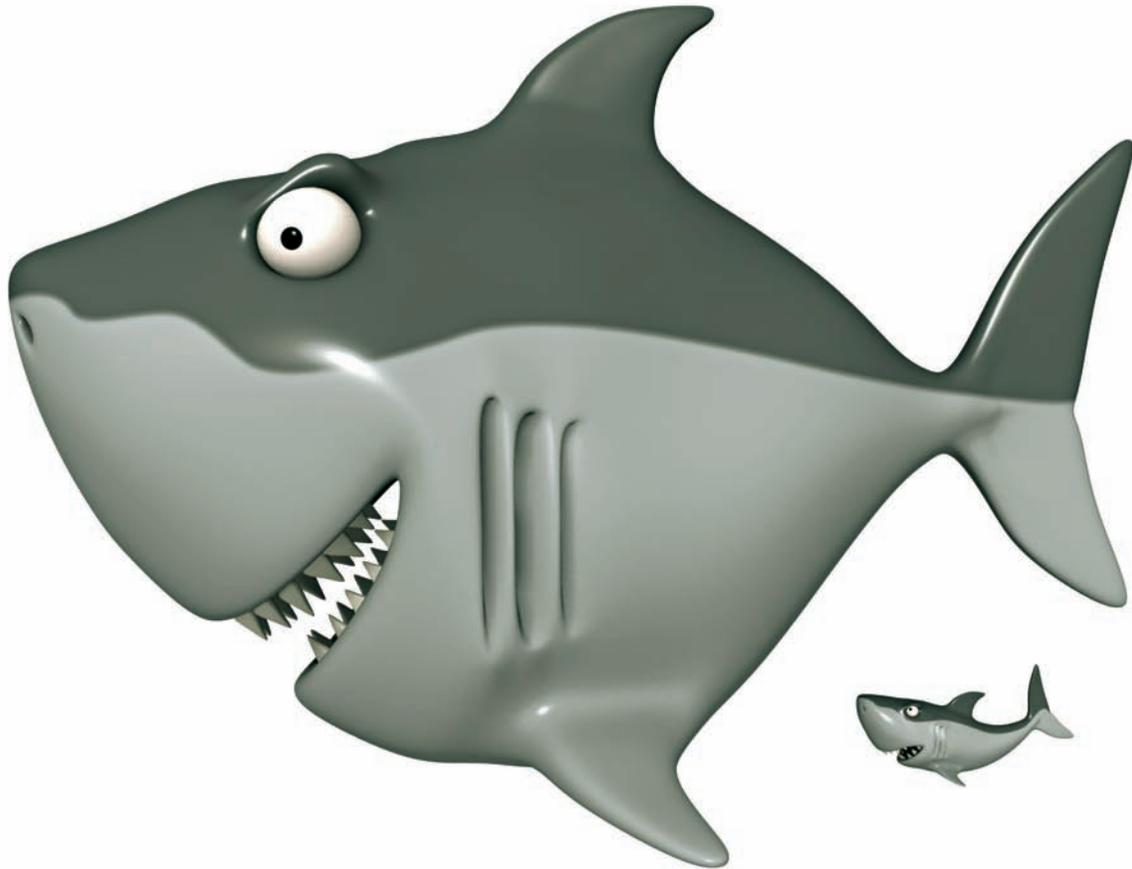
# Bend, stretch and twist

I can bend, stretch and twist my models.



