

# Light: Pinhole camera

Year 6

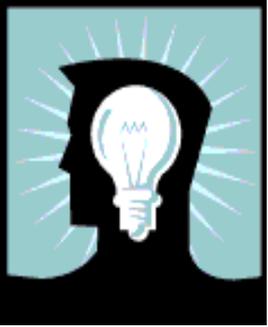
Week commencing 29<sup>th</sup> October  
2012

# Title: Light and Pin-hole cameras

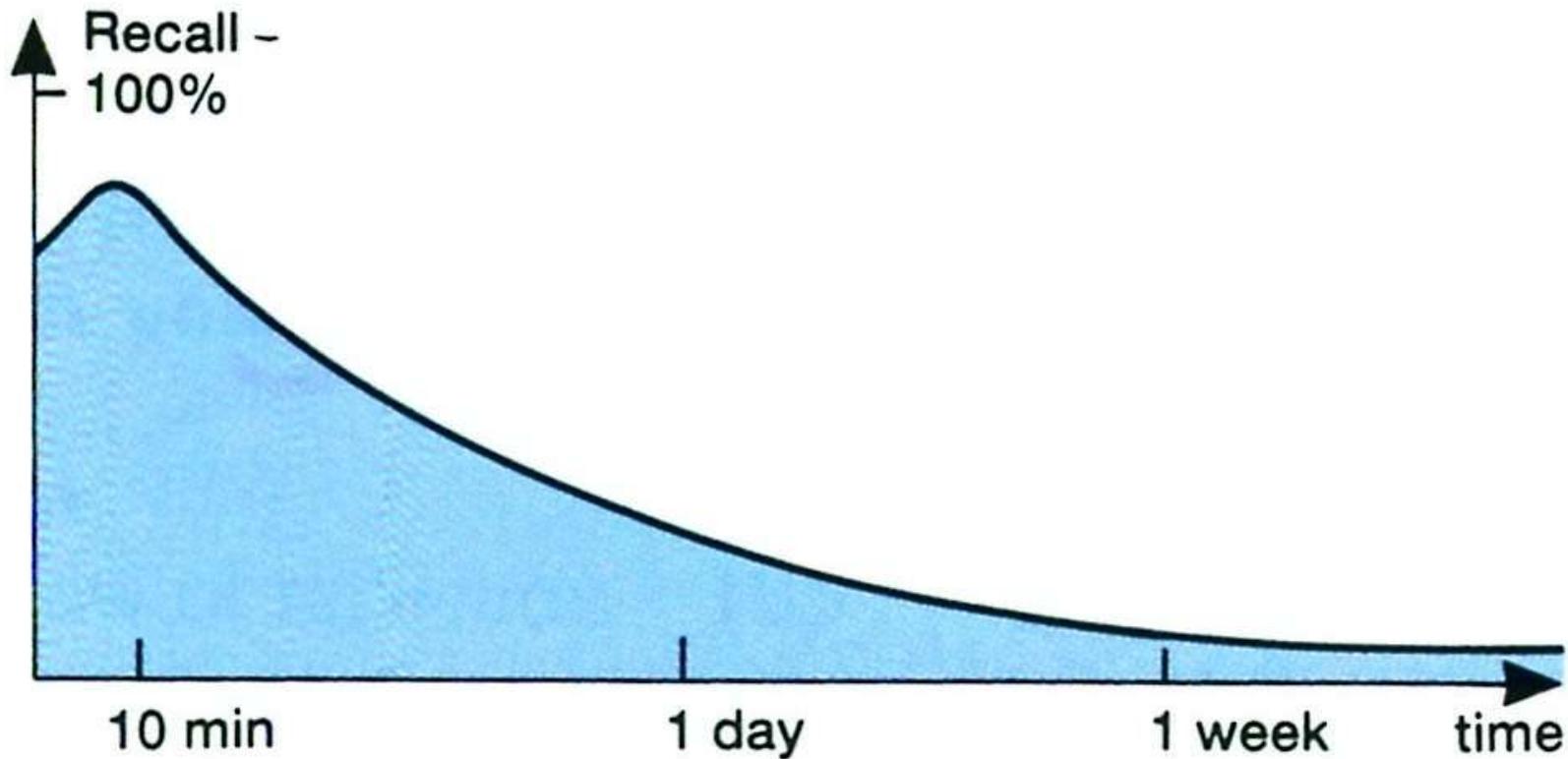
**Objective: to describe what light is and make a pin-hole camera**

