Graphic Organisers and other Literacy, Numeracy and AfL Strategies in Teaching and Learning

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Post-Primary Resource
Please cite as: PDST, Graphic Organisers and other Literacy, Numeracy and AFL Strategies in Teaching and Learning. Dublin, 2015
Acknowledgements

This resource, first published in 2008, was made possible by the generosity of teachers working at CPD days facilitated by the Second Level Support Service (SLSS). It is an admirable example of the generosity of teachers willing to share their experience and ideas with colleagues across the teaching community. SLSS is part of the Professional Development Service for Teachers (PDST) since 2010.

Due to popular demand this book has been reprinted with the addition of other comprehension strategies and can be downloaded from www.pdst.ie/publications. These additional templates have been tried and tested by the JCSP team and used by the wider PDST team and teachers to integrate differentiated literacy, numeracy, AfL and active learning strategies across the post-primary curriculum.
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Introduction

Graphic Organisers provide a visual method of developing, organising and summarising students learning. They help to structure disjointed information. They facilitate the learning process by providing a scaffold for the development of ideas and the construction of knowledge. Visual, auditory and kinaesthetic learners all benefit from using the organisers. High quality teaching in mixed ability classrooms is also facilitated.

Highest quality results are achieved when one organiser is shared by a small group of (2/3) students with diverse abilities and learning styles. Leadership is distributed in the group with each student having a leadership role to fulfil. Roles of Recorder, Timekeeper, Turn-taker, Summariser, Reporter, Clarifier, Checker, Scout etc are distributed among the group.

The resource needs only pen and paper to use.

Some organisers are more applicable to the different aspects of the learning process than others, for example: collecting information, comparing and contrasting, developing ideas, sequencing information, summarising and extending thinking and learning. Some are also more relevant to different subjects and topics than others. They can all be used at the various stages of the learning process:

- Pre - teaching
- Introducing a topic
- Teaching a topic
- Independent Learning
- Study and revision
- Preparing answers to examination questions

They scaffold learning and help to build student confidence. They also facilitate formative assessment as students can clearly see how much they understand.

Detailed explanations on how to use each organiser are provided throughout the pack.

Contents of Pack:
Section 1
1. Guidelines on how to use each Graphic organiser
2. A list of suggestions for possible uses of each organiser that teachers have shared at CPD days
3. Completed and in some cases adapted organisers shared by practicing teachers

Section 2
A set of blank Graphic organisers (which may be photocopied) for use in the classroom
Ranking Ladder

This ladder can be used to prioritise or rank ideas and/or information. It can also be used for topics with a series of stages or steps. It is suitable for subject matter with a definite beginning and end.

At the pre-teaching stage the teacher can have pairs/triads of students fill in any information they know about the topic on the correct step. The teacher can monitor the results and then focus the teaching more accurately on the needs of the class.

Active learning can be facilitated if the teacher provides the information in jumbled form and students work together to rank the information correctly.

Suggestions from teachers

<table>
<thead>
<tr>
<th>History</th>
<th>Business</th>
<th>Home Economics</th>
<th>Music</th>
</tr>
</thead>
<tbody>
<tr>
<td>Becoming a Knight</td>
<td>Writing a letter</td>
<td>Digestion of proteins</td>
<td>Answering an examination</td>
</tr>
<tr>
<td>Cortés and the Aztecs</td>
<td>A business transaction</td>
<td>Production of cheese</td>
<td>question on harmony</td>
</tr>
<tr>
<td>Life of George</td>
<td>Making a complaint</td>
<td>Milling flour</td>
<td>Writing a melody</td>
</tr>
<tr>
<td>Washington</td>
<td>Recruitment</td>
<td>10 steps of HACCP</td>
<td>Scales</td>
</tr>
<tr>
<td>Rise and Fall of Third</td>
<td>New product development</td>
<td>Making a Christmas wreath</td>
<td>Musical Eras</td>
</tr>
<tr>
<td>Reich</td>
<td>Calculate net pay</td>
<td>Design Brief</td>
<td>Composers</td>
</tr>
<tr>
<td>Work of an archaeologist</td>
<td>Household Budget</td>
<td>Yoghurt making</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bank Reconciliations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mathematics</th>
<th>Geography</th>
<th>English</th>
<th>Religion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order of operations</td>
<td>Cloud formation</td>
<td>Descent of a tragic hero into</td>
<td>Stages from slavery to</td>
</tr>
<tr>
<td>Solving a triangle</td>
<td>Formation of an ox-bow lake</td>
<td>calamity, e.g. Macbeth’s descent</td>
<td>Passover</td>
</tr>
<tr>
<td>Proving a theorem</td>
<td>Volcanic eruption</td>
<td>into evil</td>
<td>The development of Islam</td>
</tr>
<tr>
<td>Difference Equations</td>
<td>Formation of a waterfall</td>
<td>Trace the theme of a poem — thread of</td>
<td>From the Passion to</td>
</tr>
<tr>
<td>Differentiation from</td>
<td>Water cycle</td>
<td>thought, main idea</td>
<td>Pentecost</td>
</tr>
<tr>
<td>first principles</td>
<td></td>
<td>Stages of a Novel</td>
<td></td>
</tr>
</tbody>
</table>
Approach to Harmony Question

1. Double check bass notes, match chord selected above
2. Fill in the bass notes in the style of the given opening
3. Fill in the chord progressions
4. Examine the melody – each note and each bar. Plot possible chord choices over each box
5. Identify the Cadence points – write out good progressions
6. Establish the Key signature, fill in the grid appropriately
Pizarro and the Incas

The desire for gold led Francisco Pizarro to explore and conquer the Inca empire of South America. However, his conquest of the Incas was not without treachery. After years of intense fighting and explorations, Pizarro was murdered over the land he had conquered.
Stair Steps

Stair steps can be used when a topic involves a step by step process or for plotting a course of action. It can sometimes be used interchangeably with the step ladder. Pupils can show preferences for particular models depending on their learning style.

Learning is most effective when pupils work in small groups. They share and bounce ideas off each other. They can clarify and extend each others learning and they gain in confidence.

Pupils practice the interpersonal skills of listening and explaining, summarising, questioning, clarifying and extending each others ideas. They can be taught to praise each others ideas and to work together. Work completed on a shared Graphic Organiser can be reproduced at home for study/revision.

Suggestions from teachers

Gaeilge
- Struchtúr a léiriú e.g. Struchtúr abairte
- Codarsnachtai idir aidiachtai a léiriú
- Céimeanna sa litir
- Aisti

Music
- Development of Western Classical Music
- Triads - backing chords
- Tonic solfa notation

Science
- Steps in the scientific method
- Levels of organisation
- Steps in digestion
- Steps in separation of rock salt

Modern Language/Geography
- Telling the time
- Oral Project work
- Costal erosion features
- Atmosphere readings

Business/Accounting
- Formation of Private Company
- Resource management
- Business transaction
- Making a complaint
- Taking out insurance
- Decision making in the EU
- Steps in Financial Accounts

PE/History
- Free throw in basketball
- Forward roll
- Renaissance - artists, sculptors, writers

Mathematics
- Linear Programming
- Differentiate from first principles

Art
- Movements in Art
- Life of Monet
Preparer le Document Oral

1. EXAMEN BLANC
2. Entraînement avec un autre élève
3. Vérification pour le professeur
4. Préparer des réponses possibles
5. Établir une liste de questions avec vos amis; votre famille
6. Choisir un document
Resolving a Trade Dispute

Non Legislative

- Internal Negotiation
  - Workers and Supervisor
    - Workers approach the shop steward to resolve a dispute if they have been unsuccessful in attempts to negotiate a solution with their immediate supervisor

- Internal Negotiation
  - Shop Steward and Manager
    - Shop steward negotiates with management in an attempt to resolve a dispute

- Internal Negotiation
  - Senior Management negotiate with Union Head Office to find a resolution to a dispute

Explanation

Legislative

- External Negotiation
  - Union Officials and Senior Management

- External Conciliation
  - Labour Relations Commission or Rights Commissioner or Equality Officer

Explanation

External Arbitration

Labour Court or Employment Appeals Tribunal

Explanation

The dispute is referred to the Labour Court if it has not been resolved at an earlier stage. The Labour Court decision is binding.

If an individual feels that their statutory employment rights have been infringed they may take their case to the Employment Appeals Tribunal. Its decision is binding.
Chain of Linked Events

When a teacher wishes to build links between events or when the topic involves a series of interlinked events, this model can be used. This visual method assists students who find it difficult to memorise from notes. It can help to bring coherence to a large quantity of information and to establish or clarify the links in the pupil’s mind.

As with previous organisers it can be used for pre-teaching i.e. identify what pupils know about the topic so teaching can be accurately focused at the level of students knowledge. It can be used for teaching a topic where information is provided in disjointed form and pupils have to link it correctly.

It works best when a small group (2/3) students work together. One records agreed information on the model, one researches, one ensures that all contribute ideas and reach consensus or checks that all understand the material.

Suggestions from teachers

**Gaeilge**
- Scéal a chumadh má thugtar an chéad abairt
- Aiste a scriobh — na tairími a bhaillí le chéile in altaanna
- Aiste don Árdteist — Sláinte

**History**
- Plantations
- Formation of new State
- War of Independence
- Irish Civil War
- 1916 Rising

**Science**
- Microscopic study of plant cells
- History of the atom

**Technology**
- Trees — seeds to recycling

**Art/Music**
- Art movements early 20th Century
- Composition
- Cord Progressions/cadences

**Geography**
- Economic/Social effects of natural disasters
- Features of costal erosion

**Home Economics**
- Making cheese
- Digestion of proteins
- Development of family in Ireland

**Business**
- Introducing new product to the market
- Solving a Trade Dispute
- Product Life Cycle
King Lear’s decision to divide his kingdom

Lear’s rash, impulsive nature

Division of Kingdom

Cordelia and Kent Banished

Daughters’ forced declaration of love and Cordelia’s refusal

Lear’s dependence on two daughters for shelter and sustenance

Gradual loss of power and status

Storm and descent into madness

Lear “sees” better

Deaths of tragic hero and central characters

Dénouement
Digestion (Mitch*)

- **Mouth**
  - Physical and chemical digestion begin

- **Oesophagus**
  - Peristalsis begins

- **Stomach**
  - Physical and Chemical Digestion continue

- **Small Intestine**
  - Digestion completed and Absorption for assimilation of food begins

- **Large Intestine**
  - Absorption of H₂O

- **Rectum and Anus**
  - Egestion

* Mitch was designed and named by an imaginative colleague!
Sequence Chart

When a topic involves a sequence of events this organiser can be helpful. It is particularly useful when multiple or sequential factors need to be put in order and remembered.

