Holcombe Grammar School
Thinking Skills
Student Guide

CONTENTS

HOLCOMBE
GRAMMAR SCHOOL

Introduction

Dear student

The following presentation aims to guide you through the various thinking tools employed within Holcombe Grammar School.

It is a lengthy presentation, but hopefully you will only refer to the pages where you need help and after a while, as you get used to the thinking tools, you will refer to this less and less.

In each case the thinking tool is outlined and you are then provided with some practical examples of the tool in action.

Despite trying to make this as fool proof as possible I am sure that for some of you there will still be questions and a degree of confusion, but we are here to help at any time so please just ask if you have any questions.

We will work closely with you to embed the tools into your way of working so they effectively become second nature to you through your journey in the sixth form.

Regards

Mr. Anderson (Head of Sixth Form)

HOLCOMBE
GRAMMAR SCHOOL

What is a thinking school?

A thinking school is defined as;

"an educational community in which all members share a common commitment to giving regular careful thought to everything that takes place.

This involves both students and staff learning how to think reflectively, critically and creatively, and employing these skills and techniques in the co-construction of a meaningful curriculum and associated activities."

- *Burden, 2006.*

HOLCOMBE
GRAMMAR SCHOOL

Mindset

According to Carol Dweck, mindsets change what people strive for and what they see as success.

The growth mindset suggests that 'your basic qualities are things you can cultivate through your efforts' (Dweck, 2006:7) which implies that intelligence and skillsets are not fixed. For students, this means they can grow and develop at different rates and encourages them to think of their journey of learning new things and skills as a 'not there yet' as opposed to a fixed mindset, in which they shy away from challenges and learning opportunities.

The language used to develop strong positive, personal understandings of learning is vitally important and even small changes such as the word 'might' in a question encourages more learners to offer answers even if they are not sure they are correct. When students self-reflect on their learning and development of knowledge and skills, they use words such as 'yet' to describe that they are getting better and they are willing to recognise that just because they haven't mastered something or might be struggling with something it doesn't mean that they cannot or will not get better with structured deliberate practice.

HOLCOMBE
GRAMMAR SCHOOL

Mindset

FIXED MINDSET

Intelligence is a fixed trait

GROWTH MINDSET

Intelligence is a malleable quality, a potential that can be developed

FIXED MINDSET STUDENTS SAY

Looking smart is most important

"The main thing I want when I do my school work is to show how good I am at it."

GROWTH MINDSET STUDENTS SAY

Learning is most important

"It's much more important for me to learn things in my classes than it is to get the best grades."

Mindset

FIXED MINDSET STUDENTS SAY

Effort is negative

"To tell the truth, when I work hard at my school work it makes me feel like I'm not very smart."

GROWTH MINDSET STUDENTS SAY

Effort is positive

"The harder you work at something, the better you'll be at it."

FIXED MINDSET STUDENTS SAY

Helpless

"I would spend less time on this subject from now on.."
"I would try not to take this subject ever again."

"I would try to cheat on the next test."

GROWTH MINDSET STUDENTS SAY

Resilient

"I would work harder in this class from now on."

"I would spend more time studying for the tests".

Thinking Hats

The 6 Thinking Hats each represent a different type of Thinking. They are used in lessons to encourage students to think carefully and critically – encouraging them to think beyond their own perspectives and holistically respond to situations rather than only using one type of Thinking.

The Thinking Hats provide an easy to remember visual for learners to ensure they look at all perspectives to provide well rounded responses. Younger learners can often be seen placing actual hats on their heads and discussing from the perspective of that hat, for example discussing the positive attributes of a book character and why, whilst sporting a bright yellow hat. Some younger learners within our Trust have actions for each hat to help them focus their thoughts whilst some older learners self-select which Hats they require to evaluate during a specific learning activity.

FEELINGS

Red Hat - Feelings
Intuition, hunches, gut instinct.
My feelings right now.
Feelings can change.
No reasons are given.

BENEFITS

Yellow Hat - Benefits
Positives, plus points.
Logical reasons are given.
Why an idea is useful.

CAUTIONS

Black Hat - Cautions
Difficulties, weaknesses, dangers.
Logical reasons are given.
Spotting the risks.

FACTS

White Hat - Facts
Information and data.
Neutral and objective.
What do I know?
What do I need to find out?
How will I get the information I need?

CREATIVITY

Green Hat - Creativity
Ideas, alternatives, possibilities.
Provocations - "PO".
Solutions to black hat problems.

PROCESS

Blue Hat - Process
Thinking about thinking.
What thinking is needed?
Organizing the thinking.
Planning for action.

HOLCOMBE
GRAMMAR SCHOOL

Thinking Hats

Key Points about the White Hat

Notes both views when there is conflicting information.

Assesses the relevance and accuracy of information.

Separates fact from speculation.

Pinpoints action needed to fill the gaps.

It can report on someone else's feelings but not own feelings e.g. Steven told me he doesn't like buses. Whereas reporting our own feelings on a subject is Red Hat.

White Hat Questions

What information is available?

What information would we like to have?

How are we going to get the missing information?

Is the information that we have verifiable?

Key Points about the Red Hat

Should be limited to 30 seconds.

Gives 'full permission' to express feelings and intuitions.

Does not require any justification or explanation of feelings.

Respects that feelings may be based on years of experience and cannot always be analysed but are valuable to discussions.

The Red Hat can trigger the development of a more refined and complex arrangement of emotional language.
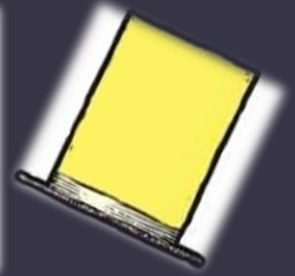
Red Hat Questions

What are my feelings right now?

What does my intuition tell me?

What is my gut reaction?

HOLCOMBE
GRAMMAR SCHOOL

Thinking Hats

Key Points about the Yellow Hat

It is less natural than the Black Hat for some people.

Requires a deliberate effort.

Reinforces creative ideas and new directions.

Must give reasons why an idea is valuable or might work.

Is a powerful assessment tool when used with the Black Hat.

Yellow Hat Questions

What is the value of this idea? Why?

What are the good things about this? Why?

What are the benefits? Why?

Key Points about the Black Hat

Points out difficulties.

Explores why something may not work.

Must give logical reasons for concerns.

Without reasons the statements made are Red Hat Thinking.

Valuable for checking evidence, logic, feasibility and impact also.

Supplies a road map for improvement and problem solving when used before the Green Hat.

May sometimes offer information that also appears under White Hat.
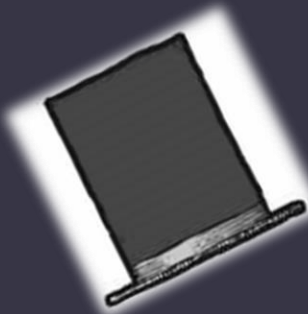
Black Hat Questions

What could be the possible problems and the reasons why?

What could some of the difficulties be and the reasons why?

What are the points for caution and the reasons why?

What are the risks? Why?

HOLCOMBE
GRAMMAR SCHOOL

Thinking Hats

Key Points about the Green Hat

Encourages a search for new ideas and alternatives.

Seeks to modify and remove faults in existing ideas.

Makes time and space for a creative 'effort'.

When using the Green Hat we are hypothesising, speculating, using provocation and Lateral Thinking skills.

Green Hat Questions

Are there other ways to do this?

What else could we do here?

What are the possibilities?

How will we overcome our difficulties?

Key Points about the Blue Hat

Concerned with 'process control'.

Here the thinker stands back and looks at the thinking that needs to take place or is taking place.

Is usually the role of the facilitator: Handles requests for certain types of thinking, makes or calls for the group to make decisions.

Can be used to decide next steps, define outcomes and summarise or set out a thinking plan.
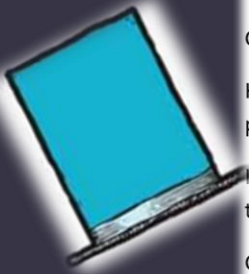
Blue Hat Questions

What is our agenda?

What is our next step?

Which hat are we using now?

How can we summarise the discussion so far?

What do we think about the decision?