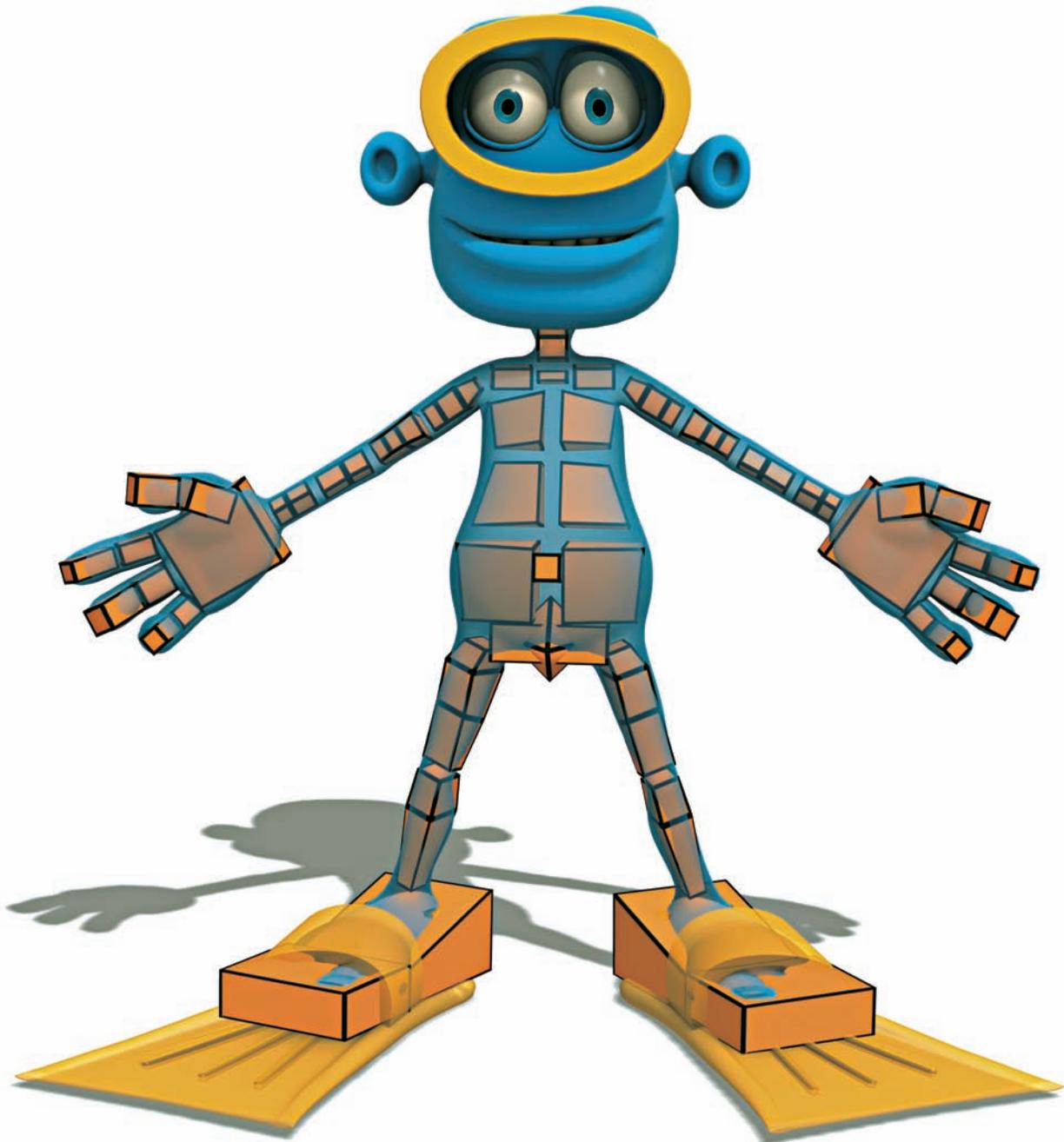


I can make them bigger and smaller too.



# Moving models

I add blocks inside the models.  
These blocks act like bones.

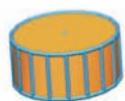


Now I can make the model move about.



# Background

I make shells, rocks and plants for the background in the same way that I make my characters. Everything begins with a simple shape.



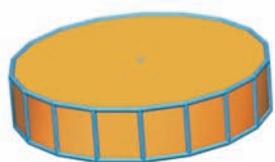
simple shape



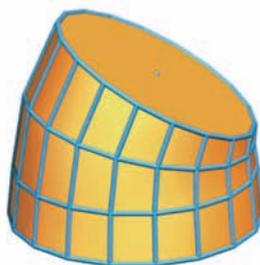
More shapes are added.



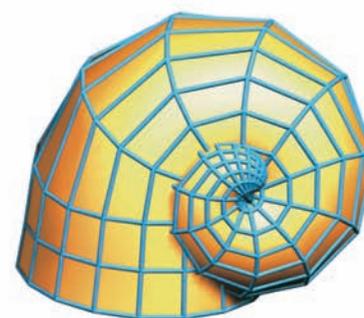
The shapes are bent to make a plant.



simple shape



More shapes are added.



These shapes are twisted to make a seashell.

Here is the background. Now I can put my fish model onto it.



# Lighting

My picture is almost ready.  
It's time to add some lighting.  
Now my picture is finished.

The light is  
shining in this  
direction.





# Real – or not?

I can make models of real life things  
like this car ...



... or this lizard.





Here I am again with my models.  
Don't they look real?

