

Teaching Inference

Key Stage 1: 1d) Make inferences from the text.

Key Stage 1: 2d) Explain and justify inferences with evidence from the text.

The verb *infer* is the root word of the noun *inference* and is defined as *being able to reach an opinion or decide that something is true on the basis of information that is available.*

Oxford Dictionary, 2019.

When people talk about 'inference' they often refer to the expression 'reading between the lines', but what does this actually mean? Anne Kispal says that it suggests that when authors write, they do not describe every detail of events, characters' feelings or their motives. There are often 'gaps' in the narrative, requiring the reader to comprehend or 'work out' the implication, instead of being provided with every specific detail. It is this technique which makes their writing interesting, requiring the reader to use their imagination and therefore raising the level of enjoyment. An author will expect the reader to use information from the text to arrive at other implied information or conclusions.

We all use inference daily in many different scenarios, often determining a person's mood or emotions based on their posture or facial expression. We can also make inferences on their preferences by the clothes they wear, food they eat and music they listen to. Inference is an essential skill to help us understand the world in which we live and we all have an innate ability to infer. However, inferences can be simple or complex and it is therefore important to teach and explicitly demonstrate this to children. We often need a good vocabulary and background subject knowledge to be able to make plausible inferences from a text.

Within KS1, children must be able to *make inferences on the basis of what is being said and done.*

Within KS2, children must be able to *draw inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence.*

National Curriculum, 2014

Inference skills can be practised across the curriculum. For example, in PSHE children can study picture books to identify how someone may be feeling and why. When reading historical accounts of events, inference can be used to discuss motives and behaviours. Inferences can also be made in Geography as to why land has changed over time through map work. As good readers, we make inferences all the time - inference being fundamental to understanding the true meaning of a text.

The Skill

Professor Daniel Willingham, the American cognitive psychologist, explains that inference is not really a skill that we can practise and get better at in the way that we can practise decoding. He suggests that learning how to infer is more of a trick than it is a skill. The 'trick' of knowing how to infer requires the ability to do or possess three things:

- To be aware of whether or not you are understanding what you read.
- To connect ideas together.
- To have a wide vocabulary and general knowledge.

Clare Sealy builds upon this and says that, for effective inference making, the comprehension must be both integrative (being able to integrate information present in the text to make connections within it) and constructive (incorporating general knowledge from outside the text to fill in missing details and understand it as a whole).

It is clear that making inferences can be split into a number of different categories. However, there are two commonly used categories that most researchers agree with:

1. **Coherence inferences:** Necessary for basic comprehension, these types of inferences can be created from an understanding of the text's cohesive devices, such as pronouns or from making very simple links to background knowledge of the text. Coherence inferences are the inference skill that we use most when reading.

For example:

'Katie begged her mum to take her to the park.'

In this sentence, the reader needs to understand that the pronoun 'her' is referring to Katie (use of cohesive devices) and that Katie wants to go to the park to play. These two pieces of information are essential to be able to construct meaning. There is very little background knowledge needed here to understand what is happening, how Katie feels or what she wants.

2. **Elaborative inferences:** these types of inferences are not necessary to basic comprehension; however, they give us more information and make a text more interesting by enhancing or intensifying details. For example, an elaborative inference may be about the consequences of an action, a prediction or speculation. Elaborative inferences depend on background knowledge and therefore are often more challenging than coherence inferences.

For example:

'Kevin sat in the dentist's chair. He heard a drilling noise coming from behind him. He began to sweat.'

These brief sentences require the reader to draw upon personal life experience of a visit to the dentist to have work done requiring the use of a drill, or they need to make connections to general knowledge or pre-formed opinions of dentists. It is necessary to know that a visit to the dentist is often perceived as an unpleasant experience, involving treatment that can be quite uncomfortable and painful. The text omits these key details and, by doing so, stimulates the reader's imagination and enhances the mental image created.

Bowyer-Crane and Snowling (2005) also refer to the importance of children having strong background knowledge to make elaborative inferences, stating that children's ability to comprehend the meaning of a text or read it legibly will be affected if their general knowledge cannot assist them in reaching a conclusion.