It is effective for pre-teaching and teaching the causes of an event. Pupils work together to correctly sequence disordered information. They are actively engaged in constructing the learning. They need to discuss and agree on the correct answer(s).

A group can consult with another group if they are unsure about their answers. The teacher may have a rule that s/he only be asked for clarification if another group has been unable to help.

For some students the teacher may provide information in jumbled form to be correctly sequenced.

Suggestions from teachers

**Gaeilge/Modern Language**
- Scéal a chumadh má thugtar an chéad abairt
- Aiste a scribh – na tuairimí a bhall i le chéile in altanna
- Aiste don Árdteist – Sláinte
- Teicniúil Fileata
- Writing a postcard or message

**English**
- Trace sequence of events in plot of a text (novel, play, film, etc.)
- Outline progress of thought in a poem

**History**
- Rise of Hitler
- Downfall of Parnell
- Renaissance-Astronomy
- Magellan’s Journey
- Life on Medieval Manor
- Feudal System
- Voyage of Columbas

**Art**
- Lino Printing Process
- Irish Art Time Line
- Colour Wheel
- Any craft at Junior Certificate
- Project Design
- Impressionist influences

**Home Economics**
- Procedure for cookery class
- Design & craftwork brief
- Any recipe

**Geography**
- Rock Cycle
- Water Cycle
- Formation of a river feature
- Weathering - Freeze, Thaw action
- Plotting a Journey

**Music**
- Any Symphony
- Melody Writing
- Writing 16 bar melody
- Composition
- Set Works (form and structure)

**Technical Subjects**
- Design Brief
- Drilling
Causes of Second World War

- Economic Conditions (post-war depression)
- Weimar Germany
- Invasion of Poland
- Guilt Clause
- Ideologies Taking Root
- Appeasement
- WW1
- Wall Street Crash
- Hitler’s Aggressive Foreign Policy
Modh Cóinniach

Ghlanf-

Ghlanfainn

Ghlanfádh síabh

Ghlanfádh sé

Ghlanfaimis
Funnel

When synthesising ideas, drawing conclusions, reducing a body of information to its core e.g. creating a definition, this model is useful. All details, components or parts of the information or picture are placed inside the funnel. They emerge as a conclusion, definition or synthesis.

It can also be used to challenge or test pupils e.g. find the elements that are missing from the funnel.

Like other models it can prove a very potent tool for visual and kinaesthetic learners. It facilitates active experiential learning. Roles of researcher, recorder and tester may be assigned to students. The tester ensures that all will be able to answer questions posed by the teacher.

Suggestions from teachers

<table>
<thead>
<tr>
<th>Science</th>
<th>History</th>
<th>Geography</th>
<th>Home Economics/Technical Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Rates of reaction</td>
<td>• Causes of 1916 Rising</td>
<td>• Traffic Management</td>
<td>• Planning a craft project</td>
</tr>
<tr>
<td>• Prep oxygen gas</td>
<td>• Source of US economic Boom 1945-69</td>
<td>• The Burren</td>
<td>• Healthy lifestyle</td>
</tr>
<tr>
<td>• 7 characteristics of living things</td>
<td>• Causes of any major event e.g. French Revolution, American Civil War of Independence</td>
<td>• Improving the environment</td>
<td>• Design brief</td>
</tr>
<tr>
<td>• Photosynthesis</td>
<td></td>
<td>• Volcanos</td>
<td>• Conics</td>
</tr>
<tr>
<td>• Magnetic force</td>
<td></td>
<td>• Earthquakes</td>
<td></td>
</tr>
<tr>
<td>• Urine</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business/Maths</th>
<th>Gaelige</th>
<th>Music/Art</th>
<th>English/RE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Wage Negotiation</td>
<td>• Foclóir a bhailiú faoi topaí ar bith.</td>
<td>• Jazz</td>
<td>• Essay preparation</td>
</tr>
<tr>
<td>• Sale of Goods and Supply of Services Act 1980</td>
<td>• Tuairimí a bhailiú d’aiste.</td>
<td>• Dance</td>
<td>• Persuasive writing</td>
</tr>
<tr>
<td>• Sets</td>
<td></td>
<td>• Instruments of the orchestra</td>
<td>• My favourite place</td>
</tr>
</tbody>
</table>

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Components of fitness

- Cardiovascular endurance
- Muscular endurance
- Flexibility / suppleness
- Dynamic strength
- Static strength
- Power
- Speed

Fitness
Elements of The Burren

250,000,000 years old
Fossils
Stalagmite
Fauna
Limestone Pavement

Flora
Tourism

Goats
Cave

Limestone
Swallow Hole
Stalactite

The Burren
Influences on the Development of Cubism

- Artists Involved: Picasso, Braque, Léger, Lipchitz
- Characteristics of Cubism: Photography, Geometric shapes, Structure, Sculpture and Painting
- Influenced by: Found in
- CUBISM
Fish Bone

A whole topic may be summarised in one coherent space. Many students find that information summarised in this way is easier to remember than pages of text. It helps to organise and structure the information in a comprehensible form. It can help to collate factors associated with a complex topic and show how they interrelate.

Each fishbone is built by a small team (2/3). The teacher can supply the headings and pupils fill in the details. It is suitable for use in mixed ability groups and students can contribute according to their ability, perception and interest.

Intergroup cooperation is encouraged—one member may become the scout and seek out ideas from other groups.

Students may repeat the exercise for homework/revision and then use the organiser for self-assessment when they return to class.

Suggestions from teachers

Maths
- Statistics
- Revision of formulae
- Sets - Key words/concepts

Modern Language
- The Family
- La Journée Scolaire
- La maison
- Topics for oral

History/Geography
- Ancient Ireland
- Reformation
- Summary of plantations
- Aspects of life in 1950s
- Mass movements
- Volcanos

Business
- Forms of taxation
- Marketing Mix
- Law of Contract
- Consumer Law
- Marketing
- Insurance
- National Budget
- Financial Accounts

Home Economics/
Technical Subjects
- Balanced diet
- Fats
- Proteins
- Classify foods
- Meat
- Welding

Science
- Organic chemicals
- Human systems
- Ecology
- Radioactivity
- 7 characteristics of living things
- Systems & organs of the human
- Water treatment

Art
- Poster Design
- What is needed to learn to draw
- Painting Curriculum
- Graphic Design
- Modern Painting Schools

PE/Music
- Physical fitness
- Dance
- PE variety of activities
- Family of instruments
- General study Junior Certificate Music
Brain Droplets (Wisdom Pearls)

This can be used for thought showering in any context or for generation of ideas — for essays, exam questions, compositions in any subject.

Teachers frequently seek ideas when introducing a new topic. Usually this is done in a whole class context. When pupils thought shower in small groups using an organiser to give focus to the work, the quality and quantity of ideas increase significantly.

The dynamic of the small group means that everyone is motivated to contribute to the group goal. It feels safer to contribute ideas in a small group rather than in front of the whole class. Ideas may be shared with other groups so the entire class benefits from all ideas generated.

Suggestions from teachers

<table>
<thead>
<tr>
<th>Gaeilge</th>
<th>English</th>
<th>Music</th>
<th>Religion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foclóir a bhailiú.</td>
<td>Brainstorming ideas</td>
<td>Listening to set work</td>
<td>Signs and symbols</td>
</tr>
<tr>
<td>Tuairími a bhailiú d’aiste.</td>
<td>for compositions</td>
<td>Essay on traditional</td>
<td>Kingdom of God</td>
</tr>
<tr>
<td>Tuairími a long faoi ghné ar bith den litriocht.</td>
<td>Pre-teaching - drawing out ideas at start of a topic</td>
<td>Irish Dance</td>
<td>Moral Issues</td>
</tr>
<tr>
<td></td>
<td>Poetic terminology</td>
<td>Characteristics of musical eras</td>
<td>Christianity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mathematics/Business</th>
<th>History</th>
<th>Geography</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex numbers</td>
<td>Stalins Domestic Policy</td>
<td>Pollution</td>
<td>Human hormones</td>
</tr>
<tr>
<td>Line geometry</td>
<td>Renaissance – main points and characters</td>
<td>Core Regions</td>
<td>Using the microscope</td>
</tr>
<tr>
<td>Functions of a bank</td>
<td>Introduction to any topic</td>
<td>Earthquakes</td>
<td>Learning light</td>
</tr>
<tr>
<td></td>
<td>Civil War</td>
<td>Weathering</td>
<td>Human defence system</td>
</tr>
</tbody>
</table>
Characteristics of an Entrepreneur

- Decision Maker
- Innovative and creative
- Motivated
- Hardworking
- Reality Perception
- Self belief
- Risk Taker
Earthquakes

- Epicentre
- Focu
- Aftershock
- Richter Scale
- Seismgraph
- Seismologist
- Tremors
- Destruction
Cross Classification Chart

When condensing and organising comparative data according to various criteria, this chart helps. The data is gathered together in a coherent form. The chart provides a structure in which to build the information.

It can be used to summarise information in an easy to remember way and has a wide variety of applications in language, science, technology, social and business subjects.

Students build up the information. Criteria are provided by the teacher and placed across the top of the chart. Students may be encouraged to contribute relevant criteria themselves.

This organiser provides an excellent revision tool and a framework for study.