# Glossary



**CGI (computer-generated images)**  
pictures made by an artist with  
the help of a computer



**characters**  
the people or animals in a film,  
play, book or computer game



**cubes**  
solid shapes with six square faces  
that are all the same size



**models**  
shapes that the artist uses to make  
different characters



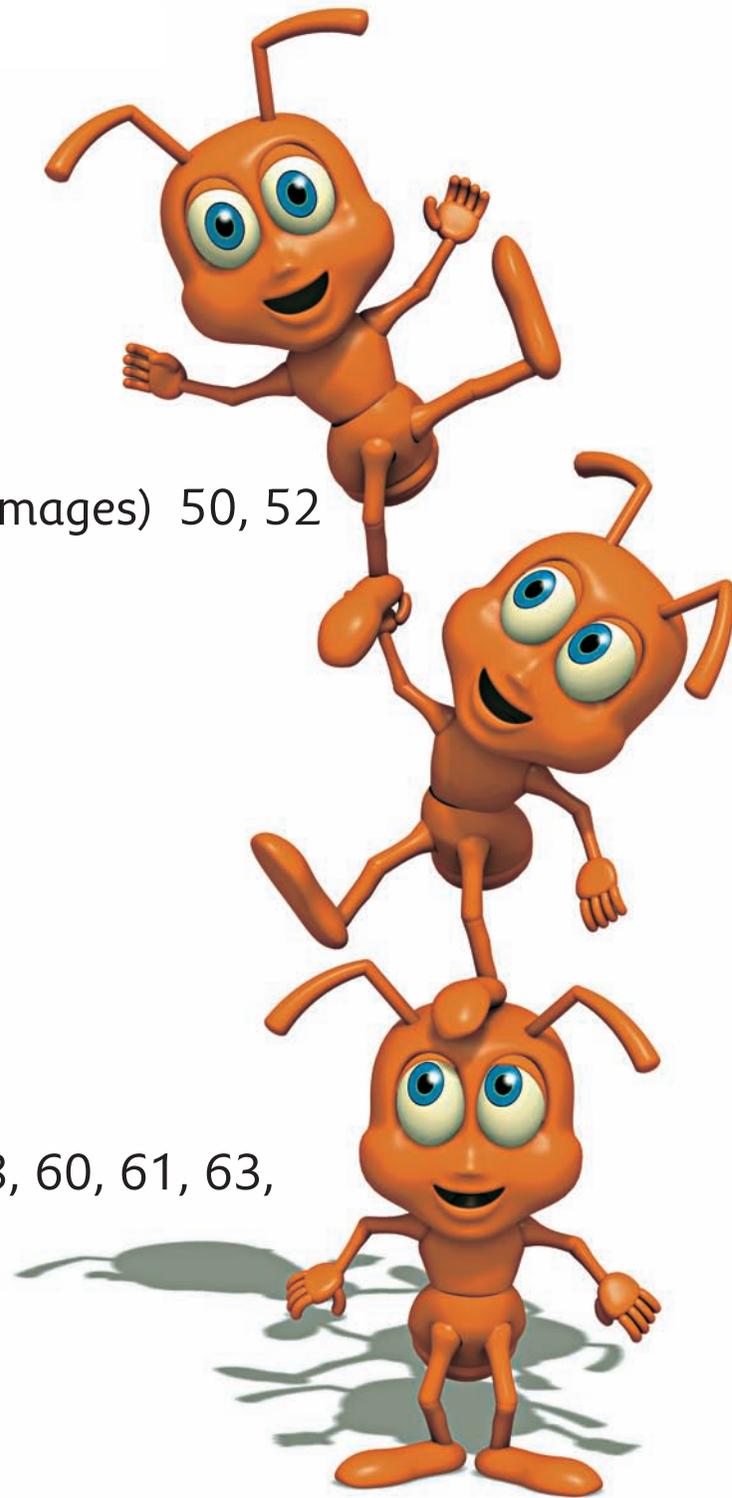
**studio**  
a room in which an artist works



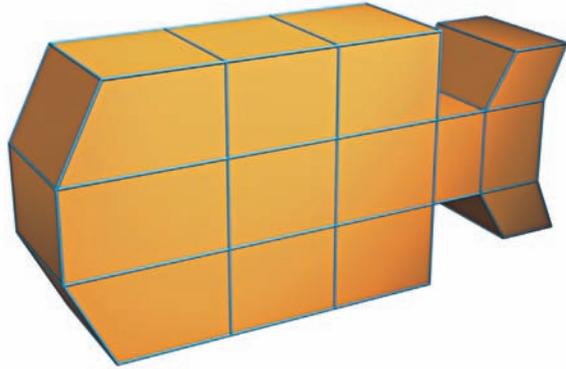
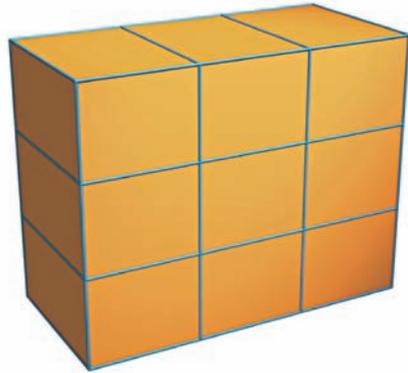
**texture**  
the kind of covering that the model  
has, such as skin, scales or fur