HOLCOMBE GRAMMAR SCHOOL

Thinking Hats

The sequence in which the Hats are visited will depend upon the task at hand. Here are a few examples:

- *Emotions: E.g. A pupil has complained about bullying by another pupil.*

Red: How do you feel about it?

White: What are the facts about the situation?

Green: Is there another way to look at it?

Blue: What are the conclusions?

- *Opportunity: E.g. The school has been offered sponsored computer equipment in exchange for advertising.*

White: What do we know about the situation?

Green: What is the idea?

Yellow: What are the benefits of the idea?

- *Design: E.g. Design a new toy for a young child under the age of one.*

Blue: What is the design task?

Green: What are possible design alternatives?

Red: What do we feel about each design?

- *Evaluation: E.g. Peer assess this work.*

Yellow: What was good about it?

Black: Are there any causes for concern?

Green: What could have been done?

Blue: What are the steps to success?

Thinking Hats
(example in practice)

Write down the definition of 3 keywords from this topic so far

1) hydrocarbon - made up of hydrogen and carbon only
2) Alkanes - saturated hydrocarbons C_nH_{2n+2}
3) Combustion - fuels reacting with oxygen to release energy

How do I feel about my understanding of this topic so far

I feel confident with this topic.

I feel I don't understand some of the processes well

Areas in topic I am confident in (WWW ☺)

- I can name alkanes and draw their displayed formula
- I can describe the properties of alkanes
- I know the basic composition of crude oil

Areas in topic I need to improve (EBI ☺ + ☹)

- Describing the process of fractional distillation
- Practising balancing symbol equations

HOLCOMBE
GRAMMAR SCHOOL

Thinkers Keys

As suggested by Ryan (1990), the Keys help 'unlock' critical and creative thinking. Some of the Keys are quite linear and some are creative, which enables them to be carefully selected and work well with different ages groups and across all curriculum areas.

The specific Key used in any learning episode is selected based on the needs intended to be met – this can be subject related or skill based.

Key Name	Brief Explanation
The Alphabet	Great for building up subject specific vocabulary. Students identify words that begin with each letter
The Reverse	Students are asked to consider or design questions which ask what 'cannot' or 'would never' be
The What if	Students asked to consider or design questions that prompt what if thinking
The Disadvantages	Students consider the potential limitations
The Combination	Seeking to combine the features of two ideas or concepts to design a better idea
The BAR	Students asked what they might make Bigger, Add or Replace in an idea or design
The Variations	Students seek alternative methods to meet an end point- how many ways might you…?
The Picture	Students provided with a picture and asked to link it to a topic
The Prediction	Think of possible outcomes to a set of given circumstances
The Different uses	Imaginative and creative uses for an object – perceptual rather than conceptual thinking
The Ridiculous	Seeking to justify a statement that could be classed as difficult to implement
The Commonality	Two unrelated objects, pictures or concepts and students are asked to find a commonality
The Question	Identifying answers and asking students to identify possible questions that lead to the answers provided
The Brainstorming	Contemplating solutions to problems
The Inventions	Devise an invention from the use of unrelated materials
The Brick wall	Identify different ways to deal with ideas or concepts that are valued as 'truths'
The Construction	Using everyday materials physically construct useful objects related to the topic or 'construct' key meaning from pieces of knowledge
The Forced relationship	Identifying the benefits from a forced relationship between two objects or ideas
The Alternatives	Looking for alternative ways to solve a problem
The Interpretations	Identify different interpretations of your own of an event i.e. look for different perspectives

Thinkers Keys
(examples in practice)

Different uses: Using objects

Different Uses

How to instigate:

▶ Have objects on different tables

▶ Ask pupils to brainstorm how the objects can be used; which topics they may link to

▶ *Challenge: Why might some people believe that it is a disadvantage to use objects in worship?*

▶ *Application: This could form the basis of a chart consolidating all aspects/objects/features of a topic*

The Brick Wall: Evaluation

Brick Wall

How to instigate

▶ Can be used as a starter; plenary or mini-plenary

▶ Ask pupils to argue against the statement – using evidence-based arguments with scholars

▶ *Challenge: Get someone (Apex student) to counter-argue their point*

▶ *Application: This question could be an essay question or used to evaluate a particular topic*

HOLCOMBE GRAMMAR SCHOOL

Thinkers Keys
(examples in practice)

Picture in Time: Recalling key events

The Picture

How to instigate

- Ask pupils:
- What is this event relating to
- What happened before this
- What happened afterwards
- *Challenge: What other case studies does this relate to on this topic?*
- *Application: Basis for brainstorming key scholars/key studies on a topic to support exam questions*

IN MEMORY OF
STEPHEN LAWRENCE
13.9.1974
22.4.1993
MAY HE REST IN PEACE

Making Links: Lyrics

Forced Relationship

WHERE IS tHE
?
LOVE?

How to instigate this

- Give pupils a copy of lyrics
- Can play the song
- Make links between lyrics and topics studied
- *Challenge: What quotations could you use to support these topics?*
- *Application: Pupils could then RAG rate the topics and brainstorm what they remember*

HOLCOMBE
GRAMMAR SCHOOL

Thinkers Keys
(examples in practice)

Who/What am I?

Interpretation

How to instigate this

► Start with a sheet with a definition on and then challenge pupils to guess what the concept or scholar is

► *Challenge: This can be differentiated up and down by using longer definitions. Pupils can also invent some for each other.*

► *Application: this could be used as a basis for an exam question*

Newspaper/Current affairs: Thinking outside the classroom

The Commonality

How to instigate this

► Have a picture/newspaper article and ask students how they can make links between this and topics that they have studied

► *Challenge: How far can we trust this knowledge?*

► *Application: To consider national/international/global implications of this story and links to other cross-curricular subjects*
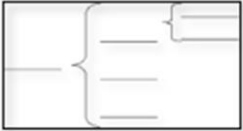
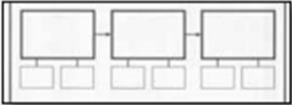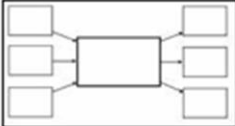HOLCOMBE GRAMMAR SCHOOL
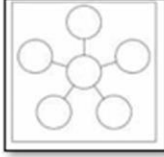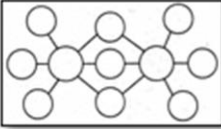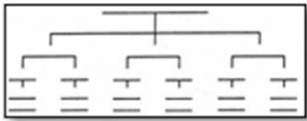
Thinking Maps

Hyerle and Alper (2011) state that, 'Thinking Maps serve as a device for mediating thinking, listening, speaking, reading, writing, problem solving, and acquiring new knowledge' and for our Trust schools these visual representations provide a method to communicate the thinking that is taking place in the heads of our students. The infusion of Hyerle's Thinking Maps across the whole curriculum has provided our students with a method to sort and present information, providing a rich vocabulary to express and discuss their ideas in relation to the content they are studying and their underlying thinking. The shared common language across all subjects and key stages helps to improve our students' confidence and competence in their learning.

Despite the differing contextual demands of our different schools, for both staff and students the Maps have provided a strategy to explore curriculum content in a way that enables students to form meaningful links to previous learning and structure their work in a digestible format. In our secondary schools we have found especially for younger secondary students, the levels of confidence relating to learning new content has increased, as has the quality of students' metacognition when talking about their learning. By the end of Year 7, students are already more articulate when discussing their thinking.

