



UNIVERSITY *of* CAMBRIDGE  
International Examinations

# Command Words and Bloom's Taxonomy

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# Presentation overview

- command words
  - activity and level of cognition
- Bloom's Taxonomy
  - taxonomy levels
  - typical words/phrases
  - example questions
- identifying difficulty levels
- plenary



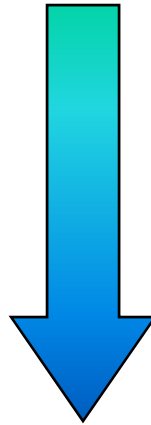
# What is a command?

- An order
- An instruction
- An authoritative order
- A signal or message activating a mechanism or setting in motion a sequence of operations  
*(esp computing)*



# What do command words do?

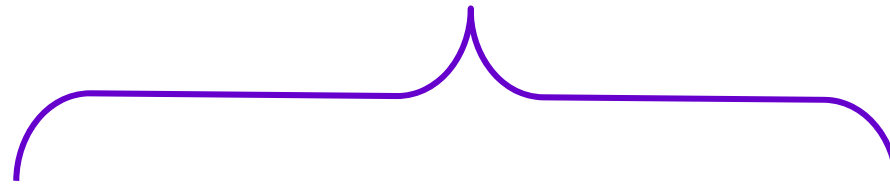
Direct the learner through the question  
(what to do and how to do it)



allowing effective assessment



# Types of command word



**related to task type:**

choose	circle
draw	fill in
put	look at
write	say
listen	read

**related to  
cognitive demand**



# Command words must be.....

- Clearly expressed
- Concise
- Clearly defined
- Consistently used
- Unambiguous
- Related to assessment objectives
- Reflected in the mark scheme



# Command words must be.....

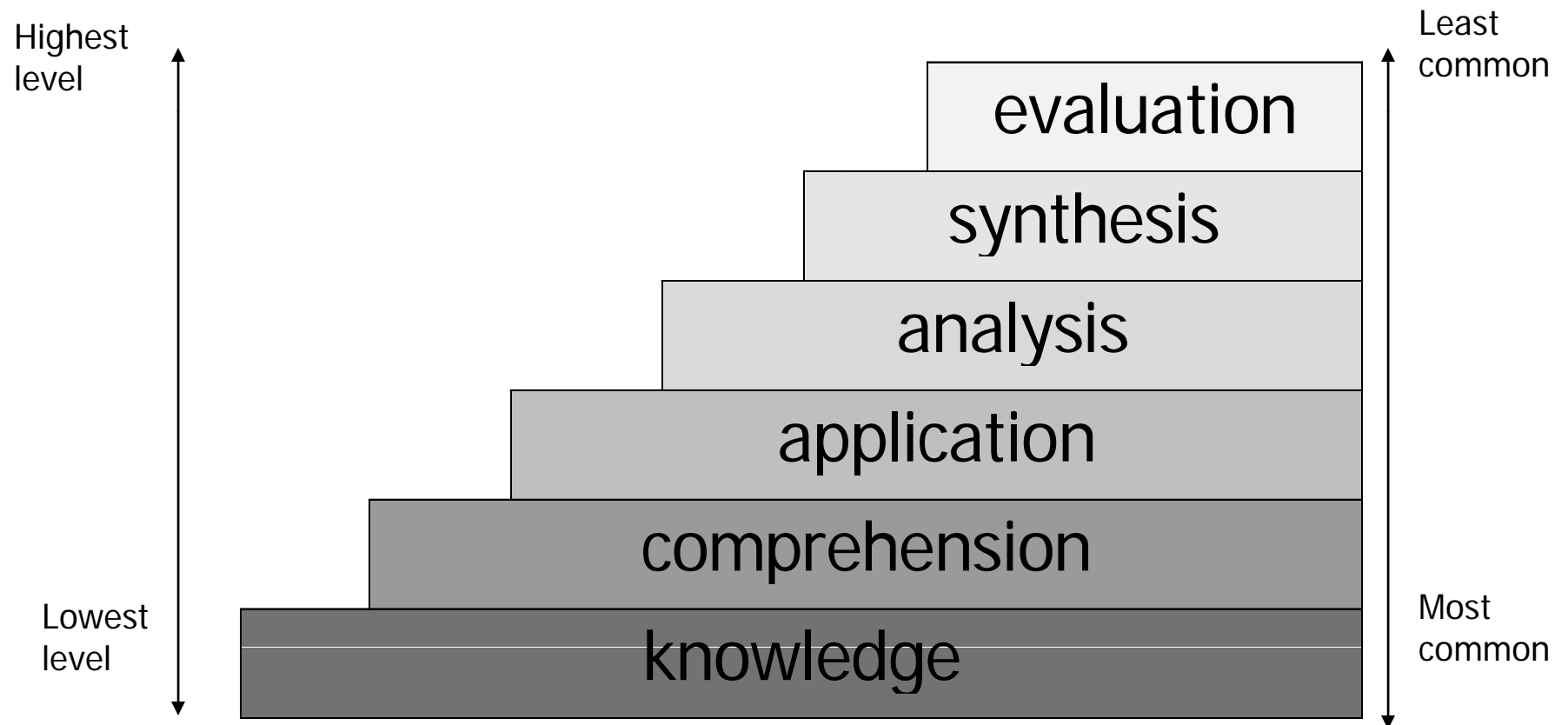
Understood and used consistently by:

