Name:

Number prefixes

- Add examples to each section, using a dictionary to help.

Prefix: uni-	Meaning: one
unicorn	a mythical horse with **one** horn
Prefix: mono-	Meaning: one
monotone	sound with **one** tone
Prefix: bi-	Meaning: two
bicycle	a cycle with **two** wheels
Prefix: tri-	Meaning: three
triangle	a figure with **three** sides
Prefix: quad-	Meaning: four
quadrangle	an open space with four sides
Prefix: multi-	Meaning: many
multi-storey	a car park with many storeys

Extension

- Find words with these number prefixes: sex-, sept-, oct-, non-, cent-, mil-.

Dear Helper,

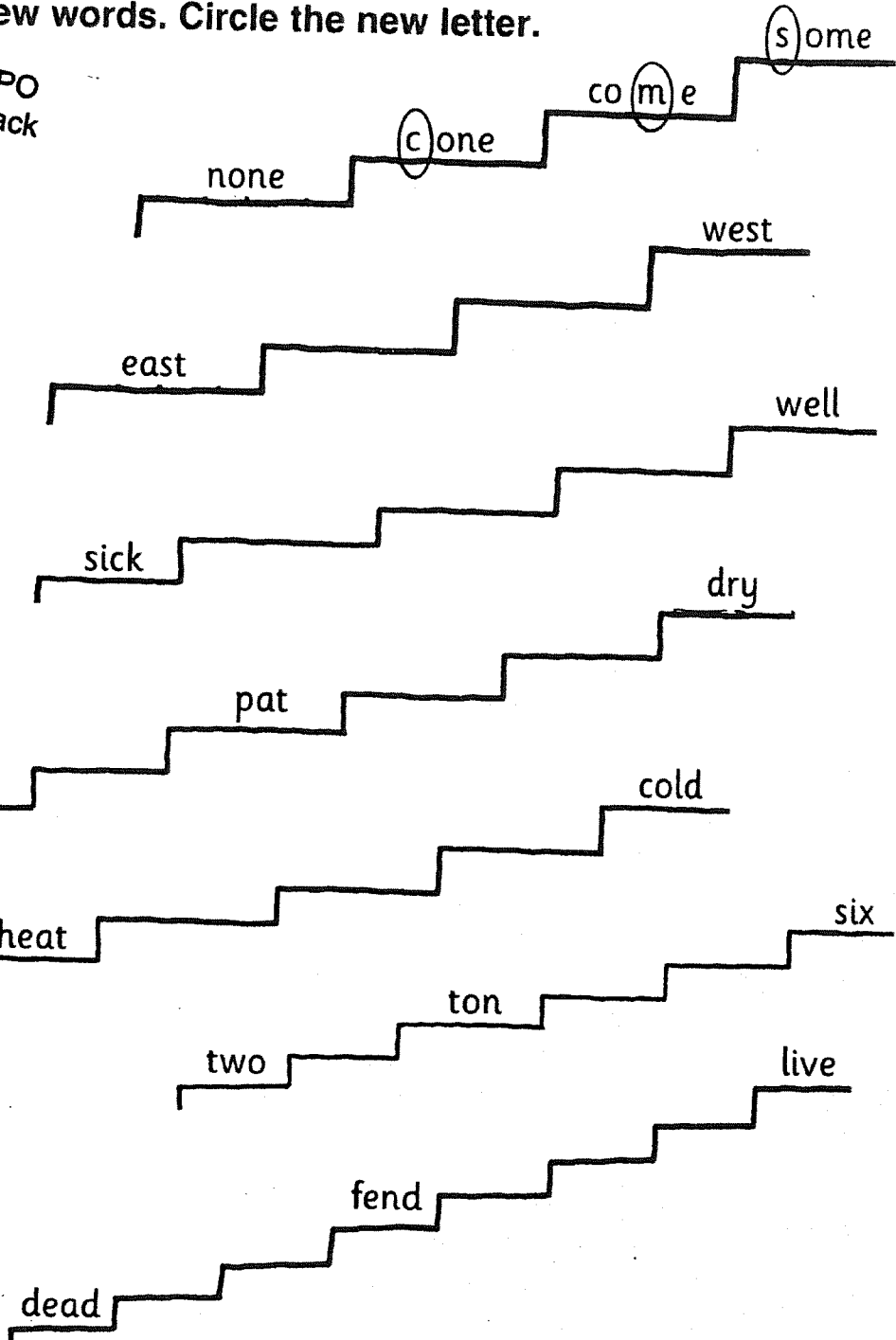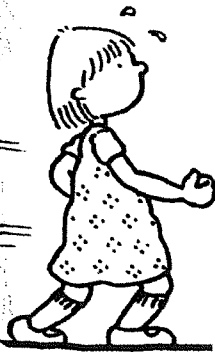**Objective: to revise spelling rules for adding prefixes that indicate number.**
If necessary, remind your child that a prefix is a letter or group of letters added to the beginning of a word to change its meaning. Watch out for bi- and tri- words. For example, 'bitter' has nothing to do with 'two' and 'trick' has nothing to do with 'three'.

