

HOW DO WE SEE THINGS? UNDERSTANDING LIGHT**KEY STAGE(S):** 2**SUBJECT/CURRICULUM AREA(S):** Science**TOPIC:** Light**LANGUAGE LEVEL:** New to English - Developing competence**RESOURCE CONTENTS**

- Flashcards;
- Label the diagram;
- Dictogloss;
- Ordering activity.

CURRICULUM OBJECTIVES

To support children to understand:

- Key parts of the eye and their function in enabling us to see objects.
- That light travels in straight lines
- That we see things because light travels from light sources to our eyes or to objects and then travels in a straight line into our eyes.

Language functions

Useful Language

Naming

This is the iris.
This is the pupil.

Explaining

We can see things because light rays bounce off
These light rays then travel into...
At this point, ...

Describing

The iris controls how much light enters the eye....
The image is displayed on the back of the eye...

PREPARATION

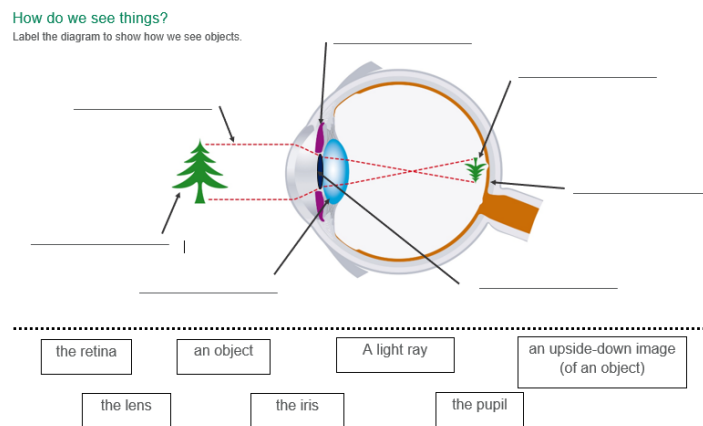
Vocabulary

Nouns: Light rays, object, pupil, iris, lens, image, brain**Verbs:** bounce off, travel into, enter, go through, bend, is displayed, turn round**Phrases:** upside down, right way round

Label the diagram



- Give learners the diagram, which illustrates how we see objects.
- Ask learners to label the diagram in pairs or on their own.
- If you want to challenge learners or use this as a review exercise, cut off or fold along the dotted line and ask learners to label the diagram without the words.
- For additional support, you may want to give learners the worksheet as it is.



Flashcards



- Go through the slides of the flashcards, explaining the words.
- Model the words and ask learners to repeat the words after you, supporting with pronunciation.

bounce off (something)	travel into	upside-down	the right way up

Dictogloss



A dictogloss allows learners to develop their speaking, listening, reading and writing.

There are 3 differentiated dictogloss activities in this lesson to choose from:

1. **Dictogloss A** – for learners who are **developing competence or competent**.
2. **Dictogloss B** – for learners who are **new to English or in the early acquisition stages**. This dictogloss focusses on **nouns**.
3. **Dictogloss C** – for learners who are **new to English or in the early acquisition stages**. This dictogloss focusses on **verbs**

Follow the instructions below for the selected dictogloss:

Dictogloss A:

Before you start, give the learner(s) the worksheet titled 'Dictogloss A'

1. Tell learners you are going to tell them about why we see things. Tell them just to listen the first time. Read out the text titled 'dictogloss text'.
2. Tell learners that you are going to read the same text again and that this time you want them to take notes of any words or phrases they hear.
3. Tell them to talk to a partner to see if they heard the same words/notes and see if they want to add any words or notes.
4. Tell learners to listen again while you read the text out another time.
5. Now tell learners you want them to write in full sentences to try to reconstruct the text on their own.
6. Tell learners they to talk to their partner and work together to improve their writing.

Dictogloss B/C (the procedure for these two sheets is the same but the language focus is different. Choose the one you think will most benefit your learners):

Before you start, give the learner(s) the worksheet titled 'Dictogloss B: Focus on nouns' or 'Dictogloss C: Focus on verbs'.

1. Tell learners you are going to tell them about why we see things. Tell them just to listen the first time. Read out the text titled 'dictogloss text'.
2. Tell learners that you are going to read the same text again and that this time you want them to tick the words they hear. Give them time to read the words first.
3. Tell them to talk to a partner to see if they heard the same words and see if they want to tick any other words.
4. Tell learners to listen again while you read the text out another time. Tell them to follow along with your reading by reading the text in the box.