- Teachers
- Learners
- Setters
- Markers

Glossary of terms?



# Bloom's Taxonomy





# Bloom's Taxonomy – Typical Tasks

- ***Evaluation*** – compare, judge and conclude
- ***Synthesis*** – design, revise and summarise
- ***Analysis*** – analyse, deduce and explain
- ***Application*** – classify, organise and use
- ***Comprehension*** – describe, paraphrase and summarise
- ***Knowledge*** – identify, select and state



# What is *knowledge* ?

*‘Little more than the remembering of an idea or phenomenon in a form very close to that in which it was originally encountered.’*

- remembering facts, terms and concepts
- information can be isolated
- strong relationship between wording of task and nature of response



# ***Knowledge* command words**

Choose

Label

Pick

When

Define

List

Recall

Where

Find

Locate

Select

Which

Give

Match

State

Who

How

Name

Tell

Why

Identify

Outline

What

Write



# ***Knowledge phrases***

- Who (is/was)...?
- How (long/did/much)...?
- What (is/does)...?
- Which (one/is)...?
- (suggest) Why (did/was)...?
- Where (is)...?



# Testing knowledge

## Measuring temperature

Some children want to find out which material keeps a drink hottest. They fill three cups with hot water.



metal cup



polystyrene cup



plastic cup

They measure the temperature of the water. It is the same in each cup.

What equipment do they use to measure the temperature of the water?



# Testing knowledge

## The circulatory system

What is the heart made from?

Tick **ONE** box.

muscle

blood

bone

skin



# What is *comprehension*?

- Learners are expected to *receive, make sense of* and *use* information given.
- Types of comprehension:
  - Translation – put information into another language
  - Interpretation – understand the main ideas in the information given
  - Extrapolation – understand immediate consequences



# ***Comprehension* command words**

Classify  
*(with given criteria)*

Convert

Describe

Distinguish

Explain

Extend  
*(immediate)*

Illustrate  
*(show)*

Interpret  
*(main ideas)*

Paraphrase

Predict  
*(immediate)*

Rewrite

Summarise

Use *(given method)*



# ***Comprehension* phrases**

Using (this knowledge/method)...

Explain what happens when...(immediate  
consequences)

Describe how...(main ideas)

Write in your own words...