Suggestions from teachers

Geilge
- Comparáid a dhéanamh idir na dánta atá a ndéanamh don T.S. faoi cheannteidil éagsúla.
- Comparáid ar bith

History/RE
- Stages in development of modern Ireland
- World Religions

Home Economics/Mathematics
- Food additives
- Cooking methods
- Milk
- Line, circle, trigonometry, transformations
- Cone, cylinder, hemisphere, sphere

Art/English
- Early Irish Artifacts
- Paintings
- Art in various ages
- Poets/poems
- Themes/concepts

Geography
- Regions
- Growing crops
- Various climates

Business
- Business Ownership
- Production Methods
- Sources of Finance
- Methods of Communication
- Forms of Transport

Music
- Set Works for L. Cert
- Set and choice songs

Technical Subjects/Science
- Woods: types of finishes
- Insulation locations
- Soil types and crop growth
# Manufactured Boards

<table>
<thead>
<tr>
<th>Board</th>
<th>Raw Material</th>
<th>Characteristics</th>
<th>Uses</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plywood</td>
<td>Hardwood and softwood veneers.</td>
<td>Grain visible. Available in large sheets.</td>
<td>External plywood available for Boats and flat roofs. Furniture,</td>
<td>3mm to 25mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strong</td>
<td>walls and ceilings. Thin plywood needs to be framed.</td>
<td></td>
</tr>
<tr>
<td>Strip-core board</td>
<td>Strips of wood and veneers</td>
<td>Grain visible. Available in large sheets.</td>
<td>Furniture panels, doors. Framing not necessary</td>
<td>12mm to 25mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strong. Does not warp or split.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chipboard</td>
<td>Wood chips and sawdust</td>
<td>No grain unless veneered. Available in large</td>
<td>Furniture manufacture, wall panels, edges require covering. Framing</td>
<td>9mm to 25mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sheets. Easy to decorate.</td>
<td>not necessary</td>
<td></td>
</tr>
<tr>
<td>Hardboard</td>
<td>Wood chips which have been reduced to a</td>
<td>No grain unless veneered. Does not split.</td>
<td>Furniture backs, drawer bottoms, partitions and ceilings. Framing</td>
<td>3mm to 9m</td>
</tr>
<tr>
<td></td>
<td>pulp</td>
<td>Available in large sheets.</td>
<td>necessary</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hard, Durable. Tight. Can be painted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veneers</td>
<td>Thin sheets of wood</td>
<td>Distinct wood grain. Very thin. Weak until</td>
<td>Ornamental surfaces for artificial boards or solid wood. Marquetry</td>
<td>1mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>bonded to a base</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Early Irish Metalwork Artifacts

<table>
<thead>
<tr>
<th>Era</th>
<th>Shape</th>
<th>Function</th>
<th>Nature of Decoration</th>
<th>Methods of Decoration</th>
<th>Materials Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronze Age 2000-500BC</td>
<td>Sun Disc</td>
<td>Decorative badge or button</td>
<td>Abstract</td>
<td>Incision</td>
<td>Mostly flattened gold</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Geometric</td>
<td>Repousse</td>
<td></td>
</tr>
<tr>
<td>Iron Age 500BC – 500AD</td>
<td>Petrie Crown</td>
<td>Decorative horse trapping</td>
<td>Semi Abstract</td>
<td>Incision and</td>
<td>Bronze</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Organic</td>
<td>Repousse</td>
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<td></td>
<td></td>
<td></td>
<td>Based on plant imagery</td>
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<tr>
<td>Early Christian 500AD – C7th</td>
<td>Tara Brooch</td>
<td>Pseudo pennicular Brooch</td>
<td>Celtic fret work</td>
<td>Incision Repousse</td>
<td>Silver Enamelling</td>
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<td></td>
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<td></td>
<td>Gold filigree</td>
<td>Gold filigree</td>
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<td>Enamelling</td>
<td>Enamelling</td>
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<td></td>
<td>Soldering Gold</td>
<td></td>
</tr>
<tr>
<td>Late Christian C7th – C12th</td>
<td>St Patrick’s Bell Shrine</td>
<td>House St Patrick’s Bell</td>
<td>Celtic fret work</td>
<td>Incision</td>
<td>Gold</td>
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<td>Gold filigree</td>
<td>Engraving</td>
<td>Silver</td>
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<td>Enamelling</td>
<td>Repousse</td>
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<td>Gold filigree</td>
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<td>Enamelling</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Soldering</td>
<td></td>
</tr>
</tbody>
</table>
The double Venn is a simple and highly effective model for examining the similarities and differences between two items. Students work in small groups to compare and contrast. One student records the agreed information in the organiser on behalf of the group.

Students of all abilities and learning styles can work together and contribute according to their interest, learning style and ability. No student is held back and the class does not move too fast for any student.

Students are actively involved in the learning. They learn to agree, disagree, listen, explain and help each other. They orally process the learning. These soft skills need to be encouraged and actively taught in the classroom.

Suggestions from teachers

**English**
- Two poems
  - Relationships in texts
  - Essay planning
  - Tabloids/Broadsheets
  - Capulets/Montagues

**Gaeilge**
- Comparáid idir dháanta/scéalta/charachtéir
- Comparáid idir téamaí e.g. An saol mar atá is mar a bhi
- Faoiseamh a Gheobhadasa
  - Comparáid idir saol na tainithe agus saol na cathrach
  - Accusative/Dative case

**Religion/Mathematics**
- Two religions e.g. Judaism and Christianity
- Decimals (percentages)
  - Fractions

**Home Economics**
- Comparing ovens
- Mould reproduction
- Accommodation
- Nuclear/extended family
- Commercial/Homemade food

**Music/Art**
- Baroque music vs. art (Hallelujah vs. St George and the Dragon)
- Set vs. Choice songs
- Musical eras
- Romanesque/Gothic

**Technical Subjects**
- Metals and alloys
- Ferrous/Non-ferrous metals
- Hard/Soft woods

**History/Geography**
- Luther and Calvin
- Munster and Leinster Plantations
- Italian renaissance artists
- War of Independence/ Civil War
- Mesolithic/Neolithic ages
- Photograph/OS Map

**Science**
- RNA v DNA
- O2 v CO2
- Photosynthesis v respiration
- Plant cell v animal cell
- Male v female endocrine system
- Mitosis v meiosis
- Endocrine v nervous control
- Circulatory/Lymphatic system
Preparing an essay on holidays

Verbs are common to both holidays—nouns are different for each
Vein and Artery

Vein
- towards heart
- less muscular
- wider lumen
- less pressure – valves present
- de-oxygenated except for pulmonary

Artery
- away from heart
- thick muscle
- narrow lumen
- pulse
- blood under pressure
- oxygenated except for pulmonary

Venn Diagram:
- Carry blood in lumen
- Cylindrical shape
- Muscle layer
- Elastic layer
- Lining epithelium
This is a very powerful tool for answering higher level questions that require three items (books, texts, characters, regions, phenomena) to be compared and contrasted.

Exam questions prepared in class as a group can be attempted alone for homework.

The purpose of the team is to build stronger individuals — "What we can do together today we can do alone tomorrow".

Formative assessment is facilitated as students can clearly see how much they know about a topic by the time they have finished the work. It may be used to develop the ability - ‘attack skills’ - to tackle questions that students find challenging.

### Suggestions from teachers

<table>
<thead>
<tr>
<th><strong>English</strong></th>
<th><strong>Religion/Maths</strong></th>
<th><strong>Home Economics</strong></th>
<th><strong>Technical Subjects</strong></th>
</tr>
</thead>
</table>
| - The comparative question (comparing three texts) for higher level Leaving Certificate  
- Main concerns of a body of a poet’s work (Higher Level)  
- Main religions  
- Forms of Christianity  
- Volume of cone, cylinder, sphere |  
- Food types  
- Effects of alcohol abuse  
- Compare dairy, meat and vegetable  
- Compare protein, fats, carbohydrates  
- Special diets  
- Effects of unemployment on family, society, individual |  
- Technical drawing - types of projections / views  
- Joining different materials  
- Types of energy  
- Wood, plastic, metal |

<table>
<thead>
<tr>
<th><strong>History</strong></th>
<th><strong>Art/Music</strong></th>
<th><strong>Science</strong></th>
<th><strong>Gaeilge/Modern Language</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Three leaders e.g. Hitler, Stalin &amp; Mussolini</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Colour Mixing  
- Comparing songs in general study |  
- Organs of excretion  
- 1st year science pre-learning  
- Compare protons, electrons, neutrons  
- Conduction, convection and radiation  
- Water in physics, chemistry, biology |  
- Comparáid idir scéalta/danta/charach'teir.  
- Past, present, future tense |
Solids, Liquids, Gases

**GAS**
- particles can move far away from each other to fill every available space
- all contain atoms or molecules; all are matter
- going straight from solid to gas is called sublimation "dry ice"
- evaporation and condensation are the changes of state for these

**LIQUID**
- particles can move or flow a little; take the shape of their container
- melting and solidifying are the changes of state for these

**SOLID**
- particles can't be seen moving; keeps the same shape
Four Corner Organiser

When characteristics of four related concepts/topics/people are being explored, the four are placed in the centre of the organiser and two criteria are placed on the outside.

Examples of criteria are route and accomplishments of explorers, rights and responsibilities of stakeholders, formulae for and examples of how to solve equations, sources and uses of vitamins, examples and evidence for physics laws, characteristics and actions of characters.

This is a very powerful tool when used by small groups to actively construct and organise knowledge. It promotes higher level thinking.