- Now tell learners you are going to read the text out one more time and this time they need to complete the gaps in the text.
- Finally, tell learners they can talk to their partner and check their answers together,

Dictogloss A

- Listen
 - Listen and write down notes/words.
-
- Talk to your partner and add to your notes/words.
 - Listen again
 - Write in full sentences
-
-
-
-
-
-
- Talk to your partner and improve your writing.

Dictogloss B: Focus on nouns

- Listen.
 - Listen and tick the words you hear.
- | | | | | |
|-------|------|--------|------------|-------|
| iris | tree | object | retina | brain |
| pupil | eye | rain | light rays | lens |
- Talk to your partner. Did you hear the same words?
 - Listen again and read the text.
- Why do we see things?**

We can see things because _____ rays bounce off an _____ like a tree, and then travel into our eyes through the _____. The _____ controls how much light enters the eye through the pupil.

Then the light rays go through the lens. The _____ bends the light rays, and the image is displayed on the back of the eye, the retina. The image of the object is upside down. Our _____ turns the image the right way round.
- Listen again and write the words.
 - Listen again and check.

Dictogloss text

Why do we see things?

We can see things because light rays bounce off an object, like a tree, and then travel into our eyes through the pupil.

The iris controls how much light enters the eye through the pupil.

Then the light rays go through the lens.

The lens bends the light rays, and the image is displayed on the back of the eye, the retina. The image of the object is upside down.

Our brain turns the image the right way round.

Ordering activity



Give learners this ordering activity as a review – either at the end of the session or another day.

- Tell learners to look at the sentences and to put them in the correct order by labelling them from 1 – 7. The first one has been done for them.
- Ask learners to do this in pairs to encourage collaboration and modelling of the language.
- If you have time, you might want to cut out the strips and ask learners to physically move these into the correct order and then stick them in their books.

How do we see things?

Put the sentences in the correct order to explain how we see objects.]

1	These light rays then travel into our eyes through the pupil.	
	We can see things because light rays bounce off an object.	
	Our brain turns the image the right way round.	
	Then the light rays go through the lens.	
	The lens bends the light rays, and the image is displayed on the back of the eye (the retina).	
	At this point, the image of the object is upside down.	
	The iris controls how much light enters the eye through the pupil.	

DIFFERENTIATION FOR SUPPORT AND CHALLENGE**Support**

- Allow learners to use [bilingual dictionaries](#) and to work in both their home language and English.
- Pair learners with other learners who share a first language or with supportive monolingual English peers.
- Print off the flashcards and give them to learners to refer to during the other tasks.

Challenge

- If you feel that dictogloss A is too difficult, but dictogloss activities B/C are not challenging enough for your learners, you may want to use stages 1 – 3 from worksheet B/C, but then ask learners to follow stages 5 – 6 from worksheet A (so that they try to reconstruct the text on their own, using the key words).

How do we see things? Understanding light.