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# A flow chart

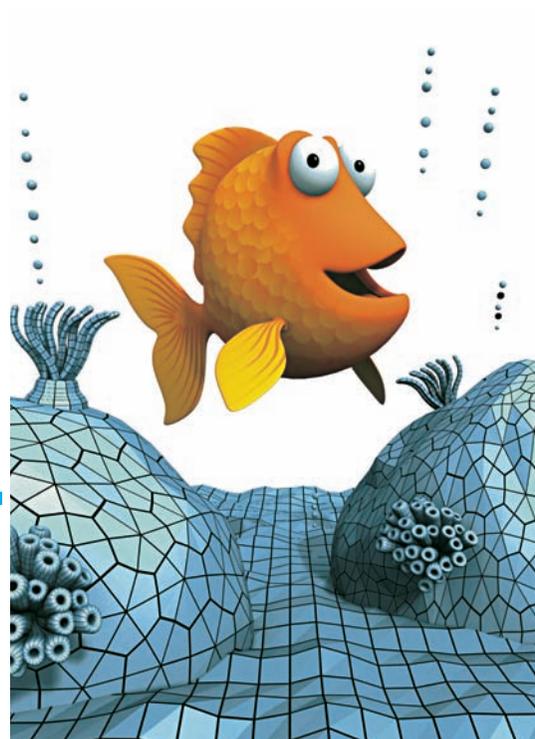


**1** Start with a block of cubes.

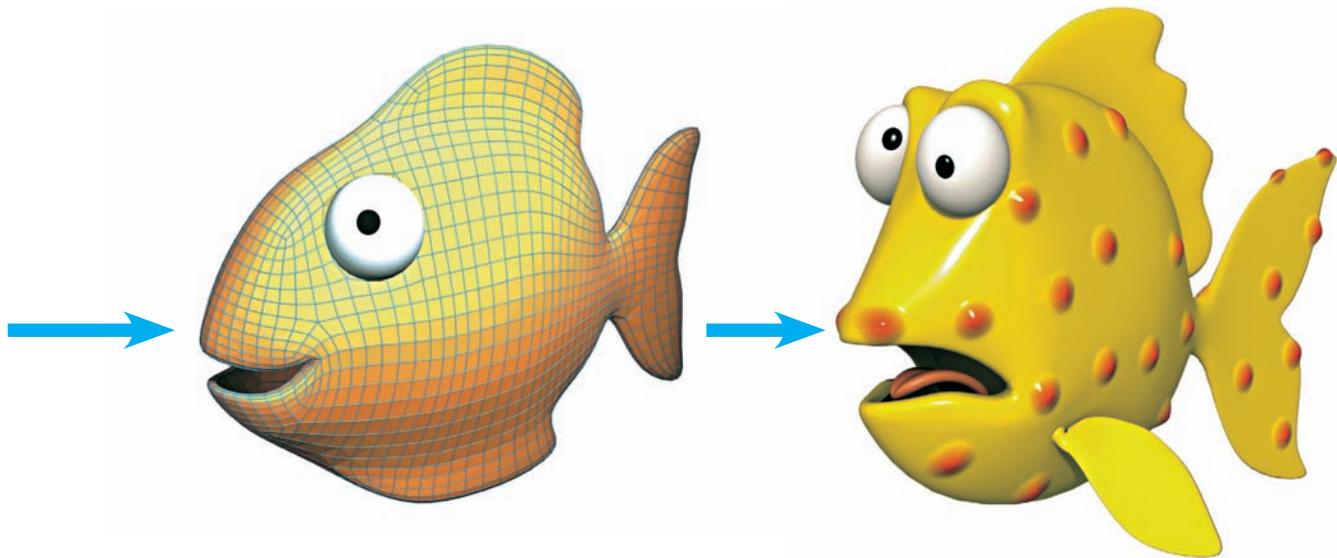
**2** Add more cubes.