Suggestions from teachers

**Maths**
- Factorising
- Differentiation by rule
- Coordinate geometry of the line
- Area and Volume
- Numbers
- Number sets

**Science**
- Trends in the periodic table
- Genetics
- History of the atom
- Food tests
- Le Chatelier’s principle
- Separation techniques
- Four physics laws — examples and evidence
- Blood composition

**Home Economics**
- Nutrients
- Food constituents
- Food types

**Art**
- Analysing a painting
- Art Movements

**Geography**
- Erosion/Deposition (2 corner organiser)

**Music**
- Periods - Composers - Works
- Irish Dances

**Business**
- Community Development Partners
- Stakeholders in Business
- Financial Institutions
- Marketing Mix
- Statistics Charts

**Technical Subjects**
- Production of steel from Iron Ore
**Embroidery Stitches**

**French Knots**
*Use to form a border or fill in an area i.e. centre of a flower*

**Stem Stitch**
*Use to form an outline*

**Satin Stitch**
*Use to fill in an area outline*

**Lazy Daisy**
*Use for hand-stitched flowers*
Tri Pie

This organiser is suitable for Leaving Certificate higher level questions/topics. It requires very high level thinking to hold two opposing viewpoints in one’s mind at the same time. To hold two opposing viewpoints and consider areas of uncertainty requires particularly high levels of maturity in thinking.

Students sometimes tend to be black or white in their views and indeed often only see one point of view.

This model helps students expand their thinking to examine all aspects of a problem / issue. Students are required to place some information in each section.

Small groups are particularly effective in providing the breadth of viewpoints needed to give high quality answers in this context.

Suggestions from teachers

<table>
<thead>
<tr>
<th>Gaeilge</th>
<th>English</th>
<th>Science</th>
<th>Technical Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Diospóireacht a ullmhu.</td>
<td>• Debate style compositions</td>
<td>• Should all cars run on biofuel?</td>
<td>• CNC Lathe Machine</td>
</tr>
<tr>
<td>• Tuairimí a bhailiú faoi théama/carachtar i scéal</td>
<td>• Discuss a statement on a literary text/or a character</td>
<td>• Should genetic engineering be banned?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Advantages/disadvantages type questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td>History</td>
<td>Business</td>
<td>Geography</td>
</tr>
<tr>
<td>• Moral Dilemmas</td>
<td>• Was the ratification of the Anglo-Irish Treaty the only cause of the Irish Civil War?</td>
<td>• Social and Ethical responsibilities of a business</td>
<td>• Planning issues</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Is Macbeth responsible for Duncan’s death?

Yes

- Had dark desire already
- He followed the witches and actively sought their predictions
- Easily persuaded by witches and wife
- Does the deed
- Disregards his own conscience

No

- Lady M. taunts him — emotional blackmail
- Supernatural influences
- Suffers from his own vaulting ambition
- Scorpions in his mind

Maybe So!

Immediate regret
- Follows the airborne dagger — is this supernatural influence
Should the death penalty be imposed?

Yes
- Victim gets justice
- An eye for an eye
- Deterrent to crime

Maybe So!
- Nature of the crime
- Depends on response of convicted person
- Effect on society in general

No
- Innocent people put to death
- All life is sacred
- Minority groups over represented
Starburst *(all points covered)*

Many examination questions require 5 points in the answer. This organiser helps the visual learner to remember the points more easily. Agreeing the points in a small group aids long term memory retention.

*Note to teachers:* Approximately 10 to 15% of students prefer to learn from lists of notes in text form and they can memorise text more easily.

### Suggestions for use in some subjects

**Gaeilge/Modern Language**
- Céimeanna i scriobh litreach/ñota.
- Achoimre ar dhán e.g. téama, mothúcháin, iomhanna etc
- Learning vocabulary associated with a topic

**Maths**
- Order of operations
- Coordinate geometry of Line
- Solving equations (JC, OL)

**Business**
- Principles of insurance
- Forming a company
- TQM
- Marketing Mix
- Elements of Business Letter
- Sale of Goods and Supply of Services Act 1980
- Budgeting
- Sole trader

**Science**
- Particle physics
- Bacteria
- Periodic table
- Light
- Ag. Science—coniferous trees

**Music**
- Characteristics of Irish Music
- Sean Nós Singing
- Leaving Certificate set works

**Home Economics**
- Food types
- Cheese
- Energy requirements

**History**
- Parnell and the Land League
- Any key person in history

**Art/English**
- Impressionism
- Modern periods
- Aspects of a character
- Aspects of poems
Music Style

Nasal tone

Mellismatic style of singing

Originally a Solo Art Form

Sean Nós singing

Ornination

Words—the most important feature
No dynamics, No expression
Nóta a Scríobh

Cád?
- a dhéanfaidh tú?
- a cheannóidh tú?
- a dheicfidh tú?
- a íosfaidh tú?

Céard?
- a chonaic tú?
- a léigh tú?
- a bhí ann?

Conas?
- a rachaidh tú ann?
- a thiochtaidh tú abhaile?

Cathain?
- a bheidh sé ar siúl?
- a rachaidh tú ann?
- a bhuaíteadh síobh le chéile?
- a theasóidh sé?

Cé?
- a bheidh ann?
- a dheicfidh tú?

Cá?
- mbeidh sé a siúl?
- mbaíteadh síobh le chéile?
Research Grid

This is a question and answer learning methodology. It is particularly suitable for independent learning in small groups. Questions are written by the teacher and students research the answers and write them in.

Students take responsibility for their own learning. They can consult within the group to reach the best answer to a particular question. They help each other to build high quality answers.

A wide variety of topics in many subject areas can be taught using this method.

One organiser is shared by a small group. Students can fill their own organiser for homework and keep it for study and revision.

Suggestions from teachers

Gaeilge
- Suibhé ranga a dhéanamh
- Ceisteanna a thabhaitr ar mhír scannáin/alt leamhthuisceana

Modern Language
- Se Présenter

English
- Analysing a poem
- Recapping a text

History
- Northern Ireland 1920-49
- Themes of the Holocaust

Science/Maths
- Functions of skeleton
- Plant reproduction
- Stages in solving LC HL problems

Home Economics
- Marriage

Business
- Marketing
- EU Institutions
- Legislation

Music
- Cadances
- Works/songs
- Key signatures
- Notation
- Irish music
- Aural skills

www.pdst.ie
## Character Analysis: - Write brief informative notes on the following

<table>
<thead>
<tr>
<th>Describe the character’s physical appearance</th>
<th>Describe the character’s background</th>
<th>Describe the setting in which the character lives</th>
<th>The way the character behaves</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>The way the character speaks</td>
<td>Why I would/would not like to be the character</td>
<td>What motivates the character</td>
<td>What others say about the character</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>How others behave around the character</td>
<td>Important relationships for the character</td>
<td>The playwright’s depiction of the character</td>
<td>The playwright’s style of characterisation</td>
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</tbody>
</table>
# Investigating a Third Level Course

<table>
<thead>
<tr>
<th>When can I apply?</th>
<th>Closing Date?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answer</td>
<td>Answer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Entry Requirement?</th>
<th>What subjects needed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answer</td>
<td>Answer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What does course involve?</th>
<th>What alternative courses?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answer</td>
<td>Answer</td>
</tr>
</tbody>
</table>
Section 2

Graphic Organiser Templates for use by students
<table>
<thead>
<tr>
<th>Q1</th>
<th>Answer</th>
<th>Q3</th>
<th>Answer</th>
<th>Q5</th>
<th>Answer</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Q2</td>
<td>Answer</td>
<td>Q4</td>
<td>Answer</td>
<td>Q6</td>
<td>Answer</td>
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</tbody>
</table>
## Sample Cross-Curricular Literacy Strategies

### Oral literacy/speaking & listening – oral text types

- Listening & speaking posters
- Pair and small group work – think/pair/share/square, placemat exercise, jigsaw, role cards
- Dictation
- Questioning – use Bloom’s Taxonomy outcome verbs and prompt questions & wait time
- Discussions/extended conversations
- Oral reports & presentations
- Storytelling and anecdotes
- Arguments and informal debates
- Interviews
- Meetings
- Interest talks – well briefed and prepared guest speaker & worksheet
- Cloze tests – to consolidate vocabulary - **discuss** possible solutions/blank spaces
- Peer teaching

### Comprehension/reading strategies

#### Pre reading

- KWL chart – build on prior knowledge
- Explicit Vocabulary Instruction (EVI) - keyword list/notebook, “Google notebook”
- Web 2.0 Tools for vocabulary development - freerice.com, studystack.com, instagrok.com, animoto.com
- Visual word square/semantic map
- Anticipation/prediction exercise
- Cloze tests – to consolidate vocabulary - **discuss** possible solutions/blank spaces
- School/student dictionary – model good practice & encourage students to use it

#### During reading

- Skim – get the gist
- Fix it up strategies: re-read, underline, read ahead, read back, look at pictures/diagrams for clues, break up words, use dictionary, read aloud, ask for help!
- Visualise – pictures, symbols
- Determining importance (selecting key words/concepts), summarising - highlighter/post-its
- SQ3R – to study in detail, survey, question, read, review, recall
- Graphic organisers – record main points information

#### After reading

- Cloze tests – **discuss** possible solutions/blank spaces
- Scan - finds specific information, main idea chart, 321 chart
- Mindmaps – recall/summarise, use pictures and colour
- Graphic organisers – recall main points information
- BUG – answer questions, **box** what you are asked to do, **underline** important words and **go** back over to make sure you answered the question
Writing

**Genre (check out the format used by other subject departments)**

- **Letter** - of application, thank you, complaint
- **Recount** - Scene setting / re-telling events / closing
- **Report** - Describe the way things are / were
- **Procedure** - Recipe / instructions / illustration / diagram
- **Explanation** - Series of logical steps to explain something
- **Persuasion** - Promote point of view – statement / argument / reiteration
- **Discussion** - Different view-points – statement one side / other side / recommendations in summary
- **E-mail/blog** – protocol and etiquette

**Tools for effective writing**

- Graphic organisers
- KWL Charts
- Writing/Editing Checklists
- Bloom’s Taxonomy / Prompt Questions
- Writing Frames
- Keywords
- Semantic Mapping
- Dictionary / Thesaurus
- Digital tools: Padlet, iNote, etc.

