

## Challenging All Learners



*“A rising tide lifts all ships,” Joseph Renzulli*

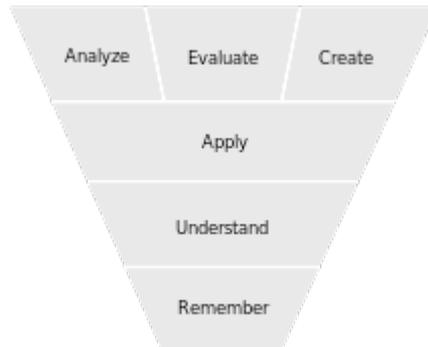
*‘ Making good provision for pupils is often about challenging ourselves – our beliefs about what pupils can achieve and aspire to - and our confidence in being able to help them to fulfil their potential. We need to keep an open mind, remove ‘glass ceilings’ and acknowledge that we may not have all the answers’.*

At Holy Trinity we aim to provide a stimulating learning environment to meet and challenge the needs of all pupils. We involve pupils in shaping their own learning so they are motivated and have a real sense of purpose. Creative thinking is actively encouraged through asking open-ended questions and misconceptions are seen as productive opportunities for learning. Opportunities are given to think creatively or logically, solve problems, conduct investigations, lead either individual or group research based projects and ask questions. This encourages and supports children with developing their reasoning and thinking skills.

Our culture of inclusive teaching:

- is set within a culture of high expectations for all
- emphasises what a pupil will learn rather than the activities they will do
- is based on an assessment of what the pupil already knows, can do and understands
- uses teaching styles that meet the needs of individuals and groups so that learning is accessible and engaging for all pupils
- establishes access strategies that will help overcome the potential barriers to learning

Bloom’s taxonomy of higher order thinking is at the heart of our teaching and learning. We aim to use higher order questions throughout our teaching to challenge and develop our pupil’s thinking skills and foster independent learning.



There are six levels in Bloom's taxonomy, moving through the lowest order processes to the highest. The different levels of questioning can be weaved through all learning opportunities or activities at home to increase levels of challenge and expand critical thinking skills. Critical thinking skills allow a child to think independently, find and fix mistakes, solve problems, evaluate alternatives, and reflect on their own thinking. It's not something that can be learned from reading a book or completing a worksheet, the skills are built through hands-on lessons that build beyond basic rote memorization of facts.

### The six levels of questioning

- Recall: Remember, tell, list, recite, memorise
- Comprehension: Understand, give examples, select, explain
- Application: Use, make, map, demonstrate, construct
- Analyse: Classify, break into components, solve
- Create: Rearrange, forecast, create, compose
- Evaluate: Judge, give opinions, prioritise, criticise