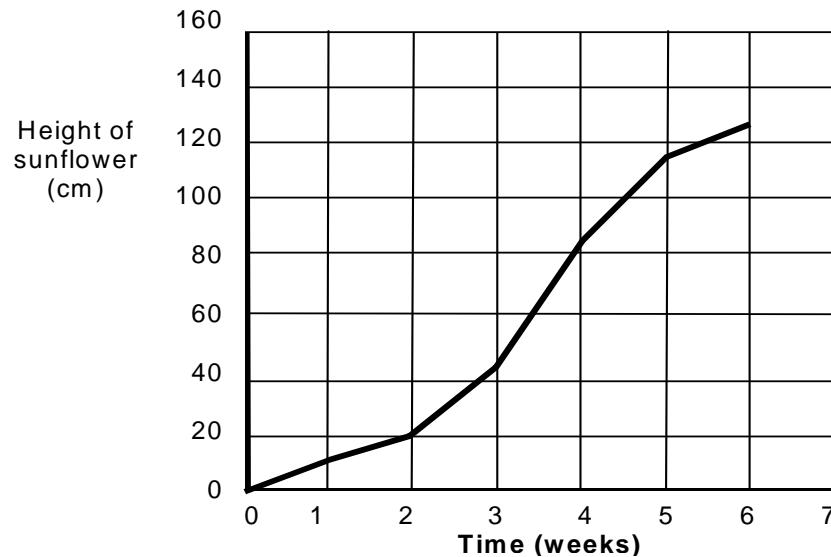


# Testing comprehension

## Growing a sunflower

Stephen wants to grow a sunflower seed in the school garden.  
He measures the height of the plant at the end of each week.

Graph to show the height of the sunflower



**Use the graph** to help you predict how tall the sunflower will be at week 7.



# Testing comprehension

## Pressure

Pressure can be calculated using this equation:

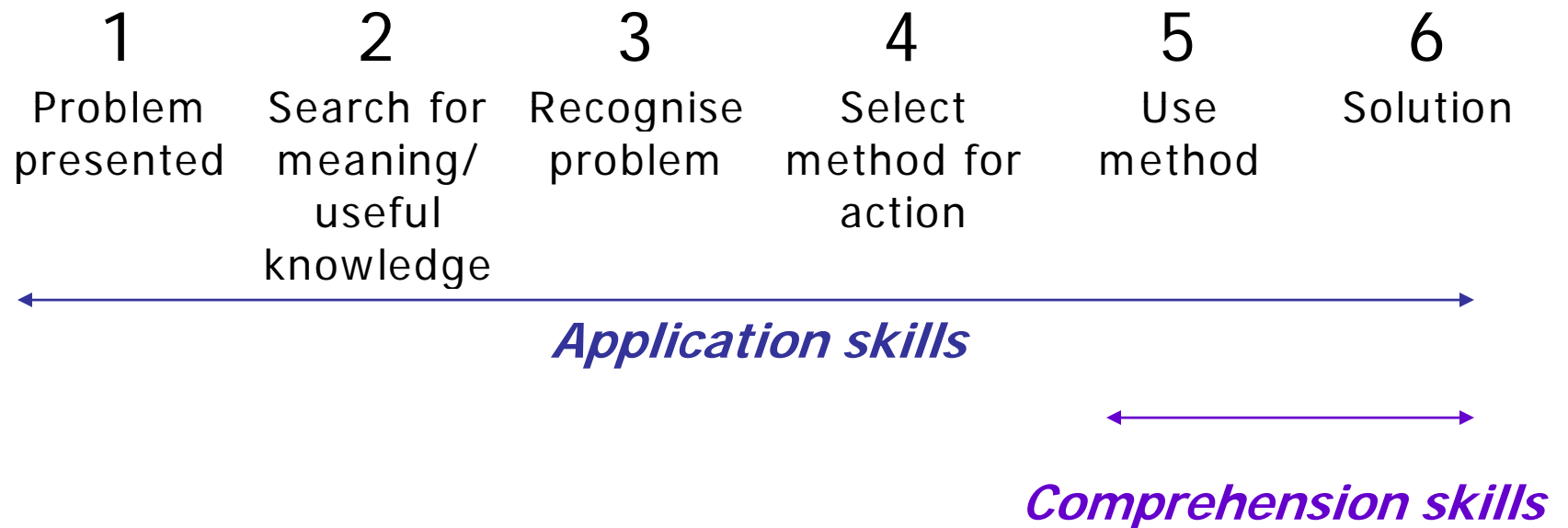
$$\text{Pressure} = \frac{\text{force}}{\text{area}}$$

Rewrite this equation to show how to calculate the force acting on a given area from a known pressure.

force = .....



# What is *application* ?





# ***Application* command words**

Apply	Construct	Operate	Show <i>(working)</i>
Arrange	Demonstrate	Organise	Transfer
Calculate	Develop	Prepare	Translate
Classify <i>(using own knowledge)</i>	Estimate	Produce	Use <i>(new situation)</i>
Complete	Make <i>(object)</i>	Solve	Work out



# ***Application* phrases**

What would happen if...?