61

Climb the steps

- Change one letter at a time as you climb the steps.
- Write the new words. Circle the new letter.

(s)ome

co (m) e

(c) one

west

east

well

sick

dry

pat

wet

cold

heat

six

ton

two

live

fend

dead

'ous' and 'ious'

A Draw a line to join each noun to the adjective from the same word family. Use your dictionary to look up any unfamiliar words.

Nouns	Adjectives
hilarity	mysterious
harmony	suspicious
mutiny	religious
curiosity	dangerous
mystery	curious
nerve	fictitious
prestige	nervous
suspicion	mutinous
danger	jealous
fiction	prestigious
jealousy	harmonius
religion	hilarious

B Write the adjective that comes from the same word family as each word below. Use your dictionary to help you.

1 fame _____ 2 prosper _____ 3 marvel _____

4 glory _____ 5 anxiety _____ 6 glamour _____

7 grace _____ 8 malice _____ 9 virtue _____

10 fury _____ 11 labour _____ 12 vigour _____

13 zeal _____ 14 scandal _____ 15 deviate _____

Crooked pencils

You will need: a pen or pencil, a glass of water, a straight object (a ruler, a straw or another pencil), two identical coins (promise to give them back!).

● Half-fill a straight-sided glass with water. Put your straight object in the glass of water, and look at it from all the way around the glass and from above.

● In the space below, draw a picture of the object in the glass from the side and from above.

● Place the two coins on a flat surface, a few centimetres apart. Over the top of one coin, carefully place a full glass of water. Look at the two coins from above. Do they look different? Describe what you can see in the space below.

Dear Helper,

As light travels through different materials (through water as opposed to air, for example) it can give the appearance of 'bending' objects, because the light travels more slowly through some materials than others. This effect is called *refraction*. As you look at the objects in the glass of water, ask your child to describe what they can see before drawing the object. You can also observe this effect at the swimming pool – it explains why the deep end never looks as deep as the notice on the side of the pool says it is!

100 SCIENCE HOMEWORK ACTIVITIES ● YEAR 5

Side text: BENDING LIGHT AND CHANGING SOUND (LIGHT & SOUND UNIT 7)

Side text: PHOTOCOPIABLE

Our Senses - Sight

Scientists believe that the eye is the second most complex organ in the human body after the brain. Not bad for something that weighs as little as 27 grams. Our eyes allow us to enjoy sunsets, thunderstorms, birthdays and cup finals. Our eyes work by allowing light to enter through the pupil and hit the retina at the back of the eye. This is a bit like a film projecting onto a screen at the cinema. The eye is made up of a number of different parts.
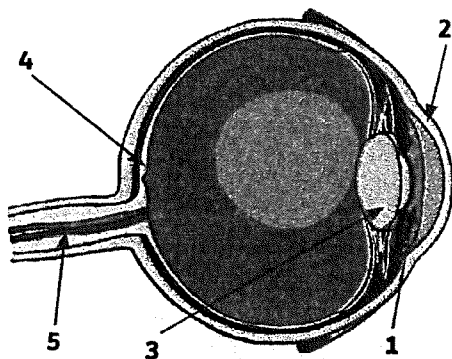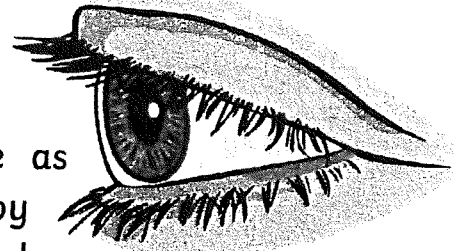
The Eye

1. **Iris** - coloured part of the eye which controls the size of the pupil.
2. **Cornea** - controls and refracts the light onto the retina.
3. **Lens** - focuses the light arriving through the pupil.
4. **Retina** - the area sensitive to light and images.
5. **Optic Nerve** - carries messages from the eye to the brain.