**8** Add lighting.

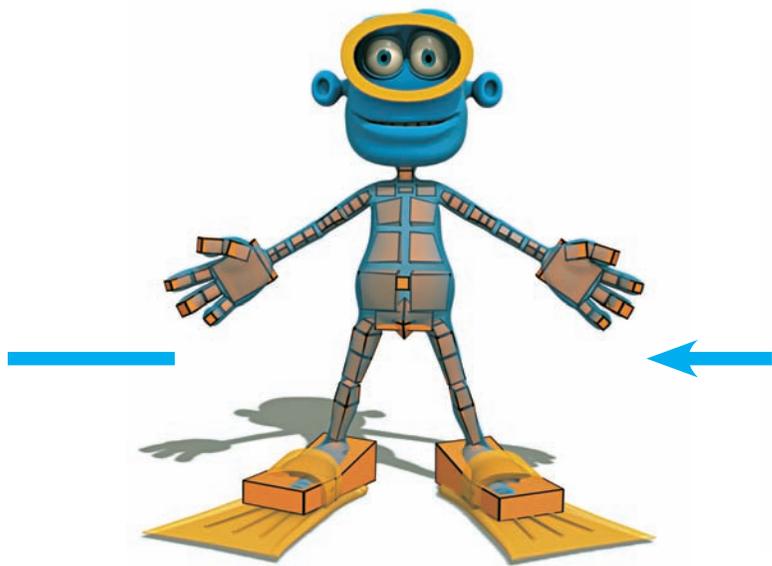


**7** Add a background.

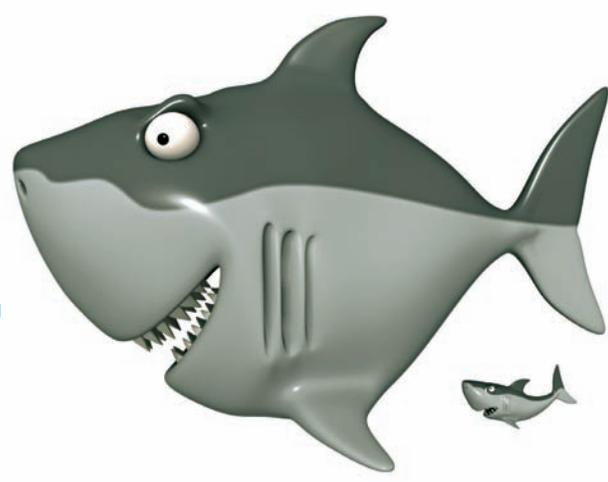


**3** Add shapes to make the model smooth.

**4** Add a texture.

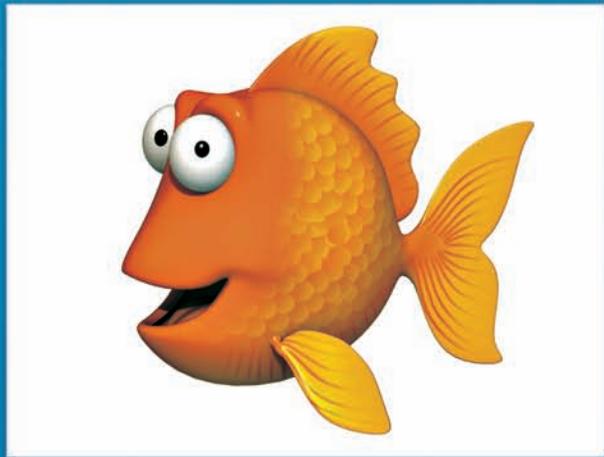
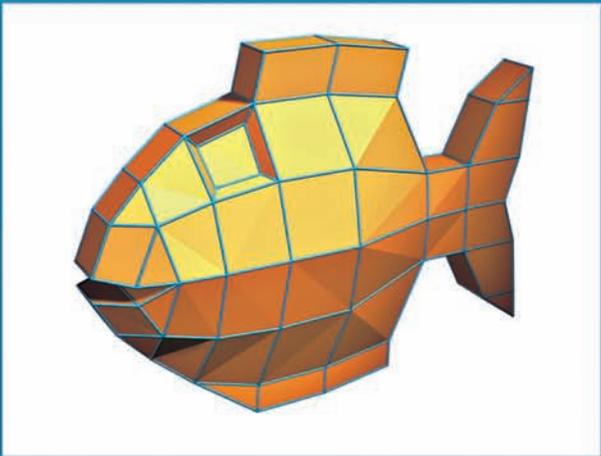
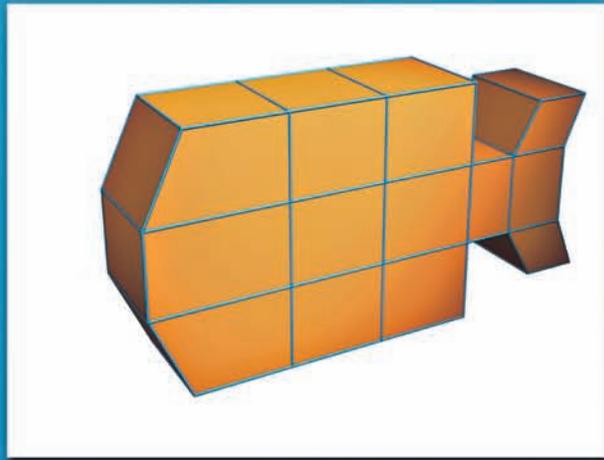
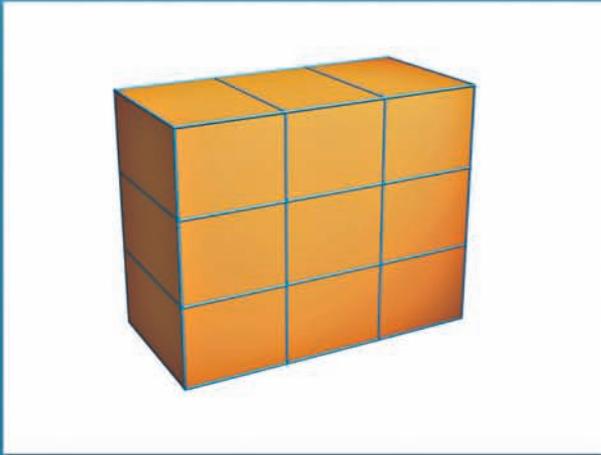


**6** Add blocks inside as bones.



**5** Set the model to the right size.

# What is CGI?



**Workbook**

# Before You Read



1. What can you do on a computer?  
Tick (✓) the activities in the list below.

- surf the internet
- send an email
- talk to a friend
- watch a film
- cook a meal
- tidy your bedroom
- look for information
- wash your hair
- play a game
- buy a book
- listen to music
- design a model