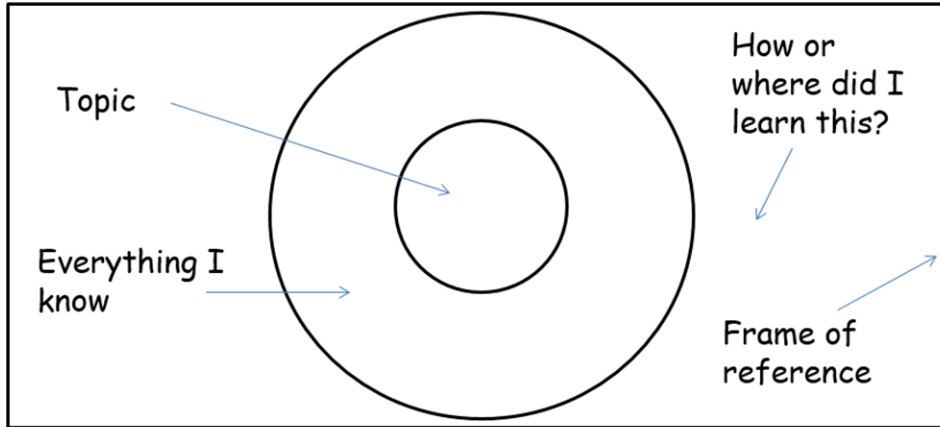| Thinking Map	Thinking Process
Bubble Map	Describing
Double Bubble Map	Comparing and contrasting
Tree Map	Classifying
Brace Map	Identifying whole/part relationships
Flow Map	Sequencing
Multi-Flow Map	Causes and effects
Circle Map	Defining in context
Bridge Map	Seeing analogies

Thinking Maps
(examples in practice)

Map Title	Map Drawing	Thinking Process	Questions/keywords
Circle Map		Defining in context	Tell me everything you know about this/ what might you like to know about this idea?/ thought shower/ explore the meaning of/ discuss/ what and why/ context.
Bubble Map		Describing	How might you describe?/ use vivid language/ observe using all of your senses/ describe your feelings/ attributes/ characteristics/ properties/ qualities/ adjectives.
Double Bubble Map		Comparing and contrasting	What are the similarities and differences between?/ compare and contrast/ distinguish between/ differentiate.
Tree Map		Classifying	Classify/ sort/ group/ categorise/ types of/ kinds of/ list and elaborate/ taxonomy.
Brace Map		Part whole	What are the parts that make up the whole object?/ can the parts be broken down in to sub parts?/ take apart/ show structure/ physical components/ anatomy.
Flow Map		Sequencing	What is the sequence of events?/ what are the sub-stages?/ put in order/ recount/re-tell/ what happens next?/ patterns/ cycles/ processes/ change/ solve the problem step by step/ order.
Multi-Flow Map		Cause and effect	What are the causes and effects/impacts/consequences?/ what might happen if?/ predict/identify motives/ why did that happen?/ outcomes/ benefits/ results.
Bridge Map		Seeing analogies	What is the analogy being used?/ what factor relates these?/ identify the common relationship/ metaphor.

Thinking Maps (examples in practice)

Circle Map

- Defining in Context or Brainstorming

Topic

Everything I know

How or where did I learn this?

Frame of reference

- Can be used for: Brainstorming, diagnosing prior knowledge, Closure/review

Thinking Maps (examples in practice)

Circle Map to link characteristics to functions

Forces blood cells to travel in single file maximising the diffusion of gases across the cell wall

Distance for diffusion of oxygen and carbon dioxide is very short

Capillary walls are just one cell thick

Diameter of capillaries is very narrow

Large surface area for exchange of gases

The extensive network of capillaries surrounding the tissues

Effective diffusion from muscles to tissues

Myoglobin within the muscle cell has a much higher affinity for O2 than Hb

It attracts oxygen towards it

Large diffusion gradient

Oxygen travels from a high concentration to a low concentration

---

Explain

State

■ ON MY OWN – NO NOTES

■ USING CLASS NOTES AND TEXTBOOK

Carry blood back to heart

Valves – prevent backflow – *blood under low pressure*

Veins | Arteries

Blood vessels

Capillaries

One cell thick

Small lumen

Large surface area

Site of gaseous exchange

Slow transit time – more diffusion can take place

Circle map (modified) – defining in context
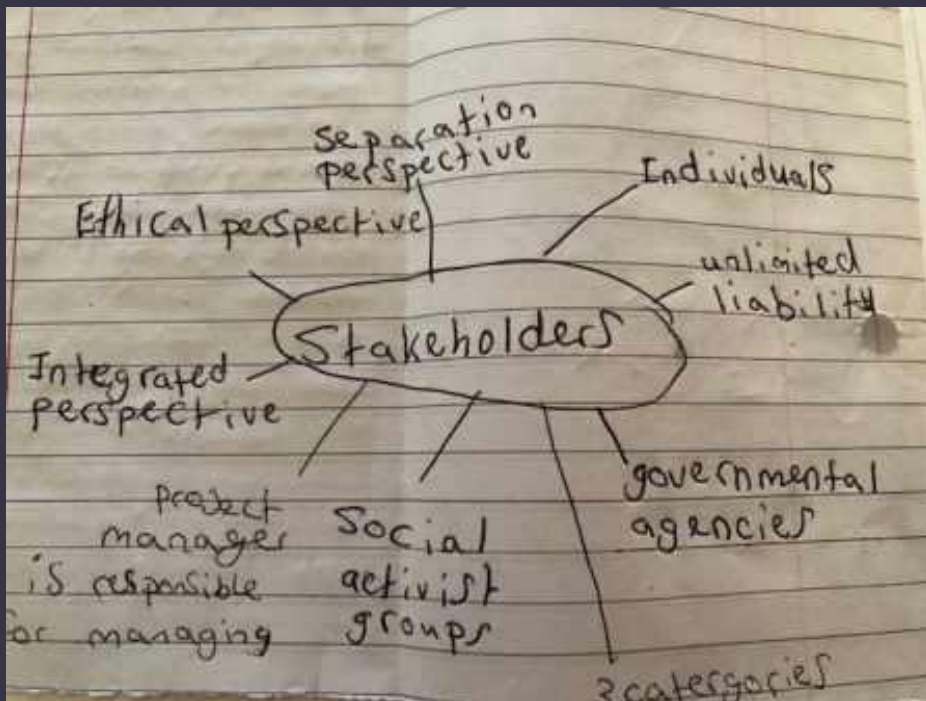
HOLCOMBE GRAMMAR SCHOOL

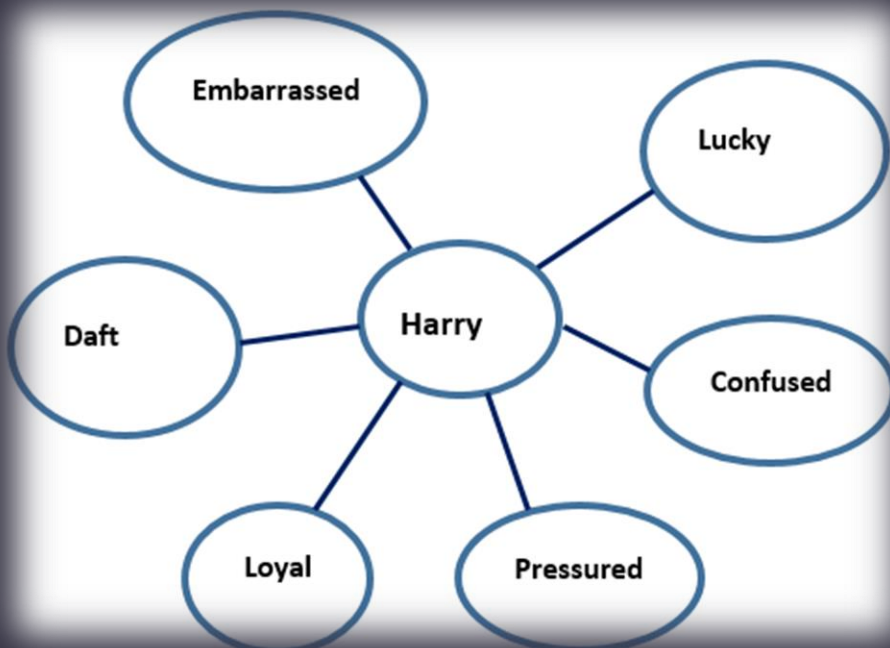# Thinking Maps (examples in practice)

Bubble Map

Describing (adjectives or adj. phrases only)
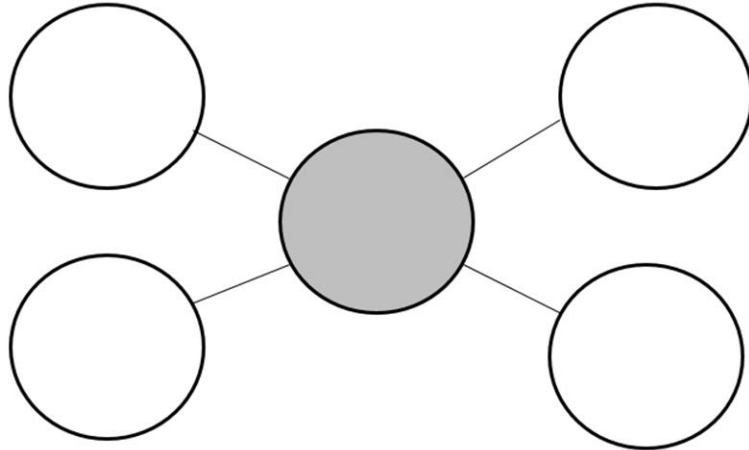
Can be used for: Identifying and describing qualities, adjectives only!