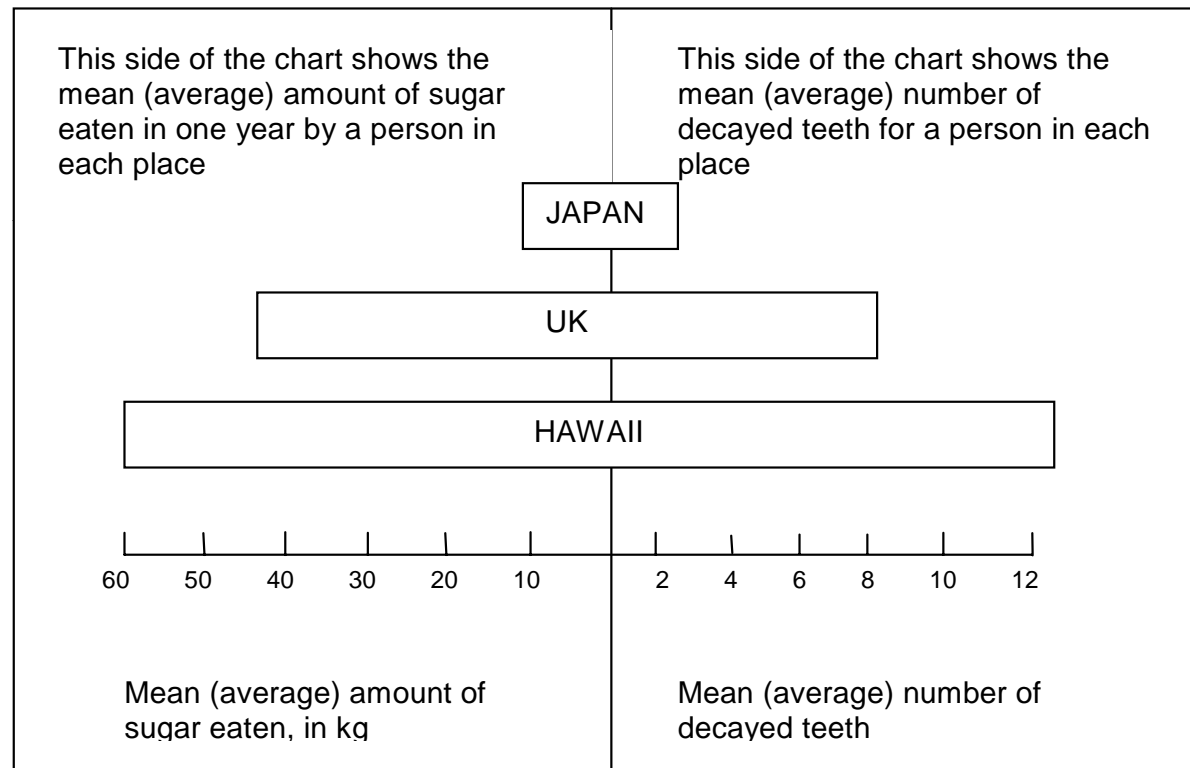
If...what...?

How would you...?

Using (this information) to (further apply an operation)...



# Testing application



Use the information in the chart to answer the question.

How could people alter their diets to reduce tooth decay?



# Testing application

Some children have a large box floating upright on a pond.

The pressure on the bottom of the box is 500N per square metre.

The bottom of the box has an area of  $2\text{m}^2$ .

Calculate the force from the water acting on the bottom of the box.

force from the water = .....



# What is *analysis* ?

Knowledge is broken down into constituent parts based on underlying themes

*comprehension* is grasping meaning

*application* is remembering and using techniques on information

*analysis* is understanding the way things have been organised and why



# ***Analysis* command words**

Analyse	Differentiate	Illustrate <i>(give reason)</i>	Relate
Break down	Distinguish	Infer	Separate out
Compare	Explain	Order	Simplify
Contrast	Generalise	Point out	Subdivide



# *Analysis* phrases

Why do you think...?

Make a comparison...

How is...related to...?

Why did...happen?

Describe how...affects...

What are the features of...?



# Testing analysis

Distance moved by a toy car using different sized starting forces.

Starting force in <b>N</b>	1	2	3	4	5
Distance moved in <b>cm</b>	18	52	140	235	316

Describe how the size of the starting force affects the distance moved by the car.