**Writing Strategies**

- Activation of prior knowledge
- Questioning / Bloom’s Taxonomy / 5 W and a H
- Group writing tasks
- Create an audience (Hot seat / Ask the Expert, etc.)
- Brainstorming
- Self-monitoring / Peer-feedback strategies
THINK-PAIR-SHARE

Think about the question on your own and write down your thoughts
Share your thoughts with your partner
Listen to your partner’s ideas
Combine your ideas

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>MY THOUGHTS/IDEAS</th>
<th>MY PARTNERS THOUGHTS/IDEAS</th>
<th>COMBINED IDEAS</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
Placemat Activity

The Placemat Activity can be used with a wide variety of questions and prompts or for a wide range of learning goals, e.g.

- To encourage students to share ideas and reach a consensus about a topic/idea
- To activate the prior knowledge of a topic among students
- To help students share problem-solving techniques
- To take group notes during a video or oral presentation
- To summarise learning after the class and/or to be used as an opening review for the subsequent lesson

Groups of four students are ideal for the placemat technique but it can also work with 3 – 6 students by amending the template.

Tips

1. Discuss, record and post a labelled diagram of the Placemat on the board so that students always have a visual reference of the organisation and required actions.
2. Consider the composition of the small groups and vary the membership according to the students’ learning styles and interaction, subject-matter expertise, etc. Some groups will require more teacher support in carrying out the task in other groups.
3. Use the placemats as a record of collective student thinking and post the ideas for other groups to see.
## Placemat Activity: Step-by-Step Instructions

<table>
<thead>
<tr>
<th>What teachers do...</th>
<th>What students do...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before</strong></td>
<td></td>
</tr>
<tr>
<td>• Divide students into groups (ideally of 4).</td>
<td>• Organise the placemat according to the number of students in their group so that there are sufficient sections for the students and a centre rectangle for recording their group consensus ideas.</td>
</tr>
<tr>
<td>• Decide on a question/concept/problem for the centre of the placemat.</td>
<td></td>
</tr>
<tr>
<td>• Distribute the placemat template to each group.</td>
<td></td>
</tr>
<tr>
<td>• If using more or less than 4 students per group, ask the students to divide a blank sheet of paper into sections equal to the number of students in the group, leaving a rectangle in the centre of the sheet for the recording of the group consensus.</td>
<td></td>
</tr>
<tr>
<td><strong>During</strong></td>
<td></td>
</tr>
<tr>
<td>• Direct each group member to think about, then silently write ideas/information that relate to the question in their personal area of the chart paper.</td>
<td>• Gather their thoughts about the chosen question.</td>
</tr>
<tr>
<td>• Give students a pre-determined amount of time.</td>
<td>• Write silently in their own area of the paper, respecting the space and silence of all members of the group.</td>
</tr>
<tr>
<td><strong>After</strong></td>
<td></td>
</tr>
<tr>
<td>• Give a signal for students in each group to discuss their idea and information and to agree on a response to be shared with the entire class.</td>
<td>• Take turns sharing their ideas with the group.</td>
</tr>
<tr>
<td>• Call on one member from each group to share their group’s response with the whole class.</td>
<td>• Engage in discussion with all group members to reach consensus on a group response.</td>
</tr>
<tr>
<td>• Assess for understanding by listening to student responses.</td>
<td>• Use communication skills such as active listening and requesting clarification.</td>
</tr>
<tr>
<td>• Use information gained throughout the activity to inform further teaching decisions and strategies.</td>
<td>• Record the group response in the centre of the placemat.</td>
</tr>
<tr>
<td>• Have students post the charts on notice boards/class wall to further share their group’s thinking with the class.</td>
<td>• Actively listen as each group’s placemat is presented.</td>
</tr>
<tr>
<td></td>
<td>• Post the chart for further sharing with the class and as a record of the topic learned so that the students and teacher can make reference to it in future lessons.</td>
</tr>
</tbody>
</table>
ROLE: The Facilitator establishes a collaborative relationship within the group, focuses the work around the learning task, and ensures that every group member feels included and has an opportunity to participate.

PROMPTS:
• Let’s hear from ________ next....
• That’s interesting, but let’s go back to our task...
• Let’s look again at this area....
• What strategies will we use to do this?

ROLE: The Checker ensures that everyone on the team is sharing ideas and asks probing questions to ensure that the material is understood by all.

PROMPTS:
• What do you mean by that?
• Could you clarify that statement?
• Could you please repeat what you have just said?
• Could I interrupt you at this point to ask.....?
**RECORDER**

**ROLE:**
The Recorder makes notes of ideas, conclusions and decisions made by the group. S/he may use a graphic organiser or flipchart to illustrate same.

**PROMPTS:**
- How would you like me to write that down?
- I think you said… Is that right?
- Should we put this idea here?
- How about I circle the ideas that the team likes best?
- Let’s link this idea here…with this one, here…

**TIMEKEEPER**

**ROLE:**
The Timekeeper ensures that each member of the group contributes equally and receives equal time. S/he encourages the group to stay on task and times the proceedings.

**PROMPTS:**
- We are just at the halfway point
- We have five minutes left to discuss this
- Could we wrap this up in the next three minutes?
- It’s ____ time to make his/ her point now
- Could I ask ____ for his/ her opinion at this point?
### BLOOM’S TAXONOMY OF CRITICAL THINKING – SAMPLE COMMAND WORDS

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
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<th>6</th>
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<tbody>
<tr>
<td>Knowledge/Remembering</td>
<td>Comprehension/Understanding</td>
<td>Application</td>
<td>Analysis</td>
<td>Synthesis/Creating</td>
<td>Evaluation</td>
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<td>Count</td>
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<td>Add</td>
<td>Analyse</td>
<td>Categorize</td>
<td>Appraise</td>
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<td>Classify</td>
<td>Apply</td>
<td>Arrange</td>
<td>Combine</td>
<td>Assess</td>
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<tr>
<td>Define</td>
<td>Contrast</td>
<td>Build</td>
<td>Breakdown</td>
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<td>Compare</td>
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<td>Describe</td>
<td>Compare</td>
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<td>Conclude</td>
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<td>Generate</td>
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<td>Complete</td>
<td>Diagram</td>
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<td>Deduce</td>
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<td>Discuss</td>
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<td>Differentiate</td>
<td>Imagine</td>
<td>Determine</td>
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<td>Divide</td>
<td>Discriminate</td>
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<td>Disprove</td>
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<td>Divide</td>
<td>Dissect</td>
<td>Order</td>
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<td>Explain</td>
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<td>Evaluate</td>
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<td>Extrapolate</td>
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<td>Infer</td>
<td>Plan</td>
<td>Judge</td>
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<td>Investigate</td>
<td>Rearrange</td>
<td>Justify</td>
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<td>Record</td>
<td>Give examples</td>
<td>Prepare</td>
<td>Observe</td>
<td>Reconstruct</td>
<td>Measure</td>
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<td>Select</td>
<td>Infer</td>
<td>Produce</td>
<td>Outline</td>
<td>Reorganize</td>
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<td>Point out</td>
<td>Revise</td>
<td>Prove</td>
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<td>Summarize</td>
<td>Rank</td>
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<td>Paraphrase</td>
<td>Solve</td>
<td>Relationship</td>
<td>Transform</td>
<td>Rate</td>
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<td>Use</td>
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<td>Rewrite</td>
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<td>Support</td>
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<td>Rephrase</td>
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<td>Test</td>
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<td></td>
<td>Summarise</td>
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</tr>
</tbody>
</table>

*Please note: Some words can be used as an outcome verb in more than one level depending on the context.*
Bloom’s Taxonomy – Sample Questions

1. Knowledge
• What happened after . . . ?
• How many . . . ?
• Define
• Who was it that . . . ?
• Can you name the . . . ?
• Describe what happened at . . . ?
• Can you tell why . . . ?
• Find the meaning of . . . ?
• What is . . . ?
• Which is true or false . . . ?

2. Comprehension
• Can you write in your own words . . . ?
• Can you write a brief outline . . . ?
• What do you think might happen next . . . ?
• Who do you think . . . ?
• Can you distinguish between . . . ?
• What differences exist between . . . ?
• Can you provide an example of what you mean . . . ?
• Can you provide a definition for . . . ?

3. Application
• Do you know another instance where . . . ?
• Could this have happened in . . . ?
• Can you group by characteristics such as . . . ?
• What factors would you change if . . . ?
• Can you apply the method used to . . . ?
• What questions would you ask of . . . ?
• From the information given, can you develop a set of instructions about
• Would this information be useful if you had a . . . ?

4. Analysis
• Which events could have happened . . . ?
• How was this similar to . . . ?
• What do you see as other possible outcomes?
• Why did . . . changes occur?
• Can you compare your . . . with that presented in . . . ?
• Can you explain what must have happened when . . . ?
• How is . . . similar to . . . ?
• What are some of the problems of . . . ?
• Can you distinguish between . . . ?

5. Synthesis
• Can you design a . . . to . . . ?
• Can you see a possible solution to . . . ?
• Why don’t you devise your own experiment to . . . ?
• What would happen if . . . ?
• How many ways can you . . . ?
• Can you create new and unusual uses for . . . ?
• Can you develop a proposal which would . . . ?