The pupil allows light to enter the eye. It can grow and shrink to allow in the maximum amount of light possible. If it is dark, the pupil is forced to open wide to allow the maximum amount of light possible in. The lens allows the eye to focus, whether we are looking at an object that is very close to us, or a great distance away. The lens ensures that we see a clear image, not a blurry one. The retina takes all of this information and sends it down the optic nerve to brain. Strangely, the information is sent upside down!

Brilliant Fact
In your lifetime, your eyes will have seen more than 24 million different images!

The brain has to turn it the right way up! Our eyes are phenomenal: they are able to see thousands of colours, see depth and speed with no problems. We have sent men to the moon, saved lives and discovered cures to diseases, but scientists aren't even close to producing a camera as powerful as the human eye!
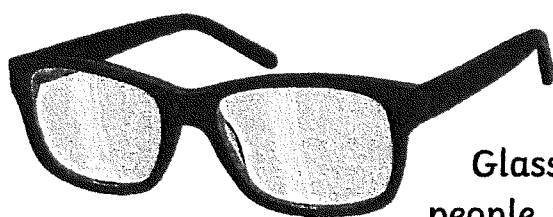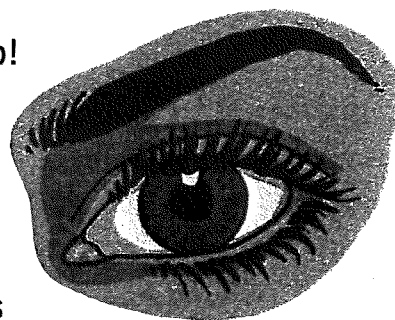
Modern science now means that even those who struggle with their eyes can be helped. Glasses and contact lenses can help people who find it hard to focus, and laser surgery can permanently fix some problems. In some extreme cases, people are given cornea transplants. There are even experiments taking place with shark's eyes. Soon, science may make blindness a thing of the past!

The animal kingdom has some equally impressive eyes:

- An owl can see a mouse moving more than 50 metres away.
- A box jellyfish has 24 eyes!
- A dragonfly has 30,000 lenses in its eyes to help it spot predators.
- Geckos can see colours around 350 times better than humans.
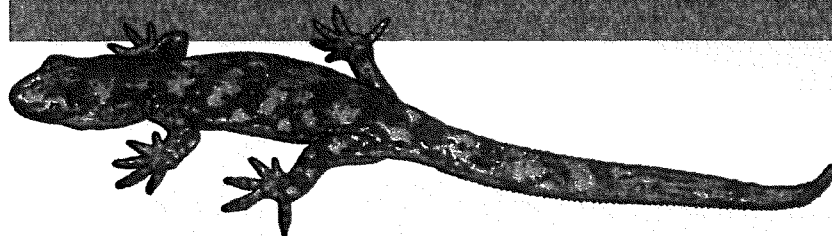
Our Senses - Sight **Questions**