Clare Sealy talks further about the importance of background knowledge in the making of inferences. She says that, although some children might have opportunities at home to build their world-knowledge, a number of children are not presented with these experiences. Therefore we as teachers must provide them with a broad curriculum, enriching experiences and opportunities to enhance their cultural capital to enable them to build their knowledge in the school environment.

It is important to note that a better understanding of the world will help children to improve their reading comprehension, as they will be able to 'fill the gaps' in texts and interpret meaning through making connections.

The extract below is an example of how knowledge of WW2 (KS2 history) can support inferences:

Letters from a Lighthouse (Emma Carroll)

*We were halfway through the news when the **air raid started**. It was a Friday in January: we were at the Picture Palace for the 6 p.m. showing of *The Mark of Zorro*. All month the **Luftwaffe** had been attacking us, **their bombs falling on London** like pennies from a jar, so the fact they couldn't hold off for just a few measly hours made me hate the Germans that little bit more.*

Question: When is this story set?

Answer: The Luftwaffe was the German Air Force which carried out air raids on London during a large part of World War Two. World War 2 started in 1939 and ended in 1945, and therefore this story must be set in this period.

In addition to general knowledge, children will also need to have a strong vocabulary to comprehend and infer meaning within texts. A limited vocabulary will affect their understanding and therefore it is essential that other reading skills are also utilised when inferring. Defining skills may be needed when children are exposed to unfamiliar vocabulary and if recall is an issue, then annotating paragraphs with summaries to aid memory may be required.



For inferential skills to be truly mastered, an initial understanding of the text should be the first priority, including the vocabulary required to achieve simple meaning. Only then can inference be the focus.

Inferences can be made with regard to:

- Feelings.
- Motives.
- Behaviours/actions (how, when, where, why).
- Relationships.
- Impression of personality (based on appearance, dialogue, movement, description).
- Impression of an object/place/atmosphere.
- The state of things.
- Opinions.
- Reactions.
- Predictions.
- Events – what does or doesn't happen (how, when, where, why, who).
- Morals/ messages.
- Vocabulary used/grammar and punctuation (authorial intent).
- Time/era story is set.

Inference needs to be carefully modelled by a teacher using strategies children can apply themselves. Children need opportunities to practise and discuss their thoughts.

Strategies

There are a number of strategies that can be used to support children drawing inferences from texts. Each skill will need modelling clearly in a range of situations. Children should also be given the opportunity to practise and apply their skills through a range of contexts across the curriculum. The concept of inference should be introduced to children as looking for clues and creating a hypothesis from the evidence that they find – essentially, that they are being detectives.

1. Asking why? Training pupils to ask themselves 'why questions' during reading will help to support their understanding. Marzano (2010) suggested that teachers could support inference-making by suggesting pupils ask themselves four questions whilst reading:

- What is my inference?
- What did I use to make my inference?
- How good was my thinking?
- Do I need to change my thinking?

These questions could be used in conjunction with the 'think aloud' strategy below.