# 🐾 Key Story Words 🐾



1. Describe the textures you see in the picture. Use the words from the box.

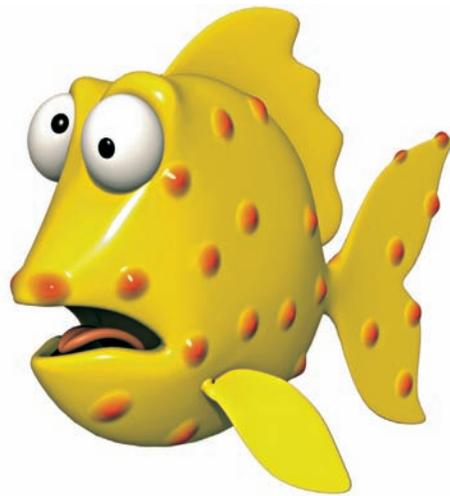
bumpy

furry

shiny

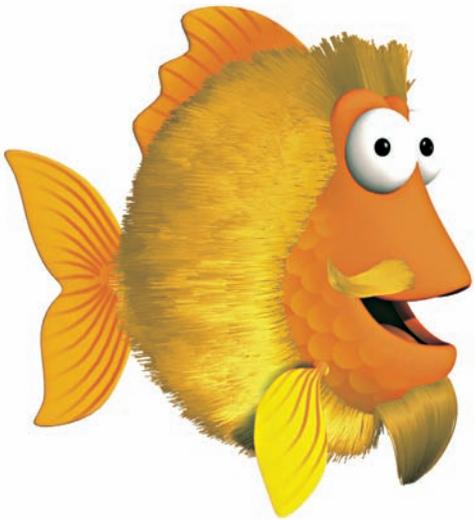
1

\_\_\_\_\_



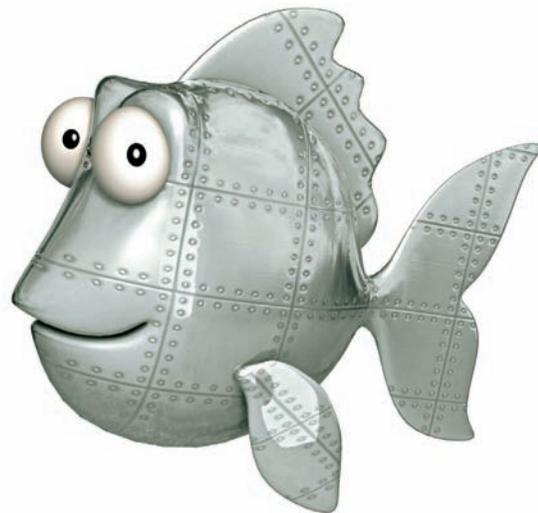
2

\_\_\_\_\_



3

\_\_\_\_\_





2. Match each word or abbreviation to the correct definition.

CGI

1

a

the kind of covering that the model has, such as skin, scales or fur



cubes

2

b

pictures made by an artist with the help of a computer



models

3

c

a room in which an artist works

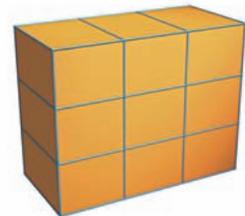


studio

4

d

solid shapes with six square faces that are all the same size



texture

5

e

shapes the artist uses to make characters

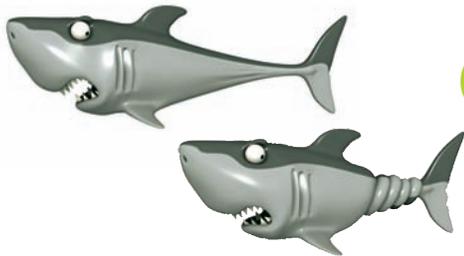
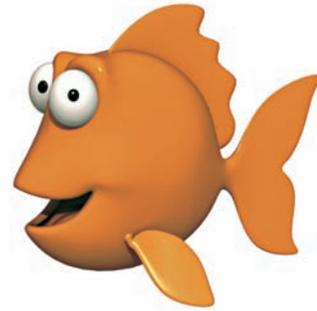


# Key Story Sentences



1. Fill in the blanks to complete the words.  
Look at the pictures for clues.

1 I can wrap different t \_\_\_\_\_ s  
around my m \_\_\_ d \_\_\_\_.



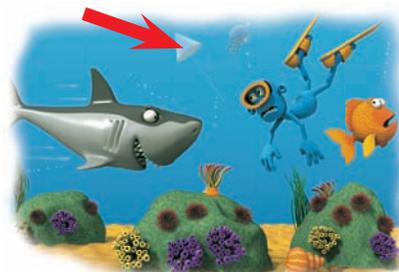
2 I can bend, s \_\_\_\_\_  
and t \_\_\_\_\_ my models.