6. Evaluation
• Is there a better solution to . . . ?
• Can you defend your position about . . . ?
• Do you think . . . is a good or a bad thing?
• How would you have handled . . . ?
• What changes to . . . would you recommend?
• How could this be applied to . . . . . . . . . . . . . . ?
• How would you feel if . . . ?
• How effective is . . . ?
• What do you think about . . . ?
### Sample Key Examination Words

<table>
<thead>
<tr>
<th>Term</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyse</td>
<td>Examine in detail and/or break down into components.</td>
</tr>
<tr>
<td>Assess</td>
<td>Describe the positives and negatives, identify the importance of.</td>
</tr>
<tr>
<td>Calculate</td>
<td>Find out by way of mathematical formula or numerical data.</td>
</tr>
<tr>
<td>Compare</td>
<td>Show the similarities and differences between.</td>
</tr>
<tr>
<td>Contrast</td>
<td>Show the differences between.</td>
</tr>
<tr>
<td>Criticise/Critique</td>
<td>Point out weaknesses as well as strengths.</td>
</tr>
<tr>
<td>Define</td>
<td>Give the precise meaning of.</td>
</tr>
<tr>
<td>Derive</td>
<td>Work out from basic principles.</td>
</tr>
<tr>
<td>Describe</td>
<td>Give the details of properties, events, processes etc.</td>
</tr>
<tr>
<td>Discuss</td>
<td>Examine or describe in detail. Make arguments for and against.</td>
</tr>
<tr>
<td>Distinguish</td>
<td>Point out the differences.</td>
</tr>
<tr>
<td>Draw</td>
<td>Make a picture or diagram.</td>
</tr>
<tr>
<td>Evaluate</td>
<td>Discuss and make a judgement on.</td>
</tr>
<tr>
<td>Examine</td>
<td>Take apart and describe a concept in great detail.</td>
</tr>
<tr>
<td>Explain</td>
<td>Make clear in a detailed manner.</td>
</tr>
<tr>
<td>Identify</td>
<td>Show you recognise.</td>
</tr>
<tr>
<td>Illustrate</td>
<td>Give examples including figures, diagrams or examples</td>
</tr>
<tr>
<td>Interpret</td>
<td>Explain, comment on and pass judgement.</td>
</tr>
<tr>
<td>Justify</td>
<td>Give reasons to support the statement.</td>
</tr>
<tr>
<td>List</td>
<td>Provide parts, reasons or qualities in itemised point form.</td>
</tr>
<tr>
<td>Prove (or disprove)</td>
<td>Give evidence.</td>
</tr>
<tr>
<td>Relate</td>
<td>Show the links, connections and associations.</td>
</tr>
<tr>
<td>Review</td>
<td>Comment on the main aspects of a subject.</td>
</tr>
<tr>
<td>Show</td>
<td>Explain with example, diagram or chart.</td>
</tr>
<tr>
<td>State</td>
<td>Write briefly without further comment.</td>
</tr>
<tr>
<td>Suggest</td>
<td>Give possible reasons and ideas.</td>
</tr>
<tr>
<td>Summarise (outline)</td>
<td>Give the key points without details.</td>
</tr>
<tr>
<td>Trace</td>
<td>Show the steps or stages to be followed.</td>
</tr>
</tbody>
</table>
### KWL

*Pre-reading comprehension & Assessment for Learning (AFL) strategy*

<table>
<thead>
<tr>
<th>K</th>
<th>W</th>
<th>H</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do I know about this topic?</td>
<td>What do I want to know about this topic?</td>
<td>How do I find out more about this topic?</td>
<td>What have I learned about this topic?</td>
</tr>
</tbody>
</table>

*KWL creator is available @ tinyurl.com/kwilcreator*
Keywords to Know

Subject: __________________________ Date Begun: __________________________

Topic: __________________________ Date Completed: ________________________

**Directions:** Look at your list of keywords for this topic and decide in which column you want to write each word.

<table>
<thead>
<tr>
<th>I don’t know the word at all</th>
<th>I’ve seen or heard the word but I don’t know the meaning</th>
<th>I think I know the meaning</th>
<th>I know a meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tbody>
</table>

As you learn more about the topic you can move words across to the right hand column.
Latin and Greek Roots and Affixes (Prefixes and Suffixes)

Familiarity with Greek and Latin roots, as well as prefixes and suffixes, can help students understand the meaning of new words.

Roots

A basic word to which affixes (prefixes and suffixes) are added is called a root word because it forms the basis of a new word. For example, fear is a root word and less is a suffix. Put them together to form a new word fearless.

Affixes (Prefixes and Suffixes)

Many English words are formed by taking basic words and adding combinations of prefixes and suffixes to them.

When affixes are added to the beginning of roots or root words, they are called prefixes. For example, the most common prefix is un-, which meant not opposite of. If you add un- to the word happy, the new word becomes unhappy, which means not happy.

When affixes are added to the end of roots or root words, they are called suffixes. The most common suffixes are -s and -es, which mean more than one (or the plural) of the word. Adding -es to wish, changes the meaning of the word to more than one wish.
## Common Latin Roots

<table>
<thead>
<tr>
<th>Latin Root</th>
<th>Definition</th>
<th>Example</th>
<th>Other Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>ambi</td>
<td>both</td>
<td>ambiguous, ambidextrous</td>
<td></td>
</tr>
<tr>
<td>aqua</td>
<td>water</td>
<td>aquarium, aquamarine</td>
<td></td>
</tr>
<tr>
<td>aud</td>
<td>to hear</td>
<td>audience, audition</td>
<td></td>
</tr>
<tr>
<td>bene</td>
<td>good</td>
<td>benefactor, benevolent</td>
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<tr>
<td>cent</td>
<td>one hundred</td>
<td>century, percent</td>
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<td>circum</td>
<td>around</td>
<td>circumference, circumstance</td>
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<tr>
<td>contra/counter</td>
<td>against</td>
<td>contradict, encounter</td>
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<tr>
<td>dict</td>
<td>to say</td>
<td>dictation, dictator</td>
<td></td>
</tr>
<tr>
<td>duc/duct</td>
<td>to lead</td>
<td>conduct, induce</td>
<td></td>
</tr>
<tr>
<td>fac</td>
<td>to do; to make</td>
<td>factory, manufacture</td>
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</tr>
<tr>
<td>form</td>
<td>shape</td>
<td>conform, reform</td>
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<td>fort</td>
<td>strength</td>
<td>fortitude, fortress</td>
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<td>break</td>
<td>fracture, fraction</td>
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<td>projection, rejection</td>
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<td>judicial, prejudice</td>
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<td>bad</td>
<td>malevolent, malefactor</td>
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<td>mother</td>
<td>maternal, maternity</td>
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<td>mit</td>
<td>to send</td>
<td>transmit, admit</td>
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<td>death</td>
<td>mortal, mortician</td>
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<td>many</td>
<td>multimedia, multiple</td>
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<td>father</td>
<td>paternal, paternity</td>
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<td>port</td>
<td>to carry</td>
<td>portable, transportation</td>
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<td>rupt</td>
<td>to break</td>
<td>bankrupt, disruption</td>
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<tr>
<td>scrib/script</td>
<td>to write</td>
<td>inscription, prescribe</td>
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<td>sect/sec</td>
<td>to cut</td>
<td>bisect, section</td>
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<td>sent</td>
<td>to feel; to send</td>
<td>consent, resent</td>
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<td>spect</td>
<td>to look</td>
<td>inspection, spectator</td>
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<td>struct</td>
<td>to build</td>
<td>destruction, restructure</td>
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<td>vid/vis</td>
<td>to see</td>
<td>televise, video</td>
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<td>voc</td>
<td>voice; to call</td>
<td>vocalize, advocate</td>
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Reproduced with permission from Corwin Press.
<table>
<thead>
<tr>
<th>Greek Root</th>
<th>Definition</th>
<th>Example</th>
<th>Other Examples</th>
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</thead>
<tbody>
<tr>
<td>anthropo</td>
<td>man; human; humanity</td>
<td>anthropologist, philanthropy</td>
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<td>self</td>
<td>autobiography, automobile</td>
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<td>power</td>
<td>dynamic, dynamite</td>
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<td>dys</td>
<td>bad; hard; unlucky</td>
<td>dysfunctional, dyslexic</td>
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<td>gram</td>
<td>thing written</td>
<td>epigram, telegram</td>
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<td>hydration, dehydrate</td>
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<td>over; above; beyond</td>
<td>hyperactive, hyperbole</td>
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<td>hypo</td>
<td>below; beneath</td>
<td>hypothermia, hypothetical</td>
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<td>biology, psychology</td>
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<td>microbe, microscope</td>
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<td>philanthropist, philosophy</td>
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<td>fear</td>
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<td>light</td>
<td>photograph, phosphorous</td>
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<td>false</td>
<td>pseudonym, pseudoscience</td>
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<td>psycho</td>
<td>soul; spirit</td>
<td>psychology, psychic</td>
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<tr>
<td>scope</td>
<td>viewing instrument</td>
<td>microscope, telescope</td>
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<tr>
<td>techno</td>
<td>art; science; skill</td>
<td>technique, technological</td>
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<tr>
<td>tele</td>
<td>far off</td>
<td>television, telephone</td>
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<tr>
<td>therm</td>
<td>heat</td>
<td>thermal, thermometer</td>
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</tbody>
</table>

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### Common Prefixes

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Definition</th>
<th>Example</th>
<th>Other Examples</th>
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</thead>
<tbody>
<tr>
<td>anti-</td>
<td>against</td>
<td>anticlimax</td>
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</tr>
<tr>
<td>de-</td>
<td>opposite</td>
<td>devalue</td>
<td></td>
</tr>
<tr>
<td>dis-</td>
<td>not; opposite of</td>
<td>discover</td>
<td></td>
</tr>
<tr>
<td>en-, em-</td>
<td>cause to</td>
<td>enact, empower</td>
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<tr>
<td>fore-</td>
<td>before; front of</td>
<td>foreshadow, forearm</td>
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<td>in-, im-</td>
<td>in</td>
<td>income, impulse</td>
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<td>in-, im-, il-, ir-</td>
<td>not</td>
<td>indirect, immoral, illiterate, irreverent</td>
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<tr>
<td>inter-</td>
<td>between; among</td>
<td>interrupt</td>
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<td>mid-</td>
<td>middle</td>
<td>midfield</td>
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<td>wrongly</td>
<td>misspell</td>
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<tr>
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<td>not</td>
<td>nonviolent</td>
<td></td>
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<tr>
<td>over-</td>
<td>over; too much</td>
<td>overeat</td>
<td></td>
</tr>
<tr>
<td>pre-</td>
<td>before</td>
<td>preview</td>
<td></td>
</tr>
<tr>
<td>re-</td>
<td>again</td>
<td>rewrite</td>
<td></td>
</tr>
<tr>
<td>semi-</td>
<td>half; partly; not fully</td>
<td>semifinal</td>
<td></td>
</tr>
<tr>
<td>sub-</td>
<td>Under</td>
<td>subway</td>
<td></td>
</tr>
<tr>
<td>super-</td>
<td>above; beyond</td>
<td>superhuman</td>
<td></td>
</tr>
<tr>
<td>trans-</td>
<td>across</td>
<td>transmit</td>
<td></td>
</tr>
<tr>
<td>un-</td>
<td>not; opposite of</td>
<td>unusual</td>
<td></td>
</tr>
<tr>
<td>under-</td>
<td>under; too little</td>
<td>underestimate</td>
<td></td>
</tr>
</tbody>
</table>