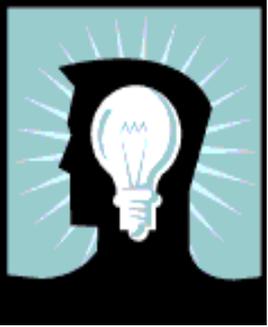
- I must be able to state 2 facts about light
- I should be able to make a pin-hole camera and answer some observations
- I could apply what I have learnt to a real-life situation

- **STARTER – BRAIN GYM**



This is how quickly your brain forgets things



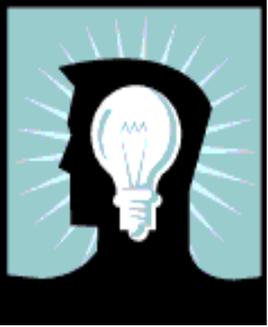


# Your brain is a muscle



- Like every other muscle it needs exercise
- Brain gym is one way to exercise your mind so that you can learn better.





# Your brain is a muscle

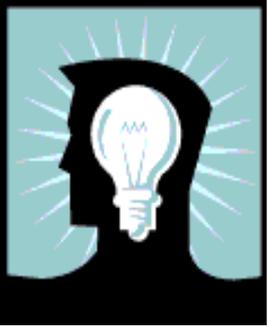


- Research shows that structured physical movement can enhance our readiness for learning.



- Physical movement increases the oxygen in the blood stream and leads to improved concentration. In addition, adding a movement or physical action to a learning point will help recall.



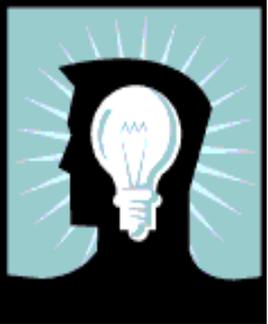


# Your brain is a muscle

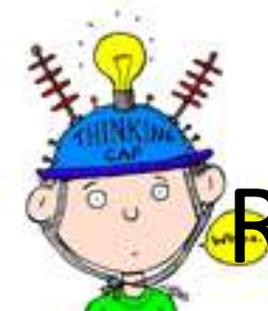


1. With your forefinger and thumb of each hand pinched together, extend your hands out in front of your face and trace large circles in the same direction. Keep your lips and teeth together. Now trace the circles in the other direction. Now try with one hand going clockwise and the other anti-clockwise. Swap again.





Your brain is a muscle



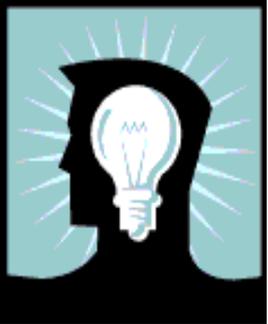
Simple:

Read aloud the colour that you see.

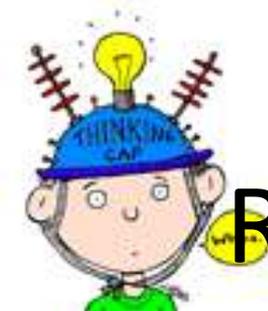


Top tip only read the colour....





Your brain is a muscle



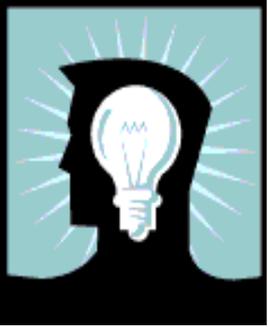
Simple:

Read aloud the colour that you see.



Top tip only read the colour....