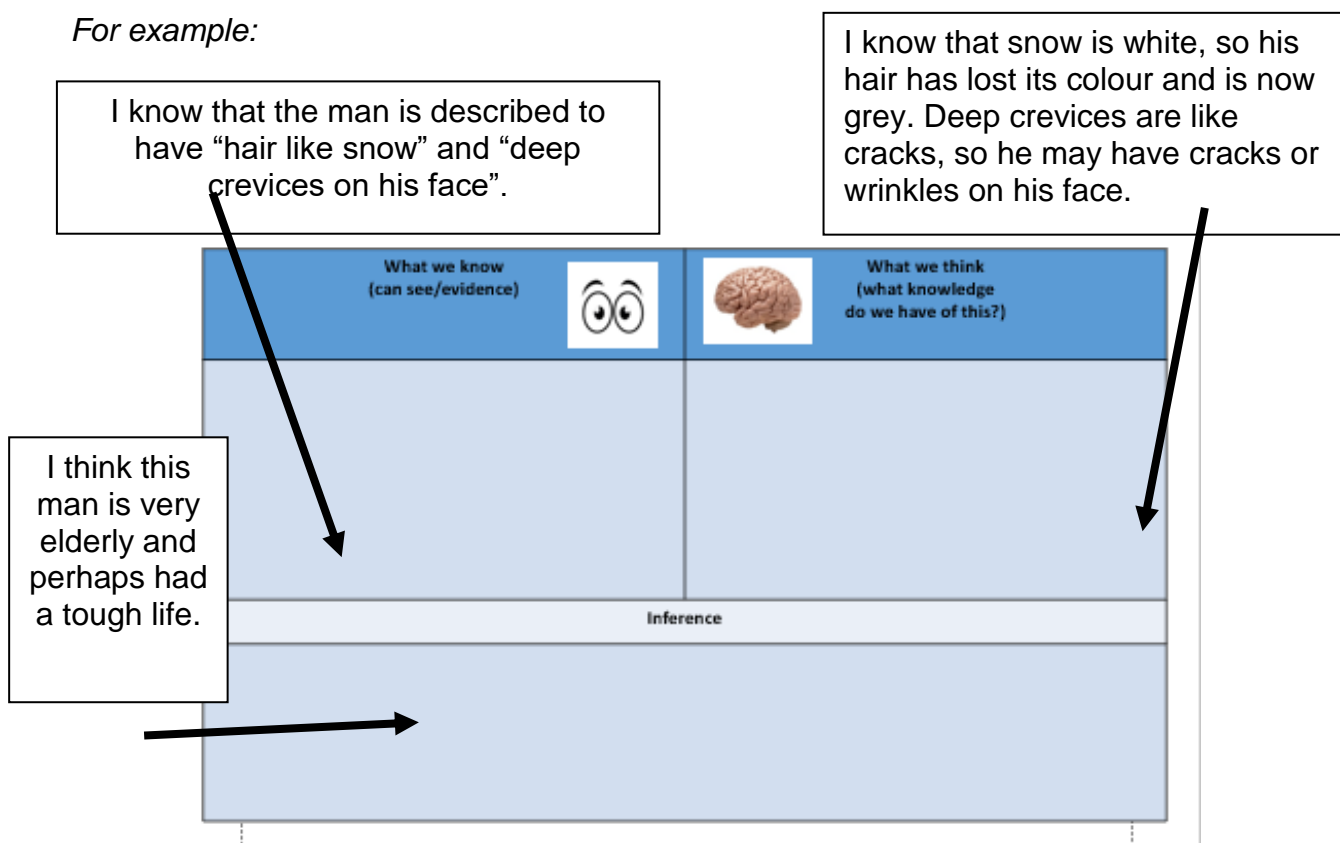
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2. Teacher modelling of inferencing. As reading comes naturally to most adults, we do not stop and ask questions, instead we do this subconsciously to assist in forming a conclusion based on evidence. When teaching children how to comprehend what they are reading, we must slow down our thought processes, verbalising them to demonstrate the steps we are taking in our heads in order to reach conclusions.

Teachers can use ‘thinking aloud’ to express their thoughts as they read to pupils, (e.g. I think the story is set in woodlands because the author uses the words ‘briars’ and ‘ferns’.).

They may ask themselves questions to show how they monitor their own understanding, such as ‘what I know from this text’ and ‘what I think’. Using a graphic organiser like below helps to record your thoughts.

For example:



- They may also refine or reject inferences explaining “what I thought.. because...but...so” (e.g. I thought that he was going to steal the prize because the text says “Tom stared at the trophy with envy”, but then the text also says that Tom is a respectful and sweet young boy, so this makes me think he wouldn’t steal.) We can ask ourselves, do we agree with the inference being made?