### Examples of the six levels of questioning

<p style="text-align: center;"><b><u>Recall questions</u></b> (Literal questions) Remembering or recall of learned material.</p> <p>Can they recall or remember the information? These questions are designed to help children recall or revise material that has already been covered. They make relatively low intellectual demand on some children.</p> <ul style="list-style-type: none"> <li>• Knows common terms</li> <li>• Knows specific facts</li> <li>• Knows methods and procedures</li> <li>• Knows basic concepts</li> <li>• Knows principles</li> </ul>	<ul style="list-style-type: none"> <li>• Where....does the story take place?</li> <li>• When....did the story take place?</li> <li>• Who....was s/he/it?</li> <li>• Who are the key characters in the book?</li> <li>• What....did s/he/it look like?</li> <li>• Where....did s/he/it live?</li> <li>• Where....in the book would you find?</li> </ul>	<ul style="list-style-type: none"> <li>• Can you describe...?</li> <li>• Can you define...?</li> <li>• Can you duplicate...?</li> <li>• Can you identify...?</li> <li>• Can you label...?</li> <li>• Can you list...?</li> <li>• Can you match...?</li> <li>• Can you memorise...?</li> <li>• Can you name...?</li> <li>• Can you outline...?</li> <li>• Can you recall...?</li> <li>• Can you repeat...?</li> <li>• Can you reproduce...?</li> <li>• Can you select...?</li> <li>• Can you state...?</li> </ul>
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<p><b><u>Comprehension questions</u></b> (Literal questions) Understanding or grasping meaning of material.</p> <p>Can they explain ideas or concepts?</p> <p>Children show an understanding of the main points of the story. They can describe what they know. They are able to restate, give examples, summarise or outline key basic points. They can link stories with personal experience.</p> <ul style="list-style-type: none"> <li>• Understands facts and principles</li> <li>• Interprets verbal information</li> <li>• Translates verbal material to mathematical formulae</li> <li>• Estimates future consequences implied in data</li> <li>• Justifies methods and procedures</li> </ul>	<ul style="list-style-type: none"> <li>• What do you think is happening here?</li> <li>• What happened in the story?</li> <li>• What might this mean?</li> <li>• Through whose eyes is the story told?</li> <li>• Which part of the story best describes the setting?</li> <li>• Which words and/or phrases do this?</li> <li>• What part/s of the story do you like the best?</li> </ul>	<ul style="list-style-type: none"> <li>• Can you classify...?</li> <li>• Can you convert...?</li> <li>• Can you defend...?</li> <li>• Can you describe...?</li> <li>• Can you discuss...?</li> <li>• Can you distinguish...?</li> <li>• Can you estimate...?</li> <li>• Can you explain...?</li> <li>• Can you extend...?</li> <li>• Can you generalise...?</li> <li>• Can you give examples...?</li> <li>• Can you identify...?</li> <li>• Can you infer...?</li> <li>• Can you locate...?</li> <li>• Can you paraphrase...?</li> <li>• Can you predict...?</li> <li>• Can you recognise...?</li> <li>• Can you rephrase...?</li> <li>• Can you report...?</li> <li>• Can you restate...?</li> <li>• Can you rewrite...?</li> <li>• Can you select...?</li> <li>• Can you summarise...?</li> <li>• Can you translate...?</li> </ul>
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<p><b><u>Application questions</u></b> (Higher order questions)</p> <p>Using learned information in new situations.</p> <p>Can they use the information in a new way?</p> <p>Application means that the information learned can be applied in different contexts. Children are able to transfer knowledge learned in one context to another.</p> <ul style="list-style-type: none"> <li>• Applies concepts and principles to new situations</li> <li>• Applies laws and theories to practical situations</li> <li>• Solves mathematical problems</li> <li>• Constructs graphs and charts</li> <li>• Demonstrates correct usage of a method or procedure</li> </ul>	<ul style="list-style-type: none"> <li>• Can you think of another story that has a similar theme e.g. good over evil, weak over strong, wise over foolish?</li> <li>• Do you know another story that deals with the same issues e.g. social, cultural, moral issue?</li> <li>• Which other author handles time in this way? E.g. flashbacks, dreams..</li> <li>• Which stories have openings like this?</li> </ul>	<ul style="list-style-type: none"> <li>• Can you change...?</li> <li>• Can you choose...?</li> <li>• Can you compute...?</li> <li>• Can you demonstrate...?</li> <li>• Can you discover...?</li> <li>• Can you dramatise...?</li> <li>• Can you employ...?</li> <li>• Can you illustrate...?</li> <li>• Can you interpret...?</li> <li>• Can you manipulate...?</li> <li>• Can you modify...?</li> <li>• Can you operate...?</li> <li>• Can you predict...?</li> <li>• Can you prepare...?</li> <li>• Can you produce...?</li> <li>• Can you relate...?</li> <li>• Can you schedule...?</li> <li>• Can you show...?</li> <li>• Can you sketch...?</li> <li>• Can you solve...?</li> <li>• Can you use...?</li> <li>• Can you write...?</li> </ul>