Bubble map – describing (DSEN student)

HOLCOMBE GRAMMAR SCHOOL

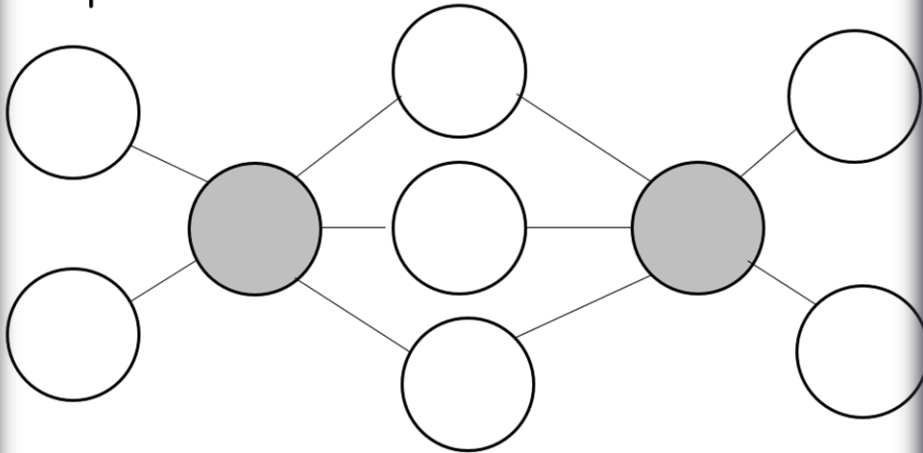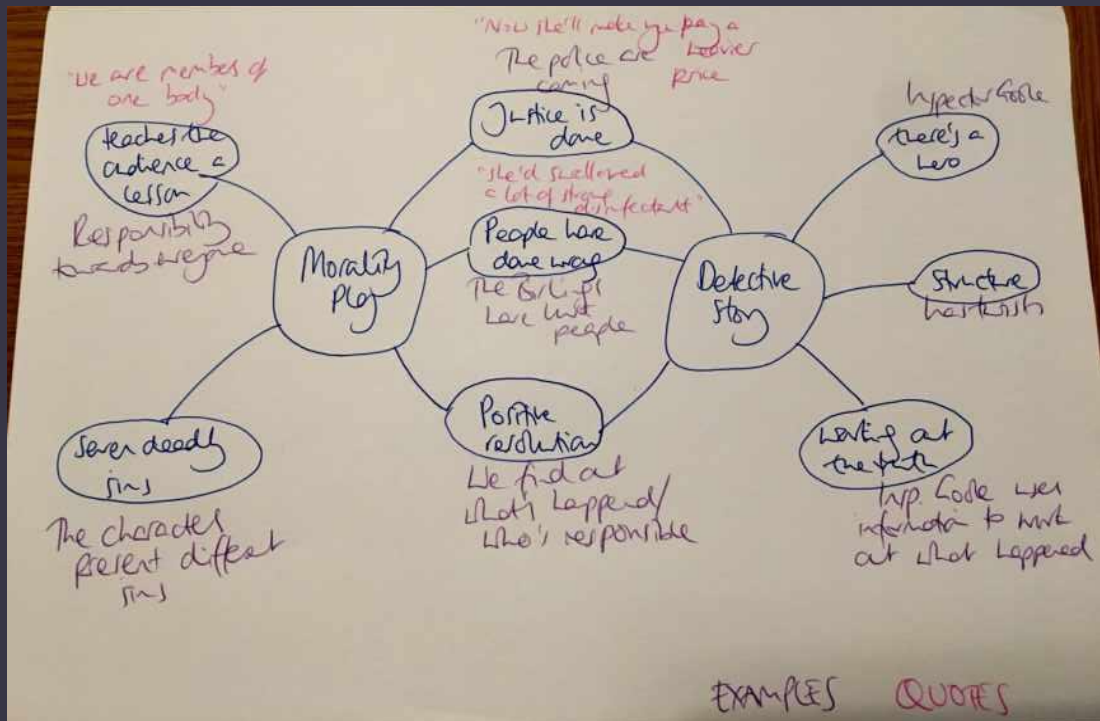# Thinking Maps (examples in practice)

HOLCOMBE
GRAMMAR SCHOOL
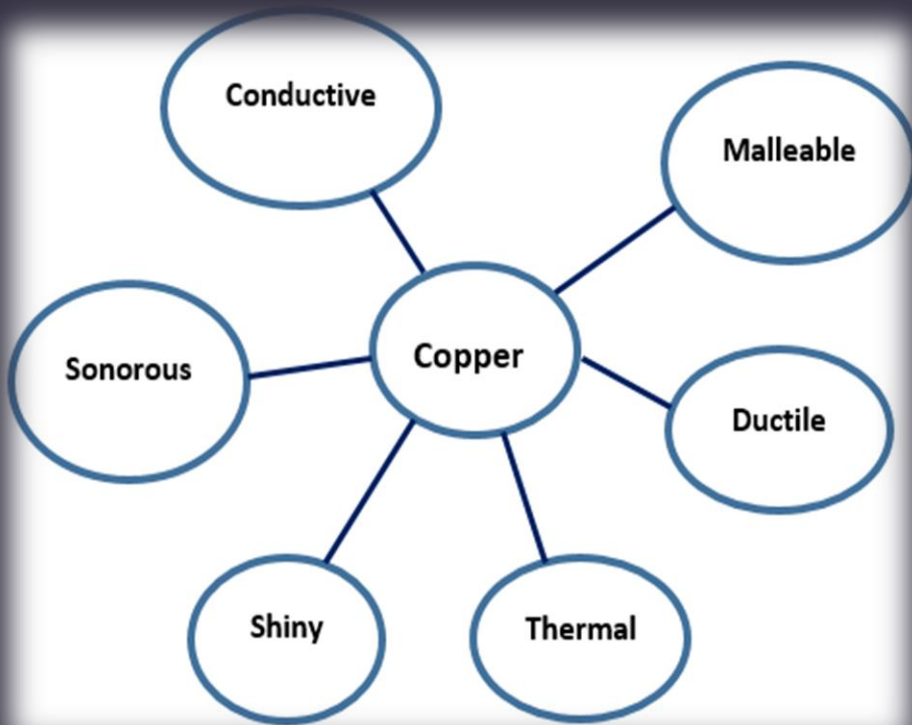
Thinking Maps (examples in practice)

Double Bubble Map

- Compare and contrast

- Can be used for: Compare and contrasting, could colour code the bubbles

HOLCOMBE GRAMMAR SCHOOL

Thinking Maps
(examples in practice)