- 3. Objects and visual representations:** Children at almost any age can make inferences and, using images, this can be the case for children who are not yet decoding. Images, however, should not be limited to EYFS as they are helpful for practising inference skills in KS1, KS2 and higher. One benefit of using objects or images is the removal of potential barriers such as decoding issues or reading speed and fluency, which might disrupt the ability to make inferences as the brain is focused solely on reading words. Again, using ‘think aloud’ strategies can be used to guide pupils’ thinking, particularly for reluctant readers, through discussing and annotating pictures. Inference using pictures teaches students to make connections between what they’re seeing and the knowledge they already have on the subject.
- 4. Using real-life scenarios:** Making inferences about situations or people is something we do every day. However, children do not necessarily connect the inferences they make about people with inferences in reading - they see them as separate skills. A useful strategy is to use models such as the ‘think aloud’ to explore day to day scenarios, using clues to make inferences about people’s preferences, locations or relationships. For instance, you could listen to a conversation between two people – what inferences can we make about them and their relationship? Or watch a short film clip and ask questions about relationships between the characters, their goals and motivations.
- 5. Graphic Organisers:** Graphic organisers can help children to think carefully and structure their inferences. These techniques are especially helpful when children are asked to provide evidence for or an explanation of their inferences. It is important to explicitly model the thinking process behind and completion of these strategies. Examples of useful graphic organisers include:


 - a. T-charts
 - b. I can see...I know...I think or I observe... I wonder... I infer

Skills ladders

When working with children to draw inferences from the text, it is good practice to do this orally as well as in writing. To help them structure their thought processes, use the skill ladders for KS1 and KS2 to support children to use their inference knowledge when discussing texts.

Key Stage 1


Identify the things you are looking for: Key concept or question words.
Scan the text to find the part the concept relates to.
Re-read that section of text.
Think about what you know from the text.
Think about what you think because of that part of the text.
Make your inference.
Check your choice makes sense.

<h1>Infer</h1>	
	1d Make inferences from the text

Infer

Key Stage 2

Identify the things you are looking for: <ul style="list-style-type: none">• Key words• Key concept Question words
Think of possible synonyms the text may use instead.
Skim the text to find the part the concept relates to.
Re-read that section of text.
Think about what you know from the text.
Think about what you think because of that part of the text and (if relevant) your background knowledge.
Make your inference.
Check your choice makes sense.
If needed, justify your inference with evidence from the text.

<h1>Infer</h1>	
	2d Make inferences from the text/Explain and justify inferences with evidence from the text

Activities:

The following activities will support children to embed how to make inferences from relevant information.

General activities:

- Listen or read a conversation between two characters – can children infer their relationship?
- Use riddles.
- Adding thought or speech bubbles for characters.
- Use two-minute mysteries and six-word stories.
- Use videos.
- Heads up – feelings.
- Wordles to describe character impressions.
- Mystery objects.
- Me tubs.
- Two minute stories.
- Where am I and what am I doing? E.g. I hear screaming. My stomach feels funny. Can you see my hair blowing? I'm feeling excited!
- Illustrate moments.
- Inferences from adverts or short film clips.
- Inferences from poems or song lyrics – messages behind them.
- What do I know for certain? vs. What can I infer?
- Use pictures to model – Once Upon A Picture inference collection.
- Video and short film, music video e.g. Titanium, The Lighthouse.
- Short extracts/sentences.
- Card sort – e.g. sort characters into 'good' or 'bad'.
- True/false/maybe.
- Role on the wall.
- Drama - hot-seating, conscience alley, thought tracking.
- Courtroom – where's your evidence?
- Drawing pictures – inferences in thought bubbles.
- Character self-portraits/profiles – writing in role.
- Maps – who lives here etc.
- Short mystery stories.

Infer

Using objects and people to make inferences:

- Items of clothing to match character.
- Receipts – which character bought what?
- Who ordered what meal?
- Which holiday would best suit the character?
- Crime scene, being a detective and looking for clues .
- Diary entries- which one belongs to which character?
- Bio on social media, who belongs to who?
- Statuses on social media – match to the character.
- Text messages – which character will have sent which? What is their relationship?

Skill: Asking ‘Why’ questions

- Children can use ‘why questions’ when reading or looking at pictures to monitor their inference. How good is their inference? What evidence backs it up?

<https://www.onceuponapicture.co.uk/the-collections/the-inference-collection/>



Skill: Objects and visual representations

- **Thought clouds and speech bubbles:** Where images include characters, teachers can also model inference by creating thought clouds or speech bubbles based on an impression of the character provided by the picture.