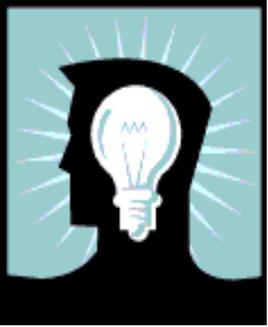


Your brain is a muscle

REMEMBER –

JUST READ THE COLOUR NOTHING  
ELSE





Your brain is a muscle



JUST

THE

COLOUR



RED YELLOW PINK BLUE

BROWN GREEN BLACK

PURPLE WHITE ORANGE

GOLD BLACK YELLOW

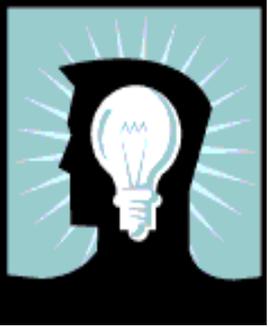
BLACK YELLOW PURPLE

PINK RED BLACK BLACK

BLUE GREEN GOLD BLUE

BLUE ORANGE WHITE

RED WHITE YELLOW



# Your brain is a muscle

Easy?



No because your brain is working against itself



(LEFT BRAIN/RIGHT BRAIN) and you are likely to make mistakes and errors.

Try again



RED YELLOW PINK BLUE

BROWN GREEN BLACK

PURPLE WHITE ORANGE

GOLD BLACK YELLOW

BLACK YELLOW PURPLE

PINK RED BLACK BLACK

BLUE GREEN GOLD BLUE

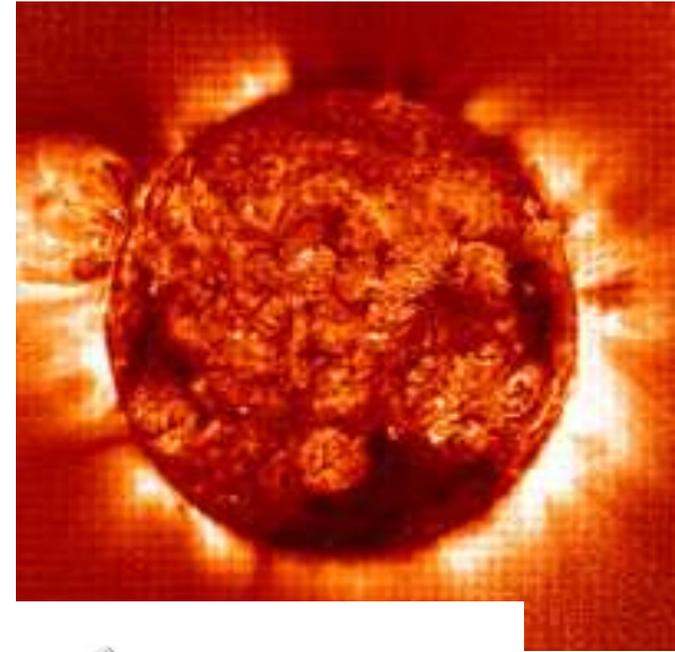
BLUE ORANGE WHITE

RED WHITE YELLOW

# Last week we talked about the moon

- We see the moon 'shine' because .....
- We call the moon “non-luminous” because it does not produce light (it only reflects light into our eyes)
- Objects that produce light are called “luminous”

Are these objects luminous or non-luminous?



Last week, we talked about the light taking 46 years to reach us from one star

Light also takes a tiny bit of time to reach us from the sources in the room such as lamps.

However this speed is VERY fast so we do not notice it (about 300 million metres per second).