HOLCOMBE
GRAMMAR SCHOOL
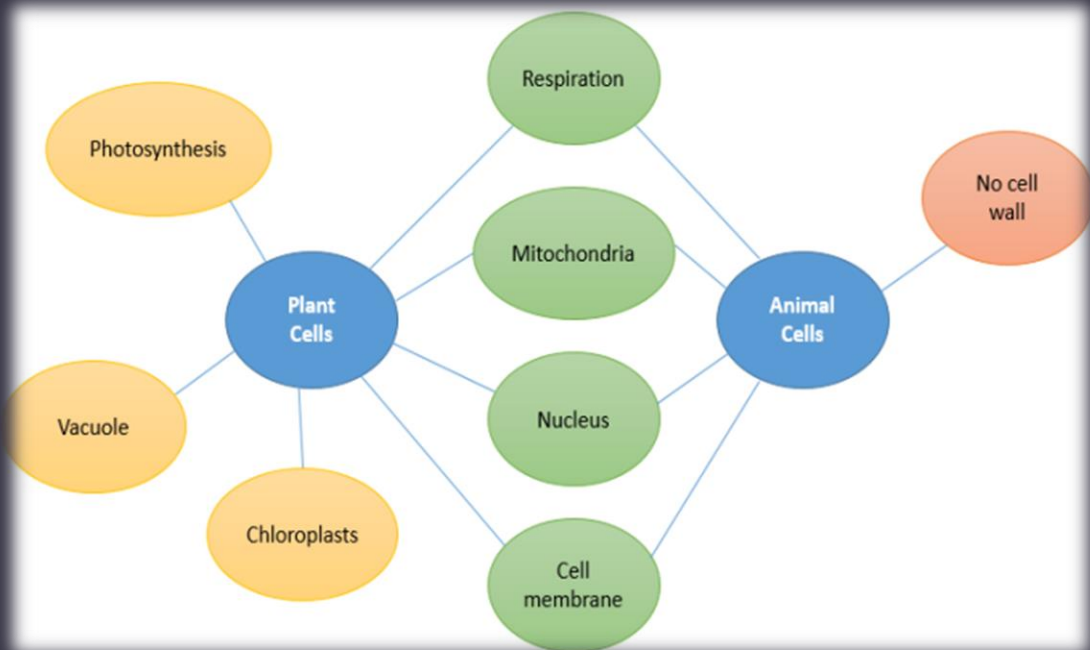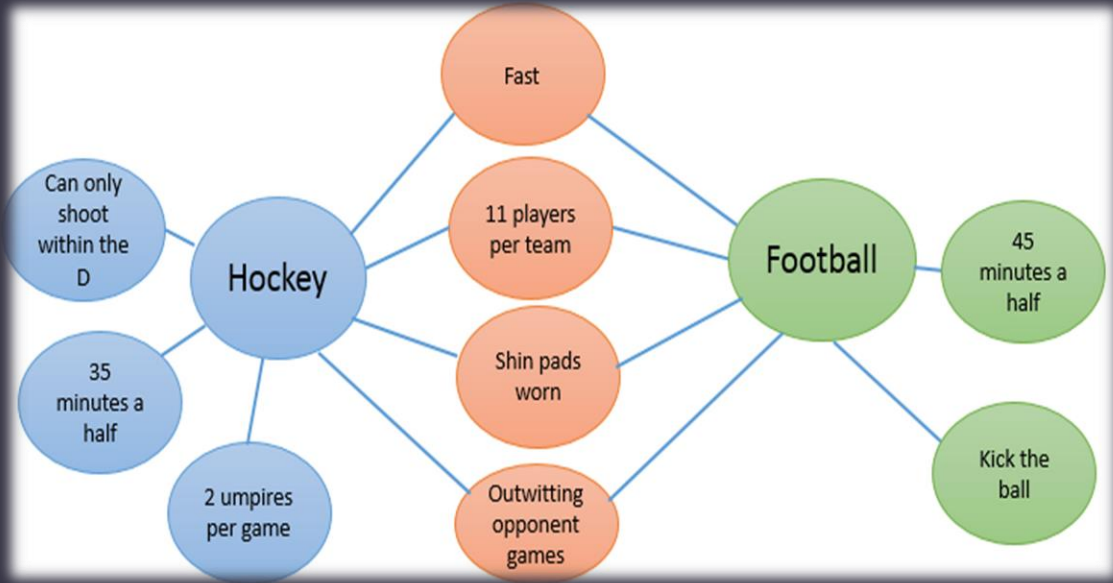
Thinking Maps (examples in practice)

Brace Map

Part-whole relationships, structure

_____
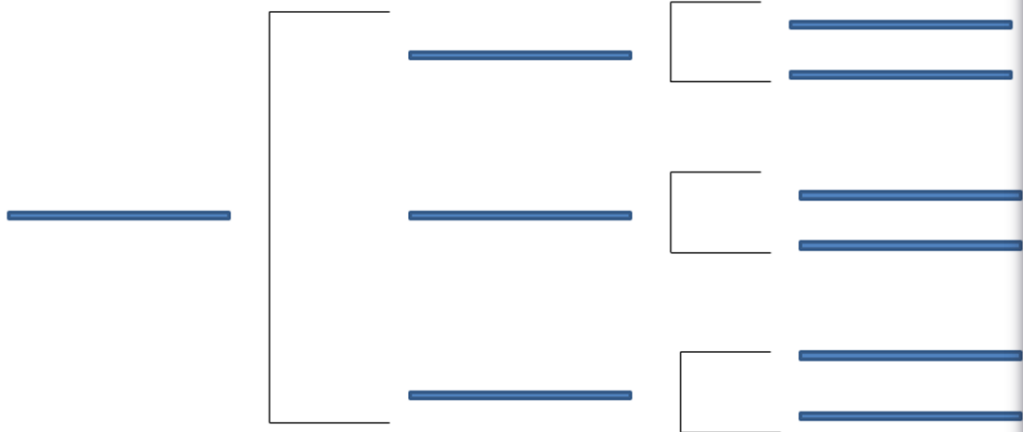
Can be used for: Seeing and analysing whole to part relationships, physical objects only

Planning an extended piece of writing

Question
_____
Line of argument

{

Topic sentence
_____
{ Embedded quotations with analysis.
Link to your argument

Topic sentence
_____
{ Embedded quotations with analysis.
Link to your argument

Topic sentence
_____
{ Embedded quotations with analysis.
Link to your argument
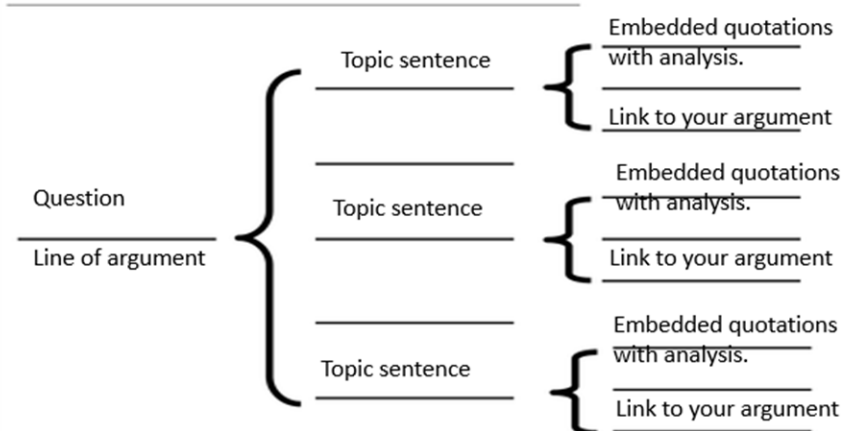
'Brace-map' whole-part relationships   Mind maps

HOLCOMBE GRAMMAR SCHOOL

Thinking Maps
(examples in practice)
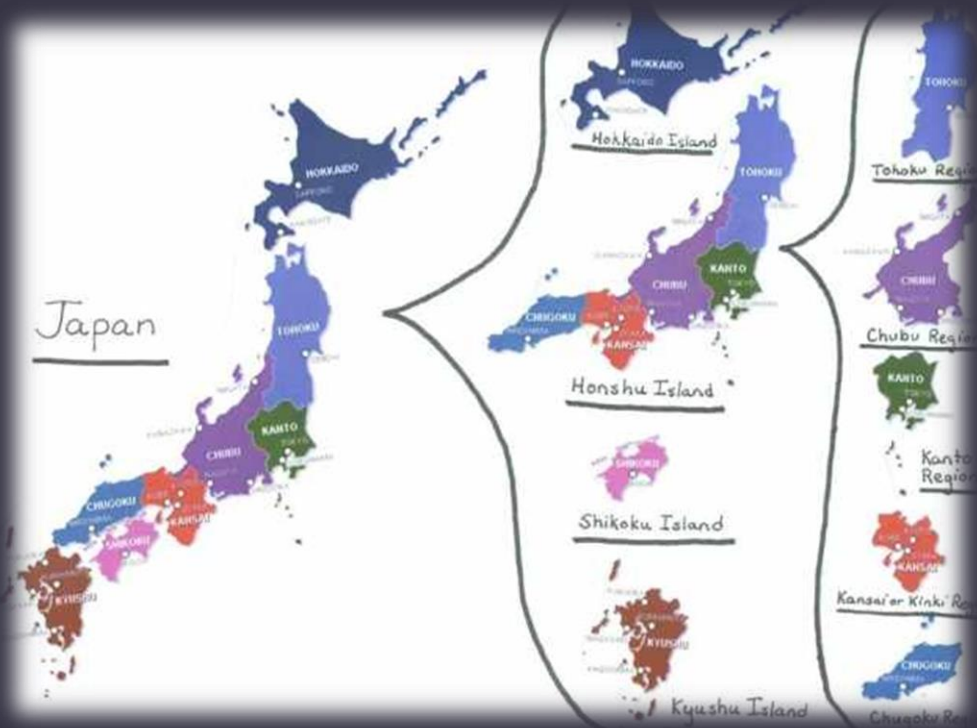
Synovial Joint
- Synovial fluid
- Synovial membrane
- Capsular ligament
- Articular cartilage
- Menisci
- Bursae