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<p><b>Analytical questions</b> (Higher order questions) Critically reducing arguments to elements to see their relationships, organisation and principles.</p> <p>Can they distinguish between the different parts?</p> <p>This type of question requires building on previous knowledge. They require you to identify implicit meanings, make inference and deduction and become aware of the author's intentions. They ask children to show an understanding of significant themes, ideas, events and characters and refer to the text when explaining views. These questions ask children to analyse mood, setting and characters, style, structure and other key aspects. They encourage children to express opinions and preferences about major events or ideas in stories or poems. They ask children to refer to the text when explaining views.</p> <ul style="list-style-type: none"> <li>• Recognises unstated assumptions</li> <li>• Recognises logical fallacies in reasoning</li> <li>• Distinguishes between facts and inferences</li> <li>• Evaluates the irrelevancy of data</li> <li>• Analyses the organisational structures of a piece of work (art, music, writing)</li> </ul>	<ul style="list-style-type: none"> <li>• What makes you think that?</li> <li>• What words give you that impression...?</li> <li>• How do you feel about.?</li> <li>• Can you explain why...?</li> <li>• Do you agree with ____'s opinion?</li> <li>• I wonder what the writer intended?</li> <li>• I wonder why the writer has decided to...?</li> <li>• What was in the author's mind?</li> <li>• What do these words mean and why do you think the writer chose them?</li> <li>• How has the author used ... (adjectives) to make this character ... (funny)?</li> <li>• Why did the author choose...this setting?</li> <li>• Can you support your view with evidence?</li> <li>• Are there any familiar patterns you notice e.g. familiar story structure / images?</li> </ul>	<ul style="list-style-type: none"> <li>• Can you appraise...?</li> <li>• Can you break down...?</li> <li>• Can you compare...?</li> <li>• Can you contrast...?</li> <li>• Can you criticise...?</li> <li>• Can you differentiate...?</li> <li>• Can you discriminate...?</li> <li>• Can you distinguish...?</li> <li>• Can you examine...?</li> <li>• Can you experiment...?</li> <li>• Can you identify...?</li> <li>• Can you infer...?</li> <li>• Can you outline...?</li> <li>• Can you point out...?</li> <li>• Can you question...?</li> <li>• Can you relate...?</li> <li>• Can you select...?</li> <li>• Can you separate...?</li> <li>• Can you subdivide...?</li> <li>• Can you test...?</li> </ul>
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<p><b>Creating questions</b> (Higher order questions)</p> <p>Forming a new whole from various parts</p> <p>Can they create new product or point of view?</p> <p>These questions require children to formulate a holistic summary of key ideas, make inferences, or create new scenarios.</p> <ul style="list-style-type: none"> <li>• Writes a well organised theme</li> <li>• Gives a well organised speech</li> <li>• Writes a creative short story (or poem / music...)</li> <li>• Proposes a plan for an experiment</li> <li>• Integrates learning from different areas into a plan for solving a problem</li> <li>• Formulates a new scheme for classifying objects (or events / ideas...)</li> </ul>	<ul style="list-style-type: none"> <li>• What would you hypothesise about these unusual events?</li> <li>• What do you infer from her statements? Based upon these facts, what predictions would you make?</li> <li>• How do you imagine the space ship would look?</li> <li>• What do you estimate will be the costs for the project?</li> <li>• How might you invent a solution to this ecological problem?</li> </ul>	<ul style="list-style-type: none"> <li>• Can you assemble...?</li> <li>• Can you categorise...?</li> <li>• Can you combine...?</li> <li>• Can you compile...?</li> <li>• Can you compose...?</li> <li>• Can you construct...?</li> <li>• Can you create...?</li> <li>• Can you design...?</li> <li>• Can you develop...?</li> <li>• Can you devise...?</li> <li>• Can you explain...?</li> <li>• Can you extend...?</li> <li>• Can you formulate...?</li> <li>• Can you generate...?</li> <li>• Can you modify...?</li> <li>• Can you organise...?</li> <li>• Can you plan...?</li> <li>• Can you propose...?</li> <li>• Can you question...?</li> <li>• Can you rearrange...?</li> <li>• Can you revise...?</li> <li>• Can you reconstruct...?</li> <li>• Can you relate...?</li> <li>• Can you reorganise...?</li> <li>• Can you restructure...?</li> <li>• Can you rewrite...?</li> <li>• Can you summarise...?</li> <li>• Can you tell...?</li> <li>• Can you write...?</li> </ul>
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<p style="text-align: center;"><b><u>Evaluative questions</u></b> (Higher order questions) Judging based on defined criteria.</p> <p>Can they justify a stand or decision?</p> <p>They need to present and defend opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria</p> <ul style="list-style-type: none"> <li>• Judgments in terms of internal evidence</li> <li>• Judgments in terms of external criteria</li> </ul> <p>These questions require children to formulate and justify judgments and criticisms based upon clearly-articulated evaluative criteria</p> <ul style="list-style-type: none"> <li>• Judges the logical consistency of written material</li> <li>• Judges the adequacy with which conclusions are supported by data</li> <li>• Judges the value of a piece of work by using external standards of excellence</li> </ul>	<ul style="list-style-type: none"> <li>• Do you feel that serving apple pie for an after school snack for children is healthy?</li> <li>• Why did you decide to choose that course of action?</li> <li>• How would you rank these choices?</li> <li>• How might you defend that character's actions? How would you verify that conclusion?</li> <li>• What is your critique of that work of art?</li> </ul>	<ul style="list-style-type: none"> <li>• Can you appraise...?</li> <li>• Can you assess...?</li> <li>• Can you argue...?</li> <li>• Can you compare...?</li> <li>• Can you conclude...?</li> <li>• Can you contrast...?</li> <li>• Can you criticise...?</li> <li>• Can you describe...?</li> <li>• Can you defend...?</li> <li>• Can you differentiate...?</li> <li>• Can you discriminate...?</li> <li>• Can you document...?</li> <li>• Can you evaluate...?</li> <li>• Can you explain...?</li> <li>• Can you interpret...?</li> <li>• Can you judge...?</li> <li>• Can you justify...?</li> <li>• Can you relate...?</li> <li>• Can you select...?</li> <li>• Can you summarise...?</li> <li>• Can you support...?</li> <li>• Can you value...?</li> </ul>
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## **Examples of ways of introducing and sustaining challenge**