# Light always travels in straight lines

- Look at the diagram of a living room on your worksheets
- Carry out Q1

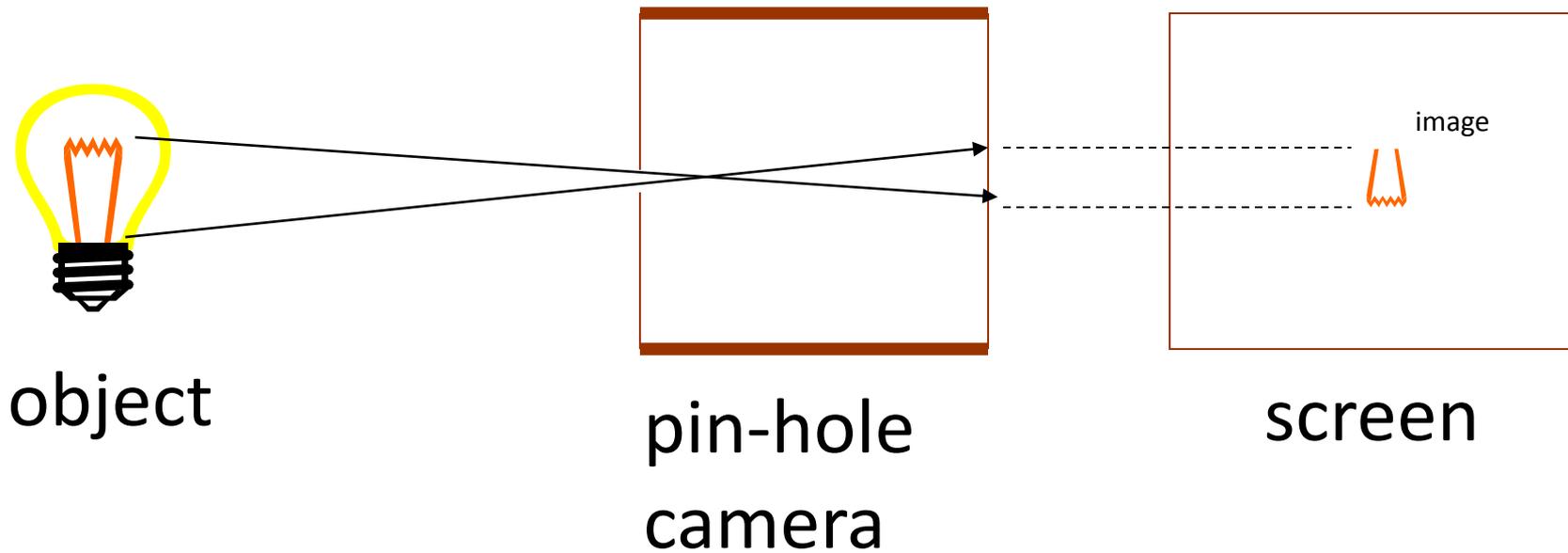


# Prep

- Page 406, questions 1, 2, 3 and 5 (not 4)

Now we are going to make a pin-hole  
camera

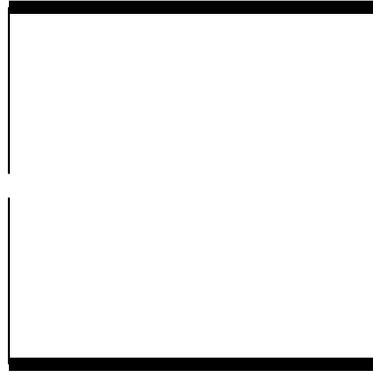
# The pin-hole camera



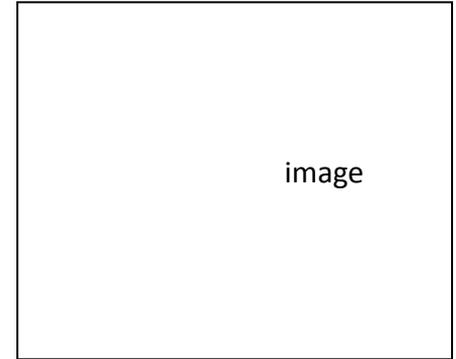
# The pin-hole camera



object



pin-hole camera



screen

larger    smaller    closer to    away from    as bright as    dimmer than    brighter than  
blurred    sharper    the same way up    upside down

1. The image is **upside down** compared to the object.
2. The image is **smaller** than the object.
3. The image is **as bright as** the object.
4. If the camera is moved closer to the object, the image becomes **larger**.
5. If the camera is moved **away from** the object, the image becomes smaller.
6. If the pin-hole is made larger, the image becomes **blurred**.

# Plenary

- 2 characteristics of light are
  1. ?
  2. ?
- In pairs:
  - Number 1's describe to your partner what you did with a pin-hole camera
  - Number 2's describe to your partner what the pin-hole camera showed