HOLCOMBE
GRAMMAR SCHOOL

Thinking Maps (examples in practice)

Flow Map

Sequence, order, cycles, etc
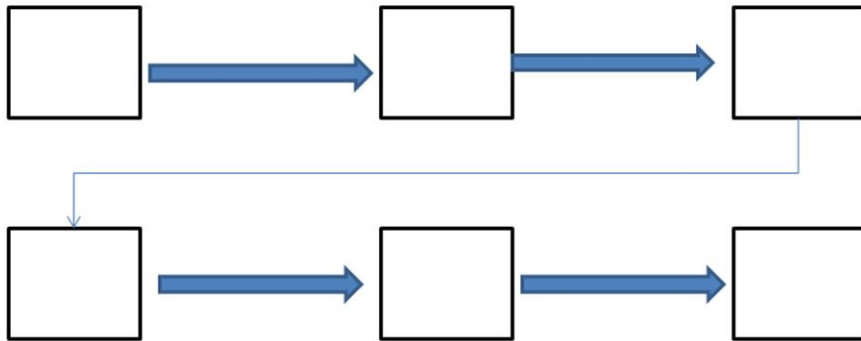
Can be used for: sequencing and ordering information, plots, processes, chronology

LO: To be able to identify types of angle by size
To be able to measure all types of angles accurate to the nearest degree
To be able to construct all types of angles accurate to the nearest degree

Measuring an Angle

50°

0°

HOLCOMBE GRAMMAR SCHOOL
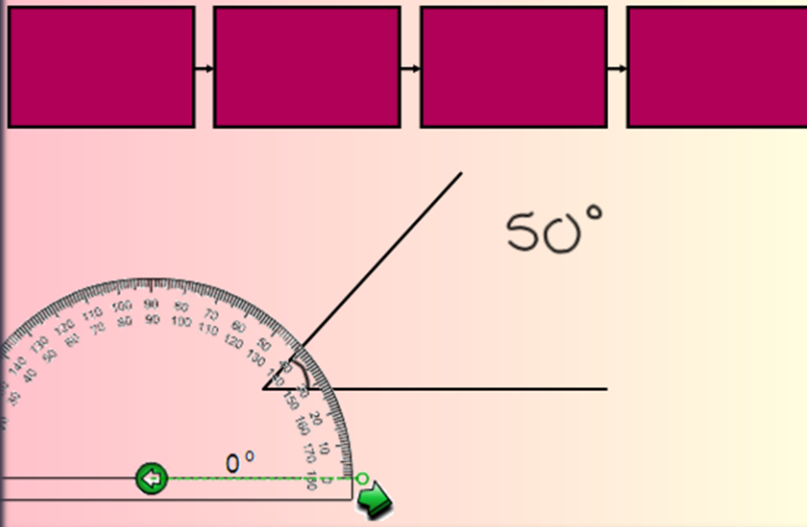
Thinking Maps (examples in practice)

Passage of a RBC
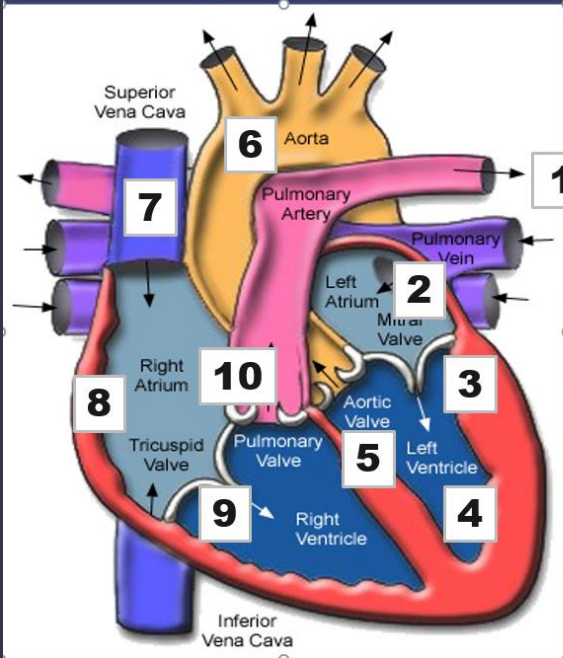
1. Oxygenated blood from the Lungs
2. Enters the Left Atrium
3. Through the Bicuspid Valve
4. Into the Left Ventricle
5. Through the Semi-lunar valves
6. Into the aorta and out to the body
7. Deoxygentated blood from the body
8. Into the Right Atrium
9. Through the Tricuspid Valve
10. Through the Semi-lunar valves
11. Back to the Lungs

Passage of a RBC

Flow map – sequencing

HOLCOMBE GRAMMAR SCHOOL
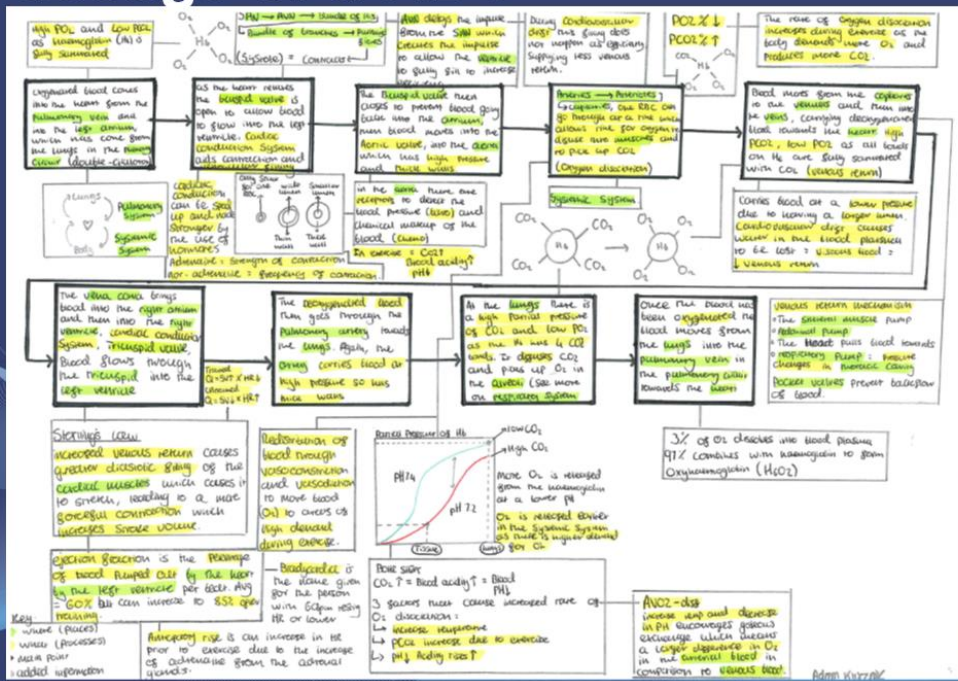
Thinking Maps (examples in practice)

Multi-flow Map

Cause and effect reasoning, Prediction
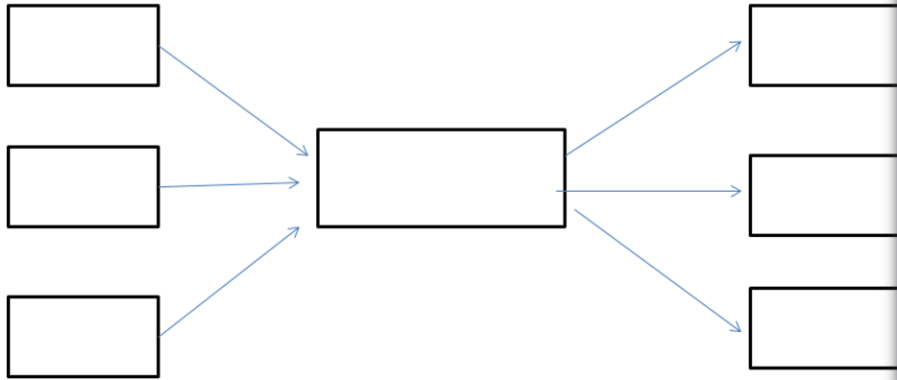
Can be used for: "if...then", cause and effect, projecting consequences, analysing effects

Multi-flow map – cause and effect

HOLCOMBE GRAMMAR SCHOOL

Thinking Maps (examples in practice)

Stakeholders Revision Resource   20/02/18

Customers → Different types of Stakeholders → Want high quality at low prices. Want customer satisfaction

Employees → Different types of Stakeholders → Job security and promotions. Want wage and good conditions

Local community → Different types of Stakeholders → Want little noise and pollution and local sponsors.