One shall remind the people that this is one's hall and that I decide the happenings in the grounds.



Why should I sit here and listen to him, I know just as much as Mr Toad, but I'm just not as loud or intruding!

- **Objects:** Children could assign objects to characters from a text, e.g. if reading a fairy-tale you could investigate who a bowl of porridge is most likely to belong to.



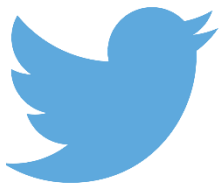
@primaryteachew
– Inference lesson to match shoes up with character description/motive.

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Which of the following objects belong to which character and why?



- **Character tweets:** Children can look at characters' tweets, blogs, diaries to infer who wrote them.

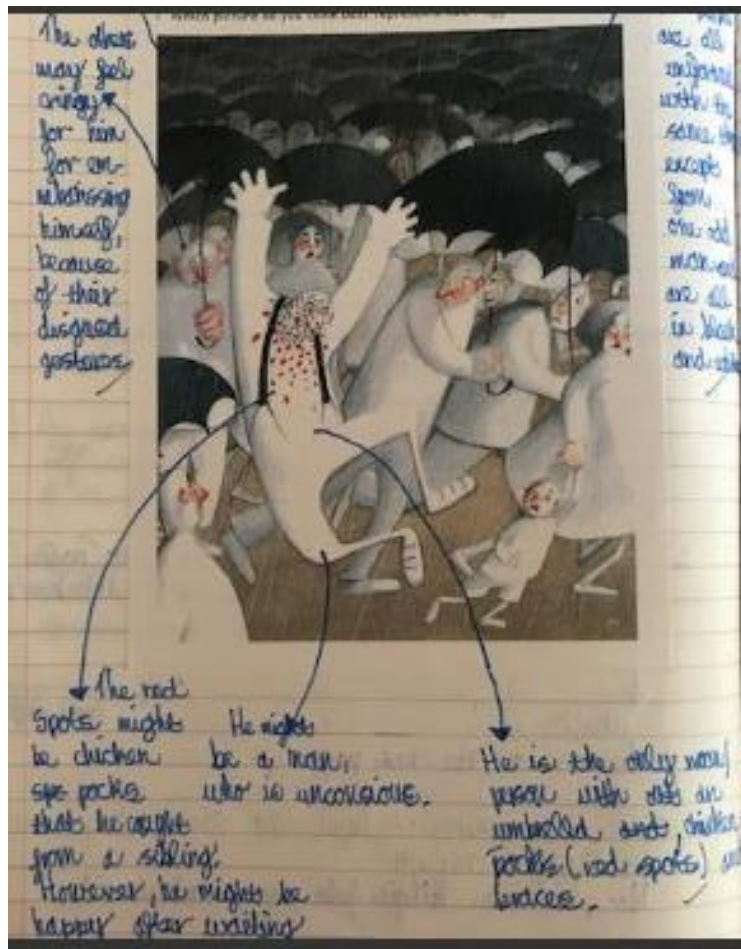


I'm missing my friends at the moment. They are the only ones who really understand me. My true friends. I feel so alone... why do I always have to be the brave one?

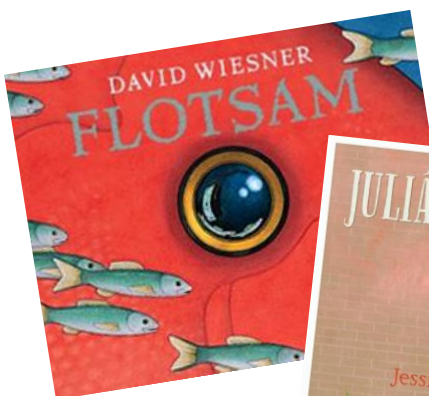


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- **Annotate:** Another idea could be for pupils to annotate their images with inferences made and justify their conclusions.



- **Picture books:** Alternatively, use wordless books or picture books to enable discussion and draw inferences based on what evidence they can see.