Label the diagram

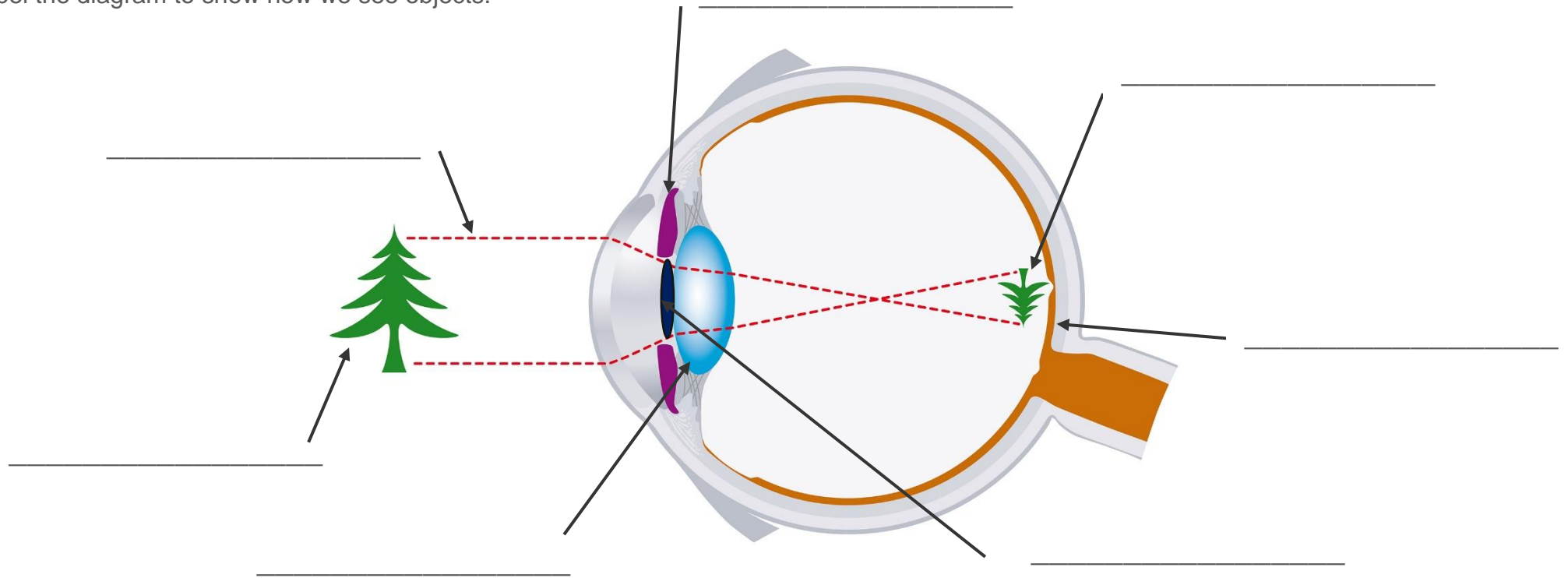
Subject(s): Science

Key Stage: KS2

Topic: Light

How do we see things?

Label the diagram to show how we see objects.



the retina

an object

a light ray

an upside-down image
(of an object)

the lens

the iris

the pupil

How do we see things? Understanding light.

Dictogloss



Subject(s): Science



Key Stage: KS2

Topic: Light


Dictogloss A



1.  Listen.

2.   Listen and write down notes/words.

3.   Talk to your partner and add to your notes/words.



4.  Listen again.

5.  Write in full sentences.



6.   Talk to your partner and see if there is anything you want to add.

Dictogloss B: Focus on nouns

1.  Listen.

2.   Listen and tick the words you hear.

iris	tree	object	retina	brain
pupil	eye	train	light rays	lens



3.   Talk to your partner. Did you hear the same words?


4.  Listen again and read the text.

Why do we see things?

We can see things because _____ rays bounce off an _____, like a tree, and then travel into our eyes through the _____. The _____ controls how much light enters the eye through the pupil.



Then the light rays go through the lens. The _____ bends the light rays, and the image is displayed on the back of the eye, the retina. The image of the object is upside down. Our _____ turns the image the right way round.

5.   Listen again and write the words.



6.  Listen again and check.

Dictogloss C: Focus on verbs

1.  Listen.

2.   Listen and tick the words you hear.

bounce	travel	go	leave
enter	through	bend	turn



3.   Talk to your partner. Did you hear the same words?

4.  Listen again read the text.

Why do we see things?

We can see things because light rays _____ off an object, like a tree, and then _____ into our eyes through the pupil. The iris controls how much light _____ the eye through the pupil.

Then the light rays go _____ the lens. The lens _____ the light rays, and the image is displayed on the back of the eye, the retina. The image of the object is upside down. Our brain _____ the image the right way round.

5.   Listen again and write the words.

6.  Listen again and check.

Dictogloss text

Why do we see things?

We can see things because light rays bounce off an object, like a tree, and then travel into our eyes through the pupil.

The iris controls how much light enters the eye through the pupil.

Then the light rays go through the lens.

The lens bends the light rays, and the image is displayed on the back of the eye, the retina. The image of the object is upside down.

Our brain turns the image the right way round.

How do we see things? Understanding light.

Ordering activity

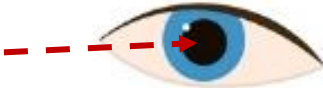
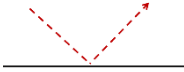

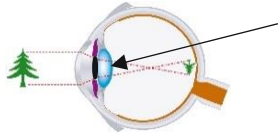
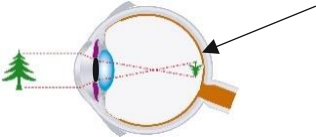

Subject(s): Science

Key Stage: KS2

Topic: Light

How do we see things?

Put the sentences in the correct order to explain how we see objects.

1	These light rays then travel into our eyes through the pupil.	
	We can see things because light rays bounce off an object.	
	Our brain turns the image the right way round.	
	Then the light rays go through the lens.	
	The lens bends the light rays, and the image is displayed on the back of the eye (the retina).	
	At this point, the image of the object is upside-down.	
	The iris controls how much light enters the eye through the pupil.	