Causes and Effects of the Industrial Revolution

America was no longer reciving cheap British supplies.

Science was popular and developed more. So ideas were born.

There was a demand for machinery such as trains

Everyone had the opportunity to succeed This gave ideas another chance

INDUTRIAL REVOLUTION

The successful people became rich and famous.

Life was much more convenient with all the inventions.

In the Civil War the Union had an advantage in the Factories

America became more advanced in technology

Thinking Maps (examples in practice)

Bridge Map

- Seeing analogies. Transferring similar relationships

A ———————————⌃——————————— C

B   D

Relationship factor:_____

- Can be used for: Seeing analogies, How can they be related? A is to B as C is to D

Bridge Map

Relating Factor <u>The Cardiovascular system</u>

Trains / tubes/roads ——————⌃—————— Blood vessels

_____ AS _____

Transport system

Bridge map – seeing analogies

HOLCOMBE
GRAMMAR SCHOOL

Thinking Maps (examples in practice)

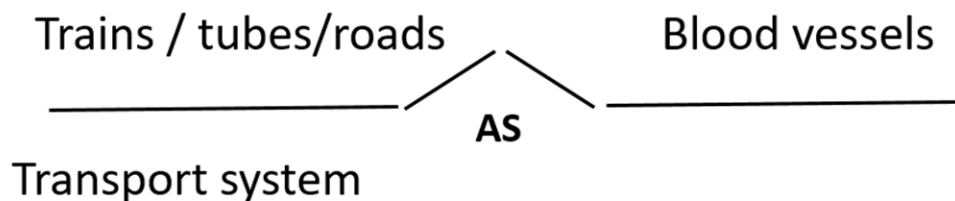| Nucleus	as	Chromosome	as	Genes	as	DNA
Library		Cookery book		Recipes in book		Ink

——————— RF: 'represents a'
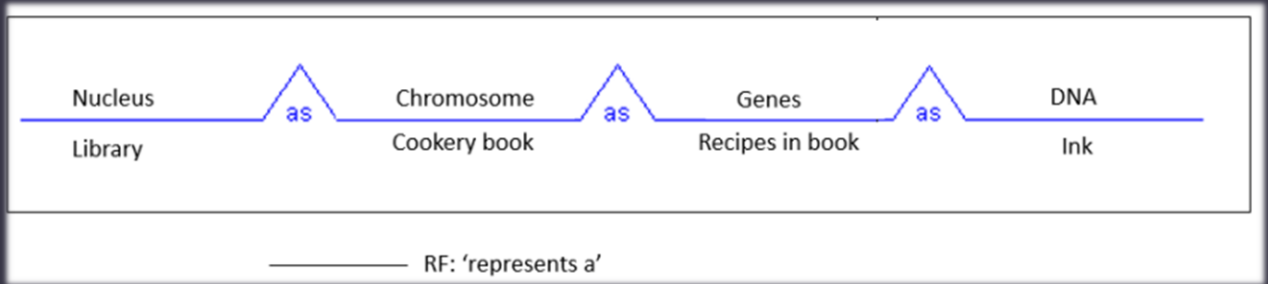
Word of the week!

WOW!

_____ Means the same as

Relating factor

Fluctuate	AS	Lethargic	AS	Sporadic	AS	Aloof
Change		Lazy		Random		Distant

Identify the relating factor

0.5	AS	0.75	AS	0.25
2/4		3/4		1/4

_____ =

HOLCOMBE GRAMMAR SCHOOL
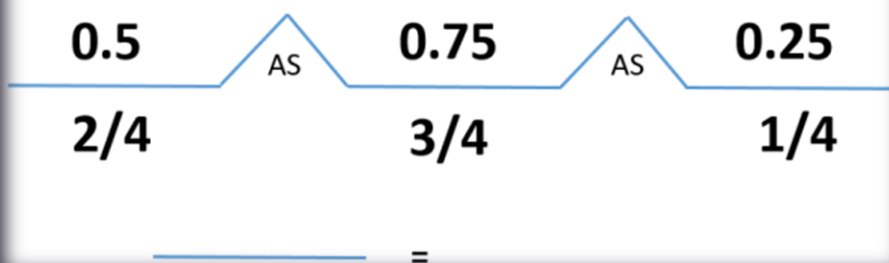
Thinking Maps (examples in practice)

Tree Map

- Classify, group, sort

Title

Subcategories
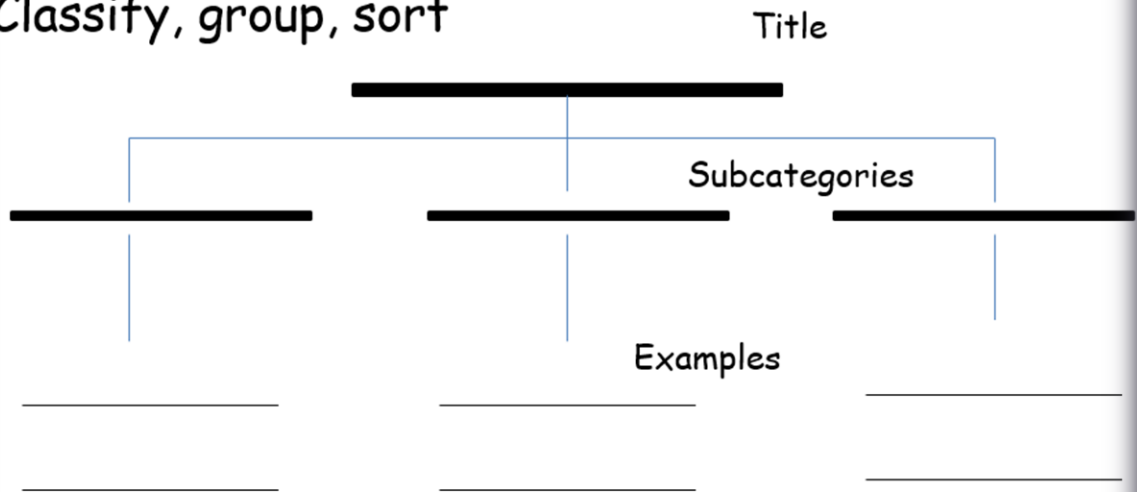
Examples

- Can be used for: Classifying ideas, types of..., Kinds of...