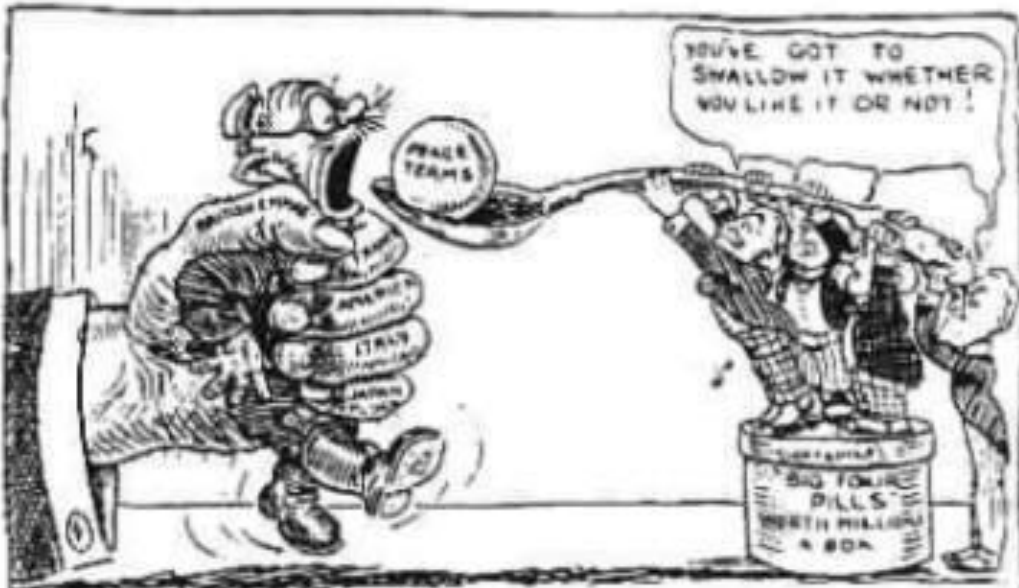
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- **Disney shorts and adverts:** Short clips, often without dialogue are great for exploring inference of characters' thoughts, actions, feelings and motives.



- **Using art or historical photographs:** Children can practise inference across the curriculum within big topics such as exploring 'The Last Supper' and Rosa Parks' arrest. They can annotate inferences, look at what they know and think and use speech bubbles to show characters' thoughts and feelings.