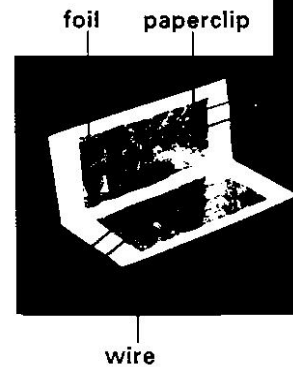


# Testing analysis

5

## Circuits

- (a) The children make a working model of a lighthouse.



The switch in the circuit is made of card and aluminium foil.

In the picture, the switch is open.

What will happen to the bulb when the switch is closed?

 .....

- (b) Explain why this will happen when the switch is closed.

 .....



# What is *synthesis* ?

- Bringing together information in a new/novel way
- Includes the possibility of ‘creativity’



# ***Synthesis* command words**

Categorise	Create	Hypothesise	Propose
Combine	Describe <i>(comparison)</i>	Imagine	Rearrange
Compile	Design	Invent	Revise
Compose	Devise	Predict	Rewrite
Construct	Formulate	Plan	Summarise



# ***Synthesis* phrases**

How would you create...?

What would you predict from...?

What might happen if you combined...?

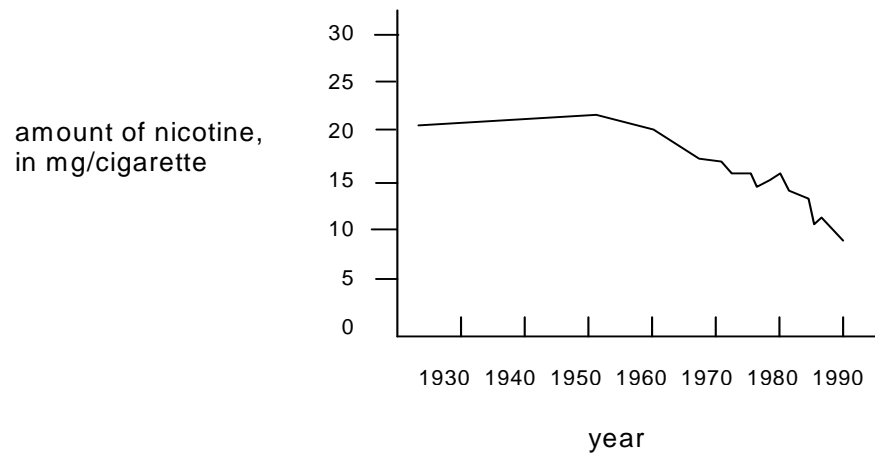
What solutions would you suggest for...?

How many ways can you...?



# Testing synthesis

The graph below show how the amount of nicotine in cigarettes changed between 1930 and 1990



Predict **one** consequence of reducing the amount of nicotine in cigarettes.  
Give the reason for your answer.



# Testing synthesis

Meena reads in a book that the human heart beats about 4300 times an hour at resting rate.

Meena says: 'I want to check this information, but I cannot measure my heartbeat for an hour.'

How can Meena find out **quickly** if her heart beats about 4300 times an hour?



# What is *evaluation* ?

- Learners are required to provide informed, supported judgements.
- The use of 'values' is involved.



# ***Evaluation* command words**

Appraise

Criticise

Interpret

Support

Compare

Defend

Judge

Validate

Contrast

Discuss

Justify

Conclude

Explain

Select



# ***Evaluation phrases***

Why was...better than...?

Put in order of priority...

What do you think about...?

Do you agree...?

Do you think...is a good or a bad thing?





# Testing evaluation

There are advantages and disadvantages of burning different fuels.

Discuss **two** advantages and **two** disadvantages of using biomass rather than fossil fuels as an energy source.



# Task

Using exemplar questions can you...

- 1) locate the cognitive command word/phrase in each question  
and
- 2) use it to help determine the level of each question according to Bloom's Taxonomy?



# Plenary

- Is there a simple relationship between command words used and the cognitive demand/level of a question?
- How much variety is there in the actual command words/phrases used?



# Acknowledgement

With many thanks to Martin Johnson of the Research Programmes Unit, Assessment Directorate, Cambridge Assessment (University of Cambridge Local Examinations Syndicate) for the materials in this presentation and for the accompanying handbook.