3 I add b \_\_\_\_\_ k \_\_\_\_\_ inside  
the models. These blocks act  
like b \_\_\_\_\_ s.



4 I make shells, r \_\_\_\_\_ and  
p \_\_\_\_\_ for the background.

5 My picture is almost ready. It's time to  
add some l \_\_\_\_\_.

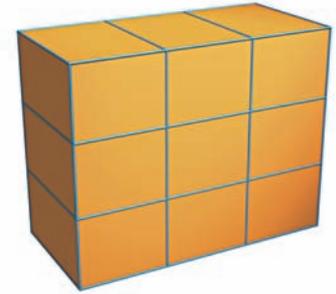




2. Unscramble the sentences and rewrite them to match the text.

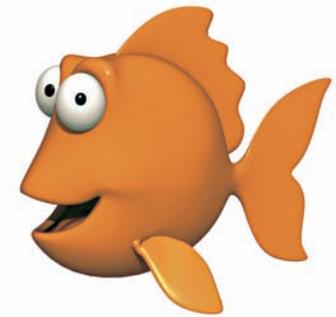
1 a of block I cubes. make First

\_\_\_\_\_  
\_\_\_\_\_



2 I'm my happy give model texture.  
it a When with I

\_\_\_\_\_  
\_\_\_\_\_



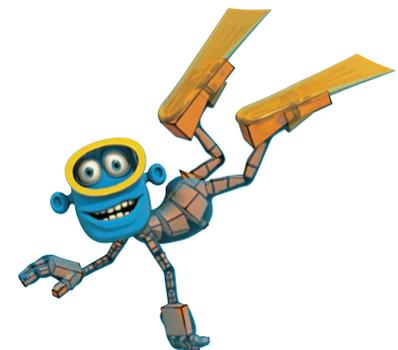
3 bend, and models. my can stretch I twist

\_\_\_\_\_  
\_\_\_\_\_



4 about. make can I move model the

\_\_\_\_\_  
\_\_\_\_\_



# Reading Comprehension 1



1. Match each sentence to the correct picture.

First I make a block of cubes.

1

a



Now I can make the model move about.

2

b



I can make models of real life things like this lizard.

3

c



I make shells, rocks and plants for the background in the same way that I make the characters.

4

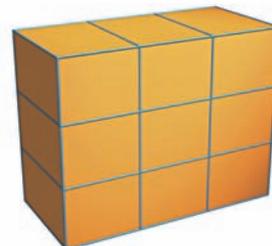
d



Now I can put my fish model onto the background.

5

e



# Reading Comprehension 2



1. True or False? Write "T" for True or "F" for False.

1 Jon Stuart creates models in his studio with pens and paper. \_\_\_\_\_

2 You can touch Jon's models. \_\_\_\_\_

3 Jon starts his models with a block of cubes on the computer. \_\_\_\_\_

4 Jon gives all his models a shiny texture. \_\_\_\_\_

5 When the model is finished, Jon adds lighting and a background. \_\_\_\_\_



# 🐾 Reading Comprehension 3 🐾



1. Number the sentences in the correct order (1–7) to describe the process.

Add a background.

Add a texture.

Set the model to the right size.

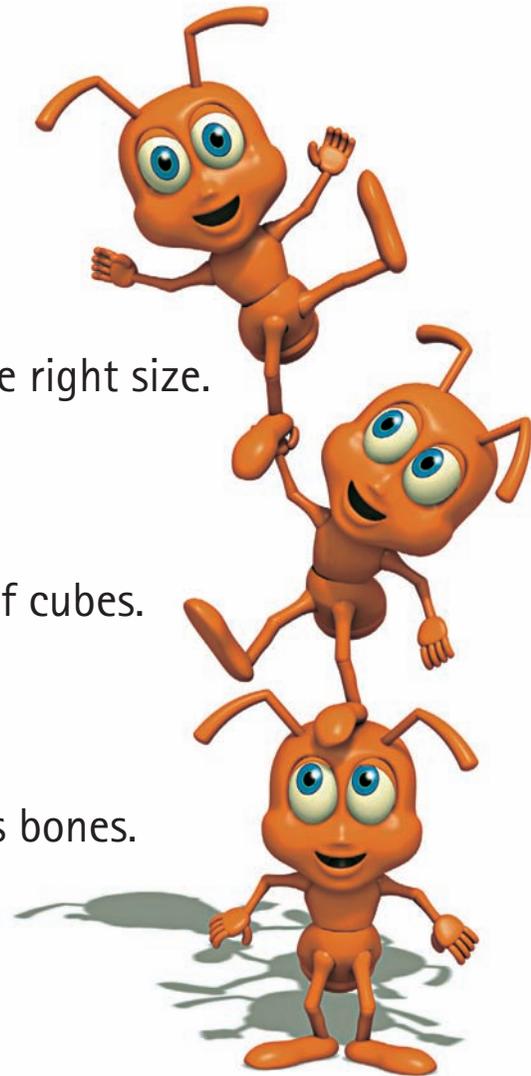
1

Start with a block of cubes.

Add blocks inside as bones.

Add lighting.