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# Common Suffixes

<table>
<thead>
<tr>
<th>Suffix</th>
<th>Definition</th>
<th>Example</th>
<th>Other Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>-able, -ible</td>
<td>is; can be</td>
<td>affordable, sensible</td>
<td></td>
</tr>
<tr>
<td>-al, -ial</td>
<td>having characteristics of</td>
<td>universal, facial</td>
<td></td>
</tr>
<tr>
<td>-ed</td>
<td>past tense verbs; adjectives</td>
<td>the dog walked, the walked dog</td>
<td></td>
</tr>
<tr>
<td>-en</td>
<td>made of</td>
<td>golden</td>
<td></td>
</tr>
<tr>
<td>-er, -or</td>
<td>one who; person connected with</td>
<td>teacher, professor</td>
<td></td>
</tr>
<tr>
<td>-er</td>
<td>more</td>
<td>taller</td>
<td></td>
</tr>
<tr>
<td>-est</td>
<td>the most</td>
<td>tallest</td>
<td></td>
</tr>
<tr>
<td>-ful</td>
<td>full of</td>
<td>helpful</td>
<td></td>
</tr>
<tr>
<td>-ic</td>
<td>having characteristics of</td>
<td>poetic</td>
<td></td>
</tr>
<tr>
<td>-ing</td>
<td>verb forms; present participles</td>
<td>sleeping</td>
<td></td>
</tr>
<tr>
<td>-ion, -tion, -ation, -ition</td>
<td>act; process</td>
<td>submission, motion, Relation, edition</td>
<td></td>
</tr>
<tr>
<td>-ity, -ty</td>
<td>state of</td>
<td>activity, society</td>
<td></td>
</tr>
<tr>
<td>-ive, -ative, -itive</td>
<td>adjective form of noun</td>
<td>active, comparative, sensitive</td>
<td></td>
</tr>
<tr>
<td>-less</td>
<td>without</td>
<td>hopeless</td>
<td></td>
</tr>
<tr>
<td>-ly</td>
<td>how something is</td>
<td>lovely</td>
<td></td>
</tr>
<tr>
<td>-ment</td>
<td>state of being; act of</td>
<td>contentment</td>
<td></td>
</tr>
<tr>
<td>-ness</td>
<td>state of; condition of</td>
<td>openness</td>
<td></td>
</tr>
<tr>
<td>-ous, -eous, -ious</td>
<td>having qualities of</td>
<td>riotous, courageous, gracious</td>
<td></td>
</tr>
<tr>
<td>-s, -es</td>
<td>more than one</td>
<td>trains, trenches</td>
<td></td>
</tr>
<tr>
<td>-y</td>
<td>characterized by</td>
<td>gloomy</td>
<td></td>
</tr>
</tbody>
</table>

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Anticipation Exercises

Are advance organizers that can be used to activate and assess students’ prior knowledge, focus reading, and motivate reluctant readers by stimulating their interest in the topic.

(Dean, Hubbell, Pitler, & Stone, 2012)

How to use an Anticipation Exercise

1. Identify the major concepts that you want students to learn from reading. Determine ways these concepts might support or challenge students’ beliefs.

2. Create four to six statements that support or challenge the students’ beliefs and experiences about the topic under study. The statements can address important points, major concepts, controversial ideas, or misconceptions.

3. Ask students to react to and formulate a response to each statement and be prepared to defend their opinions. Students can work in groups if the subject matter is fairly complex, or you can ask students to fill in their answers on their own.

4. Discuss each statement with students before they read the material. Ask one student from each side of the issue (for/against, agree/disagree) to explain and justify his or her response.

5. Have students read the selection with the purpose of finding evidence that supports or refutes their responses on the guide.

6. After students finish reading the selection, have them confirm their original responses, revise them, or decide what additional information is needed. Encourage students to rewrite any statement that was not true in a way that makes it true.

(Urquhart and Frazee, 2012)
Anticipation Exercise

<table>
<thead>
<tr>
<th>Topic</th>
<th>Date:</th>
<th>Score: Before:</th>
<th>After:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BEFORE**

<table>
<thead>
<tr>
<th>Agree</th>
<th>Disagree</th>
<th>Statement</th>
<th>Agree</th>
<th>Disagree</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>2</td>
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<td>3</td>
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<td>4</td>
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<td>5</td>
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<td>6</td>
<td></td>
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<td></td>
<td>7</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Instructions: Guess answers, read passage/watch video, answer again, compare results before & after

**NEW WORD**

<table>
<thead>
<tr>
<th>New Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SQ3R</strong></td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td><strong>Survey</strong></td>
<td>Look at the cover, title, headings, pictures, first &amp; last paragraph. What do you know about this topic already?</td>
</tr>
<tr>
<td><strong>Question</strong></td>
<td>Ask yourself what is this about? What do I need to know? Are there any questions I have to answer? Is there specific information I must find out? What evidence is there for points made in the text?</td>
</tr>
<tr>
<td><strong>Read</strong></td>
<td>Read the passage carefully. Identify the main ideas and details.</td>
</tr>
<tr>
<td><strong>Review</strong></td>
<td>Reread the parts you think are important and any parts you are not sure of. Note key points and summarise them.</td>
</tr>
<tr>
<td><strong>Recall</strong></td>
<td>This is done when the book is closed. Have the questions been answered? Remember the keywords and main points. Tell your classmate.</td>
</tr>
<tr>
<td>1</td>
<td>Questions I Still Have</td>
</tr>
<tr>
<td>---</td>
<td>------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Interesting Things</td>
</tr>
<tr>
<td>3</td>
<td>Things I Found Out</td>
</tr>
</tbody>
</table>
Using Writing Frames

Students need support in developing confidence in the different genres. Writing frames can help students structure their writing. They supply students with the outline, the connectives, which will knit the particular piece of writing. They also supply students with the logical sequence of a piece of writing. The idea is that you give the student a frame for whatever genre they need to write in. Ideally you tailor the frame to the particular exercise topic they are writing about.

The sentence stems can be written into their copies and they work in pairs to develop the text further. Negotiation around the text helps develop a fluid piece of writing.

**Step One: Teacher Demonstration**
The teacher models writing a piece of text in a particular genre. The teacher talks out loud to illustrate to the students what's involved in shaping their work. Initially, the teacher may need to do all of the writing. Wall charts can be useful at this stage.

**Step Two: Teacher and Student together**
The teacher writes with the students. The teacher does all the hard parts and is always on hand. All research shows that students learn more effectively when supported by an expert.

**Step Three: Students on their own with Writing Frames**
The students should write in pairs with the support of a writing frame in whatever genre they are using. The frame should be tailored to the topic / task at hand. The students eventually produce a best copy as a result of working together. The teacher continues to support if necessary.

**Step Four: Independence**
The students should write independently once they feel confident.

The following are examples of the six frames mentioned – more are contained in the Appendix (pages B7-91). They can be adapted to suit any topic. The frames are made up of sentence stems not questions.

The writing frames are a development of the work of Vygotsky, L. (1978) *Mind in Society: the development of higher psychological processes* and are adapted from the work of Lewis, M. & Wray, D. (1997).
Recount Writing Frame

Topic ____________________  Subject ____________________

Date: ____________________  Name: ____________________

I knew already that ____________________

And ____________________

I also just found out that ____________________

I also found that ____________________

As well as ____________________

The best that I learned was ____________________

**Genre**  **Characteristics**  **Subject**
Recount  To re-tell what happened in logical progression. To state prior knowledge of a given topic and to list down what is now known following the investigation of the topic.  All
Explaination  Writing Frame

Name: __________________ Date: __________________

Subject: __________________ Topic: __________________

I want to explain why ____________________________________________

The main reason is ________________________________________________

Another reason is ________________________________________________

A further reason is ________________________________________________

It’s also thought that ____________________________________________

**Genre**  
Writing an Explanation

**Characteristics**  
State what is to be explained and give several reasons.

**Subject**  
Science, Maths, ESS, Materials Technology, Technology, Geography, CSPE, History
Instruction  Writing Frame

Topic: _______________________  Subject: ___________________

Name: _______________________  Date: ___________________

When we _______________________

First we _______________________

Then we _______________________

After that we ___________________

Finally we _______________________

Genre  Characteristics  Subject
Writing Procedure  Statement – e.g. Making a kite  Home Economics, Materials Technology
List materials / equipment – wood and metal
List steps – usually chronological  Geography, ESS, Technology, ICT
Include diagram (usually).
Persuasion Writing Frame

Topic: ___________________________  Subject: ___________________________

Date: ___________________________  Name: ___________________________

I think that ___________________________

Because ___________________________

Another reason I think this is ___________________________

Furthermore ___________________________

Moreover ___________________________

Because ___________________________

I have shown that ___________________________

Writing frames for other genres

<table>
<thead>
<tr>
<th>Genre</th>
<th>Characteristics</th>
<th>Subject</th>
</tr>
</thead>
</table>
| Persuasion | Putting forward one point of view  
A position is stated  
The back-up arguments given  
Re-statement of position in summary. | History, Religion,  
CSPE, ESS, English,  
SPHE             |
# Possible Connectives for Writing Tasks