**Vocabulary** – use and teach quality vocabulary and the correct terminology from an early age. Don't shy away from technical terms and overly simplify language. For example, call an adjective an adjective, not a describing word. Explain that an adjective's role is to describe a noun. Use specific terminology such as spiracles (for insect air holes) and high quality descriptive language.

**Use authentic questions** – i.e. questions to which you don't know the answer. Simple examples of this can be

- What do you notice?
- What do you think?
- Does this remind you of anything?
- How could we do that?
- Have you any other ideas that you would like to share?
- How many sides do you think that a cube has?

Asking the children what they think about something has a great impact, firstly it shows that you are interested in what they think and secondly that you expect them to think for themselves. Asking challenging questions encourages curiosity and creative thinking. When we get things wrong or misunderstand something it provides a perfect learning opportunity.

Remember to use the skills of probing – why do you think that? Can you tell me more about...? What if?

## **Set tasks at the higher cognitive level**

Do not underestimate what children can do!

Expect children to work at the analysing, evaluating, creating levels as soon as they have understood a concept. Enrich, expand and extend their thinking rather than repeating it.

For example, if your child has grasped the understanding of how to multiply numbers together, give them an answer and challenge them to find as many pairs of numbers that multiply together to make that answer. If your child has learnt their spellings then encourage them to use a thesaurus to find alternative words with same/similar meanings and challenge them to learn those too. Could they then use them in their writing? Accept that sometimes your children may know more than you! Knowing the solution is not a prerequisite for beginning an exploration. It is great to take a shared role with them in exploring and finding solutions. You are automatically “taking the lid off” your expectations of the children and allowing them to show you what they can do. Work sheets tend to require the lower thinking skills, which is why we want to steer away from them.

At the end of an activity, focus on the skills of analysing and evaluating. For example – which method do you think is best and why? Which sentence do you think is better and why? Comparison questions that require reasoning are very good for stimulating the use of higher order thinking.

### **How you can support your child:**

Encourage your child to read & make sure they have access to good quality fiction.

Even if they are fluent readers, read to them and with them.

Talk to your child, individually for at least 10 minutes every day and encourage discussion from an early age.

Find time to play with them. Puzzles, crosswords, word games, card games and board games can all help to develop thinking skills and will develop your child's social interaction skills.