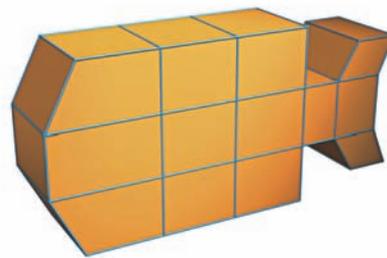
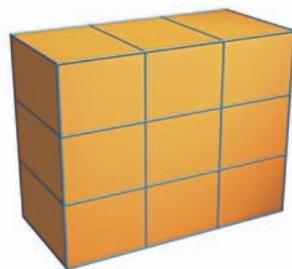
Add shapes to make the model smooth.





2. Fill in the blanks with the correct word to describe the model-making process in the text.

- 1 Jon Stuart starts his model characters with a block of \_\_\_\_\_ (cubes/paper).
- 2 Jon adds more shapes to the model to make the different \_\_\_\_\_ (body parts/types of lighting).
- 3 More and more blocks are added to the character to make it look \_\_\_\_\_ (smooth/smaller).
- 4 Adding more blocks means the characters can then \_\_\_\_\_ (move/talk).
- 5 Jon makes the background in \_\_\_\_\_ (the same/a different) way to the characters.
- 6 Finally, Jon adds some \_\_\_\_\_ (background/lighting).



# Have Fun with English!



1. Look at the words in the box.  
Find and **circle** them in the word square.

background

texture

shapes

characters

model

studio

pictures

computer

b	s	t	e	x	t	u	r	e	k
a	s	f	m	s	k	u	w	d	m
c	h	a	r	a	c	t	e	r	s
k	a	s	t	y	o	k	m	b	t
g	p	u	f	e	m	o	d	e	l
r	e	g	h	n	p	s	a	x	v
o	s	b	s	t	u	d	i	o	u
u	n	p	i	c	t	u	r	e	s
n	x	v	n	m	e	b	v	c	r
d	u	g	g	a	r	f	m	n	i



2. Draw lines to match the rhyming words.

light

1

a

tube

bend

2

b

bright

shine

3

c

mend

cube

4

d

mine



3. How many new words can you make from this word? Write them.

c o m p u t e r

cup

---



---



---



---



---



# Test Your English



1. Write the answers to these questions.  
Use complete sentences.

1 Who is Jon Stuart?

---

---

2 Why are 'shiny', 'bumpy' and 'furry' mentioned in the text?

---

---

---



2. True or False? Write "T" for True or "F" for False.

1 Jon Stuart creates his models on paper.

---

2 He starts his models with blocks.

---

3 Jon uses blocks to make the background too.

---

4 Jon's computer models can't move.

---



**CONGRATULATIONS!**

You have completed  
***What is CGI?***

Go to page **211** to get your  
Reward Certificate.



## Ideas for reading

**Learning objectives:** explain ideas and processes; use syntax and context to build their store of vocabulary when reading for meaning; explain their reactions to texts, commenting on important aspects; know how to tackle unfamiliar words that are not completely decodable

**Curriculum links:** Art and Design: Investigating different kinds of art, craft and design; ICT: An introduction to modelling; Creating pictures

**Interest words:** texture, studio, models, cubes, characters, CGI

**Resources:** computer

**Word count:** 285

### Getting started

- Look at the cover and decide together what the book is about. Discuss the term *CGI* and where you might find a definition. Turn to the glossary for help.
- Browse through the book looking at the pictures and pointing to the images. Which ones do the children like best and why?
- Talk about computer games the children may have and whether these games depict realistic or cartoon worlds. Ensure they understand that the models in the book, even those against white backgrounds, were all produced by a computer.
- Return to the beginning of the book and demonstrate reading pp50–53.

### Reading and responding

- Remind the children of phonic strategies for decoding unknown words.
- Observe, prompt and praise as the children read on independently.
- Pause at pp60–61 to check all the children understand what they have read so far. Do they understand how the models are shaped, how texture is added and how blocks are used to move the models?
- Explain that the artist makes choices about the character and uses the computer to produce the effects, just as when you're drawing, you decide what to draw and use a pencil to draw it.
- Ask the children to read on to the end of the book independently.

## Returning to the book

- Ask the children for their own definition of CGI. Ask them to explain how the images are made, using pp70–71 to help them.
- Turn to pp56–57 and find words in the text which describe texture. Can the children think of more words and relate them to other objects? (*Carpet*→*rough*, *glass*→*smooth*).
- Discuss whether or not the children liked the book. Ask them to find an example of something they like (*e.g. p65 is funny because the diver is pulling a face as he sees the shark*).
- Return to pp54–55 and ask the children which words are ‘time’ words, which help us to understand the sequence (*first, then, next, now*).

## Checking and moving on

- Using the internet, find examples of computer-generated images, download them and use them to support a talk to others about CGI.
- Use a drawing program on the computer to create simple characters.
- Direct the children to find materials with different textures for a class display. Label with descriptive words.
- Using pp50–51 as a stimulus, encourage the children to make colourful 3D models from modelling material.