<table>
<thead>
<tr>
<th>To indicate order...</th>
<th>To infer...</th>
<th>To reformulate...</th>
</tr>
</thead>
<tbody>
<tr>
<td>To begin with</td>
<td>In other words</td>
<td>In other words</td>
</tr>
<tr>
<td>Next</td>
<td>In that case</td>
<td>That means</td>
</tr>
<tr>
<td>Firstly, Secondly, etc.</td>
<td>Otherwise</td>
<td>That is to say</td>
</tr>
<tr>
<td>On second thoughts</td>
<td>This implies</td>
<td>I mean</td>
</tr>
<tr>
<td>In conclusion</td>
<td>Frankly</td>
<td>Another way of stating this is</td>
</tr>
<tr>
<td>Finally</td>
<td></td>
<td>Another way of putting it is</td>
</tr>
<tr>
<td>In spite of all</td>
<td></td>
<td>It would be better to say</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To express concession...</th>
<th>To refer to...</th>
<th>To compare to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Although</td>
<td>With regard to</td>
<td>Likewise</td>
</tr>
<tr>
<td>Even if</td>
<td>With reference to</td>
<td>Both</td>
</tr>
<tr>
<td>Even though</td>
<td>Referring to</td>
<td>Whereas</td>
</tr>
<tr>
<td>Besides</td>
<td>As to, as for</td>
<td>While the first might indicate</td>
</tr>
<tr>
<td>Anyhow, anyway</td>
<td>According to the latter / the former</td>
<td>Similarly</td>
</tr>
<tr>
<td>In any case</td>
<td></td>
<td>As for</td>
</tr>
<tr>
<td>At any rate</td>
<td></td>
<td>Equally</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To express reason / purpose...</th>
<th>To express place and space...</th>
<th>To add an idea...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therefore</td>
<td>On the right</td>
<td>Moreover</td>
</tr>
<tr>
<td>That is why</td>
<td>To the left</td>
<td>Furthermore</td>
</tr>
<tr>
<td>For this reason</td>
<td>Nearby</td>
<td>Also</td>
</tr>
<tr>
<td>Hence</td>
<td>Between</td>
<td>And</td>
</tr>
<tr>
<td>Because</td>
<td>Among</td>
<td>Similarly</td>
</tr>
<tr>
<td>So</td>
<td>Here / there / where</td>
<td>Likewise</td>
</tr>
<tr>
<td>Since</td>
<td>In the distance</td>
<td>Too</td>
</tr>
<tr>
<td>As</td>
<td>Straight ahead</td>
<td>Equally</td>
</tr>
<tr>
<td>On account of</td>
<td>In front of / behind</td>
<td>In the same manner</td>
</tr>
<tr>
<td>So that</td>
<td></td>
<td>Besides</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To express condition or consequence...</th>
<th>To express opposition...</th>
<th>To express time...</th>
</tr>
</thead>
<tbody>
<tr>
<td>If</td>
<td>But</td>
<td>When</td>
</tr>
<tr>
<td>Unless</td>
<td>However</td>
<td>Before / After</td>
</tr>
<tr>
<td>Suppose that</td>
<td>Nevertheless</td>
<td>Now</td>
</tr>
<tr>
<td>In case of</td>
<td>Otherwise</td>
<td>While</td>
</tr>
<tr>
<td>Providing that</td>
<td>On the other hand</td>
<td>Since</td>
</tr>
<tr>
<td>On condition that</td>
<td>On the contrary</td>
<td>As long as / As soon as</td>
</tr>
<tr>
<td>Consequently</td>
<td>Yet</td>
<td>No sooner than</td>
</tr>
<tr>
<td>Hence</td>
<td>Still</td>
<td>Subsequently</td>
</tr>
<tr>
<td>Thus</td>
<td>Maybe</td>
<td>Eventually</td>
</tr>
<tr>
<td>Accordingly</td>
<td>Perhaps</td>
<td>Initially</td>
</tr>
<tr>
<td>As a result</td>
<td>Instead</td>
<td>Previously</td>
</tr>
<tr>
<td>It follows that</td>
<td>Except for</td>
<td>Recently</td>
</tr>
<tr>
<td></td>
<td>Despite</td>
<td>Meanwhile</td>
</tr>
</tbody>
</table>

Adapted from English on the Web
## Maths Signs

<table>
<thead>
<tr>
<th>Sign</th>
<th>Meaning</th>
<th>Also known as</th>
<th>Add your own words</th>
</tr>
</thead>
</table>
| ![Add Sign] | Addition | • Add  
• Plus  
• Sum  
• Increase | |
| ![Subtract Sign] | Subtraction | • Subtract  
• Take away  
• Minus  
• Less | |
| ![Multiply Sign] | Multiplication | • Times  
• Of | |
| ![Divide Sign] | Division | • Share  
• Divide | |
| ![Equals Sign] | Equals | • The same as  
• The same value | |
| ![Not Equals Sign] | Not Equals | • Different  
• Not the same value | |

### Less Than and Greater Than

<table>
<thead>
<tr>
<th>Less Than</th>
<th>Greater Than</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3 &lt; -2</td>
<td>4 &gt; 3</td>
</tr>
<tr>
<td>-4 &lt; 0</td>
<td>5 &gt; -2</td>
</tr>
<tr>
<td>-1 &lt; 1</td>
<td>0 &gt; -1</td>
</tr>
</tbody>
</table>
# Fractions, Percentages and Decimals

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Word</th>
<th>Percent</th>
<th>Decimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 or 1/1</td>
<td>One Whole</td>
<td>100%</td>
<td>1.00</td>
</tr>
<tr>
<td>1/2</td>
<td>Half</td>
<td>50%</td>
<td>0.50</td>
</tr>
<tr>
<td>1/3</td>
<td>Third</td>
<td>33.33%</td>
<td>0.333</td>
</tr>
<tr>
<td>1/4</td>
<td>Quarter</td>
<td>25%</td>
<td>0.25</td>
</tr>
<tr>
<td>1/5</td>
<td>Fifth</td>
<td>20%</td>
<td>0.20</td>
</tr>
<tr>
<td>1/8</td>
<td>Eight</td>
<td>12.5%</td>
<td>0.125</td>
</tr>
<tr>
<td>1/10</td>
<td>Tenth</td>
<td>10%</td>
<td>0.10</td>
</tr>
<tr>
<td>1/20</td>
<td>Twentieth</td>
<td>5%</td>
<td>0.05</td>
</tr>
</tbody>
</table>
# Mathematical Language

<table>
<thead>
<tr>
<th>Word</th>
<th>Everyday English</th>
<th>Mathematical English</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

*With thanks to Dr. Maire Ni Riordain*
Classroom Discussion Approach to Problem Solving

How did you evaluate your answer?

How did you decide what to do?

What did you do that helped you understand the problem?

Can something you did here help you solve other problems?
Classroom Discussion Approach to Problem Solving

Did you find information that you did not need?

How did you know that the information was not important?

Did you try something that didn’t work? How did you figure out it was not going to work out?

Was there something in this problem that reminded you of another problem that you did before?
# Working on Your Own Progress Card

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Teacher Comment

You did well on: ____________________________

You also did well on: _______________________

And now you might consider: ____________________


## Student Comment

What I need to do to improve when I work on my own:

___________________________

___________________________

___________________________

How will I know that I am making progress when I work on my own?

(1) _______________________

(2) _______________________

(3) _______________________
## Working with Others Progress Card

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Teacher Comment

You did well on: __________________________

You also did well on: ______________________

And now you might consider: ______________________

____________________________________________________________________________

____________________________________________________________________________

### Student Comment

What I need to do to improve when I work with others:

____________________________________________________________________________

____________________________________________________________________________

How will I know that I am making progress when I work with others?

(1) ____________________________________________________________

(2) ____________________________________________________________

(3) ____________________________________________________________
# Homework Progress Card

**Student:**

**Week Beginning:**

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Teacher Comment**

You did well on: _______________________

You also did well on: _______________________

And now you might consider: _______________________

**Student Comment**

What I need to do to improve my homework: _______________________

How will I know that I am making progress with my homework?

1. _______________________

2. _______________________

3. _______________________
Punctuality Progress Card

Student: ____________________________

Week Beginning: ____________________________

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Teacher Comment**

You did well on: ____________________________

You also did well on: ____________________________

And now you might consider: ____________________________

__________________________

__________________________

__________________________

**Student Comment**

What I need to do to improve my punctuality:

__________________________

__________________________

__________________________

How will I know that I am making progress with my punctuality?

(1) ____________________________

(2) ____________________________

(3) ____________________________
## Attendance Progress Card

**Student:**

**Week Beginning:**

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
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<tbody>
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<tr>
<td><strong>Teacher</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Teacher Comment

You did well on: ____________________________________________

You also did well on: ____________________________________________

And now you might consider: ____________________________________________


### Student Comment

What I need to do to improve my attendance:

________________________________________________________________________

________________________________________________________________________

How will I know that I am making progress with my attendance?

(1) ____________________________________________

(2) ____________________________________________

(3) ____________________________________________
## NEW STRATEGIES SHOULD BE INTRODUCED USING THE GRADUAL RELEASE OF RESPONSIBILITY MODEL OF TEACHING AND LEARNING

<table>
<thead>
<tr>
<th>Role of the Teacher</th>
<th>Degree of Control</th>
<th>Role of the Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applying</td>
<td>The teacher offers support and encouragement as necessary.</td>
<td>Students interact independently. They are in control of the conventions and content.</td>
</tr>
<tr>
<td>Guiding</td>
<td>The teacher scaffolds help and provides support and corrective feedback.</td>
<td>Students do the activity with help from the teacher or other sources at predetermined points.</td>
</tr>
<tr>
<td>Sharing</td>
<td>The teacher provides the direction and invites the students to contribute.</td>
<td>Students contribute ideas and information. Decision making is negotiated between teacher and student.</td>
</tr>
<tr>
<td>Modelling</td>
<td>The teacher demonstrates the processes used while thinking aloud.</td>
<td>Students participate by actively attending to the demonstrations.</td>
</tr>
</tbody>
</table>