So far we have identified the properties and uses of the following metals
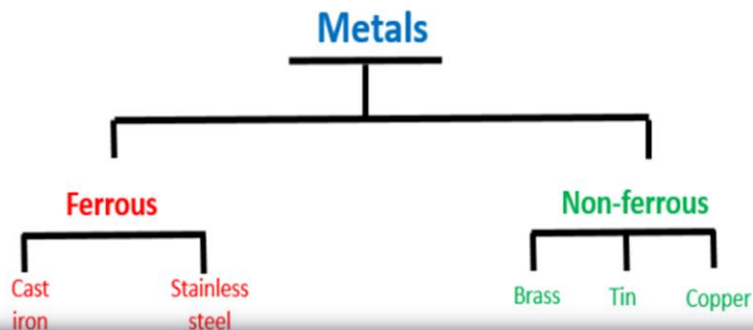
Metals

Ferrous

Cast iron | Stainless steel

Non-ferrous

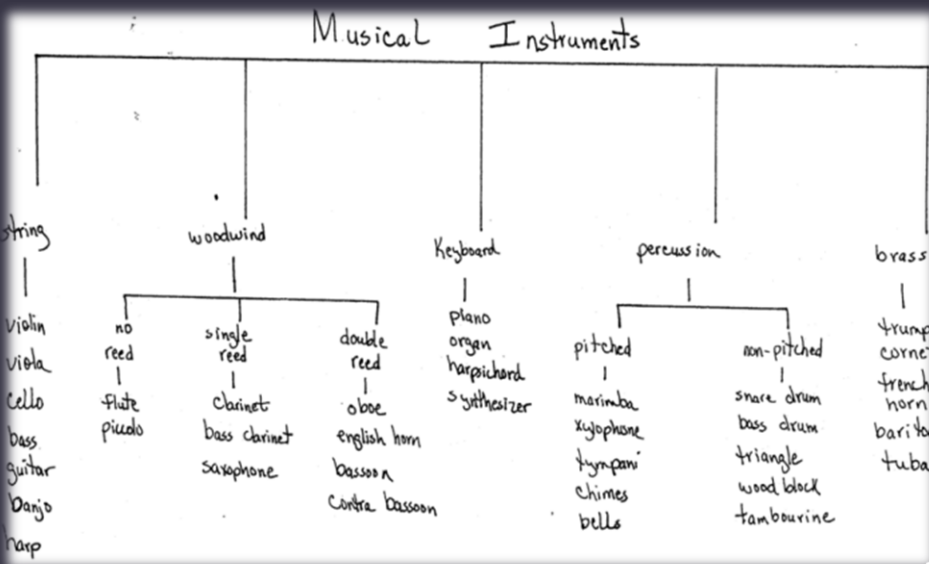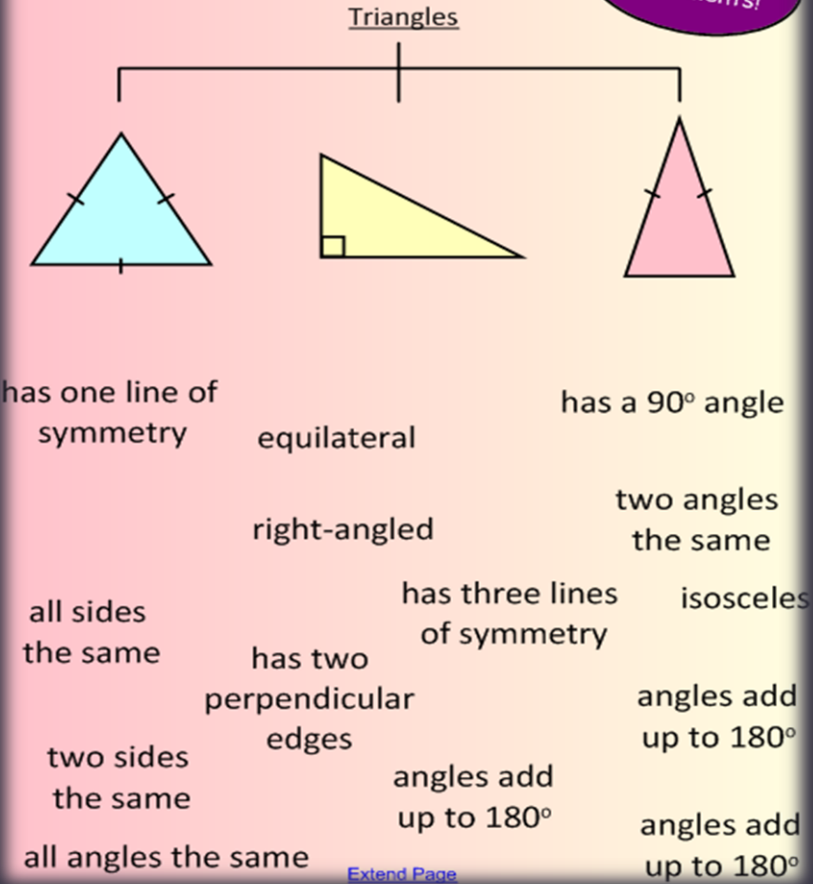Brass | Tin | Copper

HOLCOMBE GRAMMAR SCHOOL

Thinking Maps
(examples in practice)

LO: To be able to define four types of triangle and describe their properties
To be able to state the sum of angles in a triangle
To be able to calculate a missing angle in a triangle

Classify the statements!

Triangles

has one line of symmetry

has a 90° angle

equilateral

right-angled

two angles the same

all sides the same

has three lines of symmetry

isosceles

has two perpendicular edges

angles add up to 180°

two sides the same

angles add up to 180°

all angles the same

angles add up to 180°

Extend Page

Musical Instruments

string
- violin
- viola
- cello
- bass
- guitar
- banjo
- harp

woodwind
- no reed
  - flute
  - piccolo
- single reed
  - clarinet
  - bass clarinet
  - saxophone
- double reed
  - oboe
  - english horn
  - bassoon
  - contra bassoon

Keyboard
- piano
- organ
- harpsichord
- synthesizer

percussion
- pitched
  - marimba
  - xylophone
  - tympani
  - chimes
  - bells
- non-pitched
  - snare drum
  - bass drum
  - triangle
  - wood block
  - tambourine

brass
- trumpet
- cornet
- french horn
- baritone
- tuba

The frame of reference is a box drawn around any Thinking map. By adding a frame of reference students are asked to *"think about their thinking"* which then leads to greater reflection, adds layers of metacognition and unlocks creativity.

META-COGNITIVE FRAMES OF REFERENCE
What is framing your thinking?

Where did you get the information in your map?

Is the information based on your prior knowledge?

What personal experiences have you had with this content or topic?

What background knowledge do you have that you could relate to this content or topic?

Did the information come from a specific source?

What are the specific titles, page numbers, web addresses of the sources you referenced?

What specific textual evidence can you cite to support your inferences?

What is influencing the information in your map?

Is a specific point of view influencing the information in your map?

Is there a specific point of view that is influencing the content / ideas in your map? Is that point of view biased?

Is the information in your map influenced by a primary or a secondary source?

Are there any historic or social issues influencing the information in your map?

Does a specific time period influence your thinking about the information in your map?

Are there any cultural beliefs that are influencing your thinking?

What conclusions can you draw from your map?

So what is the main idea for the information in your map?

So what do you now understand about this concept or topic because of the thinking you have done?

So how would you summarize the main idea of this information?

So why is the information in your map important?

So why is this information important to you?

So why should this information be important to others?

A Language for Learning

The Common Core Standards

Rigorous State Standards and Assessments

21st Century Skills

The Frame of Reference encourages reflective thinking.

HOLCOMBE GRAMMAR SCHOOL

Holcombe Habits

Students need to be made aware of the underlying skills they are developing through their learning.

HOLCOMBE HABITS OF EXCELLENCE

	Persisting	*Stick to it!*	Persevering in task through to completion; remaining focused
	Listening with Empathy and Understanding	*Understand Others!*	Devoting mental energy to another person's thoughts and ideas; holding in abeyance one's own thoughts in order to perceive
	Thinking About your Thinking (Metacognition)	*Know your knowing!*	Being aware of one's own thoughts, strategies, feelings and actions and their effects on others.
	Questioning and Problem posing	How *do you* know?	Having a questioning attitude; knowing what data are needed and developing questioning strategies to produce those data. Finding problems to solve.
	Creating, Imagining and Innovating	*Try a different way!*	Generating new and novel ideas, fluency, originality
	Taking Responsible Risks	*Venture out!*	Being adventuresome; living on the edge of one's competence
	Thinking interdependently	*Work together!*	Being able to work in and learn from others in reciprocal situations.
	Striving for Accuracy and precision	*Check it again!*	A desire for exactness, fidelity and craftsmanship.
	Applying past knowledge to new situations	*Use what you Learn!*	Accessing prior knowledge; transferring knowledge beyond the situation in which it was learned.
	Gather data through all senses	*Use your natural pathways!*	Gathering data through all the sensory pathways--gustatory, olfactory, tactile, kinaesthetic, auditory and visual.
	Responding with Wonderment and awe	*Have fun figuring it out!*	Finding the world awesome, mysterious and being intrigued with phenomena and beauty.
	Remaining open to Continuous learning	*Learn from experiences!*	Having humility and pride when admitting we don't know; resisting complacency

HOLCOMBE
GRAMMAR SCHOOL