1. Which part of the eye carries messages directly to the brain?

   _____

2. How many lenses does a dragonfly have in its eyes?

   _____

3. Which organ is more complex than the human eye?

   _____

4. What is unusual about the image that our eyes see?

   _____

   _____

5. Why should mice stay a long way from owls?

   _____

   _____

6. Which animal has corneas very similar to a human ones?

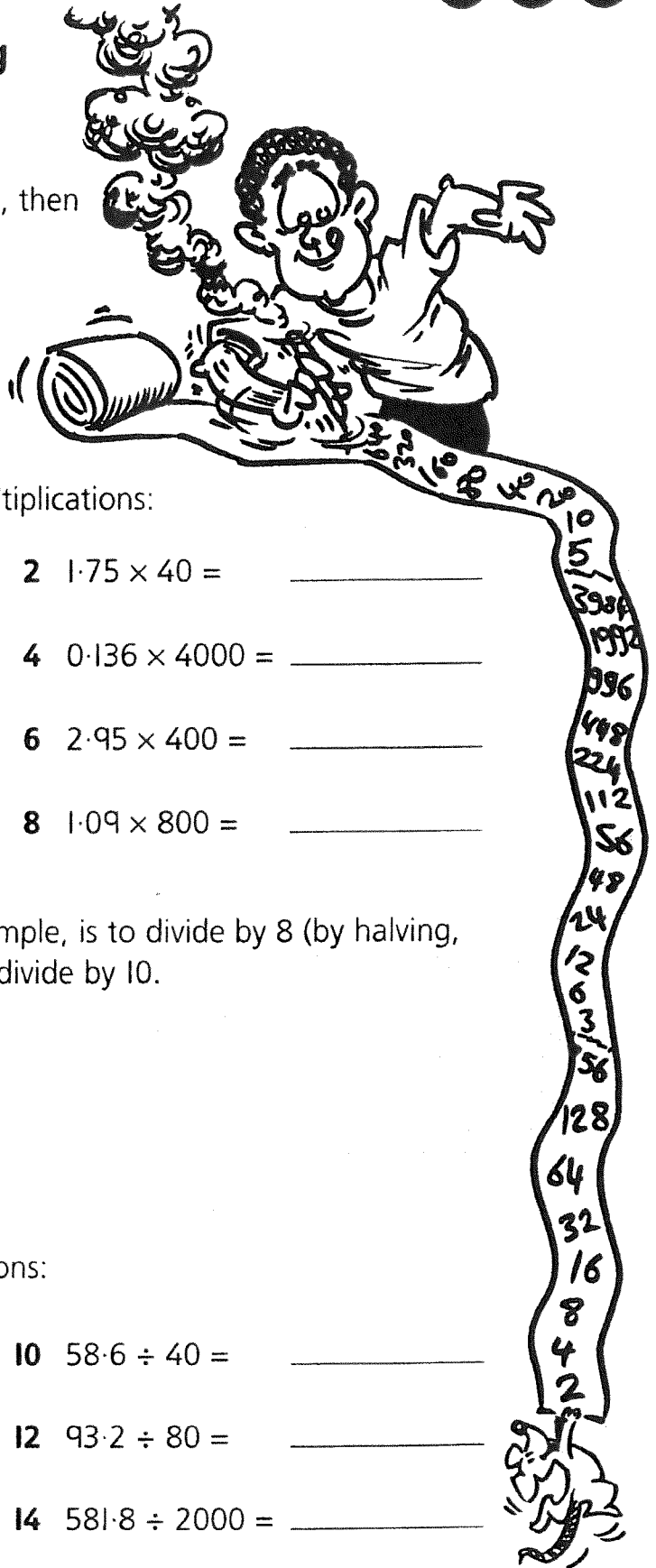   _____

7. In your lifetime, how many images will you have seen?

   _____

8. Which of your senses do you think is most important? Why?

   _____

   _____

   _____

Name _____

N2 N15 N16

Fast multiplying and dividing

A fast method of multiplying by 400, for example, is to multiply by 4 (by doubling, then doubling again), then multiply by 100.

For example, 5·6 x 400

double 5·6 = 11·2
double 11·2 = 22·4
22·4 x 100 = 2240

Use doubling to help you with these multiplications:

1 0·81 × 20 = _____

2 1·75 × 40 = _____

3 15·6 × 200 = _____

4 0·136 × 4000 = _____

5 4·32 × 80 = _____

6 2·95 × 400 = _____

7 0·076 × 2000 = _____

8 1·09 × 800 = _____

A fast method of dividing by 80, for example, is to divide by 8 (by halving, halving again, then halving again), then divide by 10.

For example, 5·44 ÷ 80

half of 5·44 = 2·72
half of 2·72 = 1·36
half of 1·36 = 0·68
0·68 ÷ 10 = 0·068

Use halving to help you with these divisions:

9 7·82 ÷ 20 = _____

10 58·6 ÷ 40 = _____

11 9320 ÷ 400 = _____

12 93·2 ÷ 80 = _____

13 196·4 ÷ 200 = _____

14 581·8 ÷ 2000 = _____

15 636 ÷ 800 = _____

16 4656 ÷ 4000 = _____