Look out for, encourage and support, personal interests. Encourage your child to learn about and participate in a wide variety of things-art, nature, sports, music as well as literacy, maths and science.

Give them as broad a range of experiences as you can. There are many museums and places of interest around our local area and in London. Make time to take your child to visit them.

Actively encourage your child to participate in after school clubs and activities.

Ask authentic questions - i.e. questions you don't know the answers to. Children will sometimes ask questions you can't answer. Don't be afraid to admit that you don't know, and try to find the answers together.

Make sure your child has the space and time to simply 'play'.

Turn failure and mistakes into a positive experience. We all learn from our mistakes and children must not be afraid to fail.

Set time aside each day to talk with your child

Encourage them to sample new activities

Use the environment to provide a broad range of experiences, eg visits to museums

Provide resources to support learning at home - Internet, books, maps, visual stimuli

Encourage time spent with friends with similar interests

### **A few examples of museums, galleries and places to visit in London:**

Tate Britain

Science Museum

Tate Modern

National Maritime Museum

Royal Observatory

Natural History Museum

Cuming Museum

Imperial War Museum

Brunel Museum

British Museum

Museum of Childhood

Museum of London

Royal Air Force Museum

V & A Museum

Sir John Soanes Museum

Horniman Museum

Pumphouse Museum

National Gallery

### **How you can support your child with reading:**

Reading is a vital part of a child's development. It helps to develop language and stretches the imagination. It should always be a pleasurable experience. There is a wealth of excellent children's literature available, to cater for all ages and tastes, so make the most of it. Make visits to the local library a regular part of your routine and buy books as presents. Remember that charity shops, jumble sales and school fairs are a good source of children's books often at very little cost.

- Guide your child's choice of books, but don't force it. If their choice is too easy, encourage them to read it aloud, perhaps to younger siblings or other family members. If it is too difficult, read sections for them, perhaps alternating sentences or paragraphs.
- Your child may want to re-read favourites. If they do, encourage rather than discourage this.
- Remember that reading aloud builds fluency and confidence. Just part of a story will be sufficient.
- Be a good listener when your child reads. Make comments on the story to show that you are listening.
- If your child encounters a word that they don't understand, simply tell them its meaning. Stopping to look up words in a dictionary interrupts the thread and will spoil the enjoyment. You can revisit a word at a later stage.
- Don't ask *too* many questions as this also interrupts the flow, but do ask authentic questions that require thought rather than 'yes' or 'no' answers. For example, 'What would have happened if...?' 'What do you think might happen next?' 'Why do you think...?'
- Praise your child when they read quietly to themselves for a sustained period, or for reading to you.
- Remember to praise improvement as well as good performance.

### **Useful websites:**

[www.oxfordowl.co.uk](http://www.oxfordowl.co.uk)

[www.topmarks.co.uk/english-games/7-11-years/punctuation](http://www.topmarks.co.uk/english-games/7-11-years/punctuation)

[www.bbc.co.uk/bitesize/ks2/english/](http://www.bbc.co.uk/bitesize/ks2/english/)

[www.funenglishgames.com/games.html](http://www.funenglishgames.com/games.html)

[www.nasa.gov/audience/forkids/kidsclub/flash/index.html](http://www.nasa.gov/audience/forkids/kidsclub/flash/index.html)

[www.kids.nationalgeographic.com](http://www.kids.nationalgeographic.com)

[www.tryscience.org](http://www.tryscience.org)

[www.funbrain.com](http://www.funbrain.com)

[www.show.me.uk](http://www.show.me.uk)

[www.nrich.maths.org](http://www.nrich.maths.org)

[www.woodlands-junior.kent.sch.uk/Games/Index.html](http://www.woodlands-junior.kent.sch.uk/Games/Index.html)

[www.brainboxx.co.uk](http://www.brainboxx.co.uk)

[www.boffinsquad.co.uk](http://www.boffinsquad.co.uk)

[www.sparkisland.com](http://www.sparkisland.com)

[www.nagcbrtain.org.uk](http://www.nagcbrtain.org.uk)

[www.globalgang.org.uk](http://www.globalgang.org.uk)

[www.howstuffworks.com](http://www.howstuffworks.com)