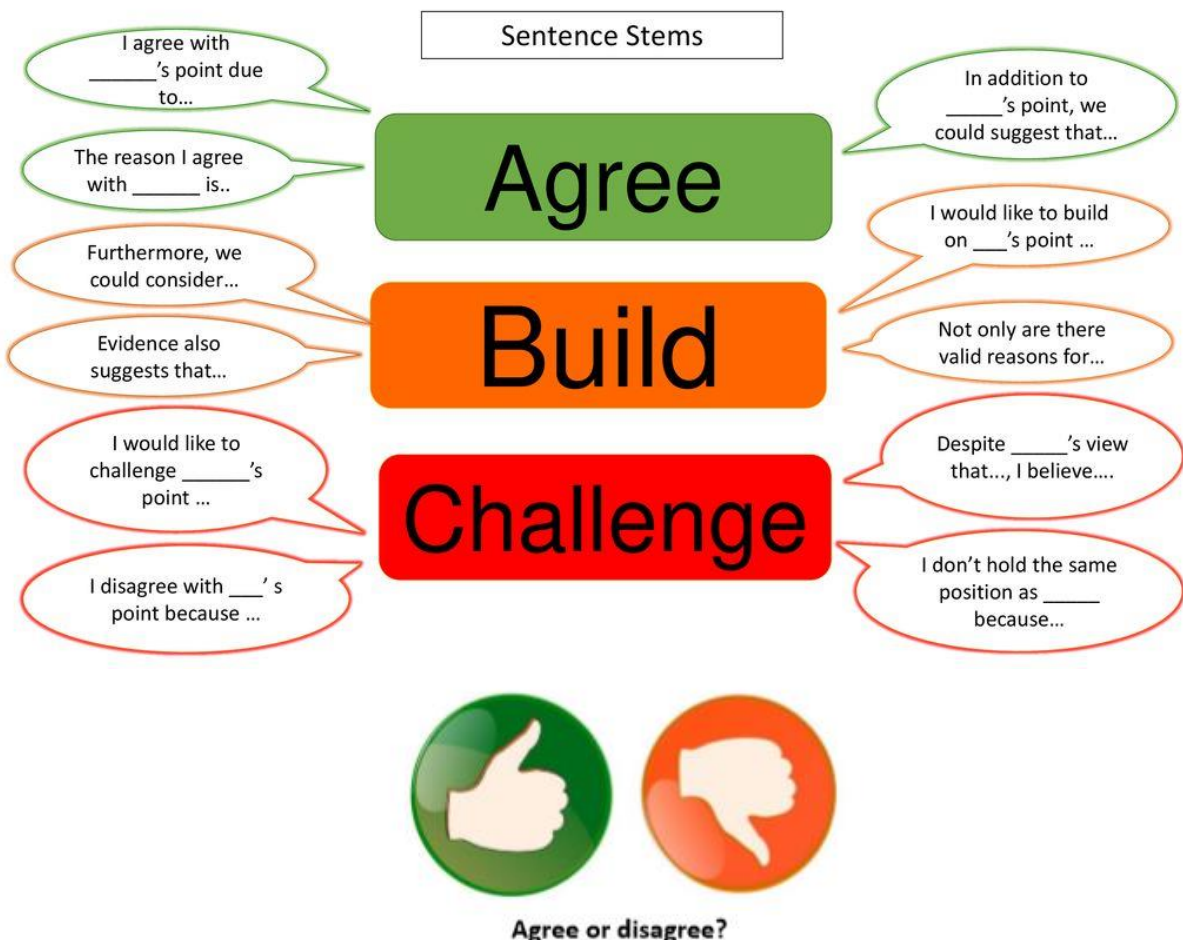
WW2 newspaper cartoons

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Skill: Rejecting and adapting inferences.

- **Agree, Build Upon, Challenge:** Children can deepen their inference skills within a class discussion. Using 'ABC' provides a structure to discuss opinions and challenge each other's answers respectfully.



Skill: Using real-life scenarios

- **Relationships:** Children could look at pictures or dialogue from a text to make inferences about their relationship. They could also watch interviews, or small videos also.

Ron struggled for a moment before managing to extract his wand from his pocket.

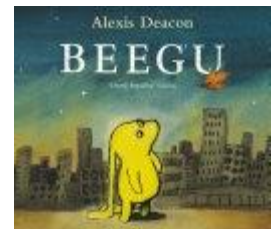
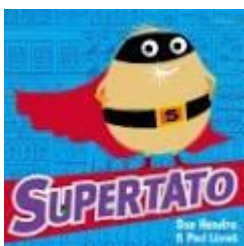
"It's no wonder I can't get it out, Hermione, you packed my old jeans, they're tight."

"Oh, I'm so sorry," hissed Hermione, and as she dragged the waitress out of sight of the windows, Harry heard her mutter a suggestion as to where Ron could stick his wand instead.

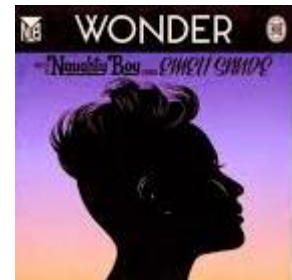
- **Setting up a scene:** Leave clues around that relate to characters from a book, can they work out what has happened, or who committed the crime using inference skills.



@Miss_Murphy_123



- **Song lyrics and poetry:** Children can explore messages and imagery within poetry using inference skills.



Skill: Graphic organisers

- Children can record observations, questions, thoughts and information they retrieve. Organisers support any year group to record their thoughts and build inferences.

I observe (What can I see)	I wonder	I infer

Luke Richardson, 2017 - Improving Children's Inference Skills with Pictures

32 What impressions do you get of Piper's house?

Give **two** impressions, using evidence from the text to support your answer.

Impression	Evidence

KS2 Reading SATs 2019

Name _____ Date _____

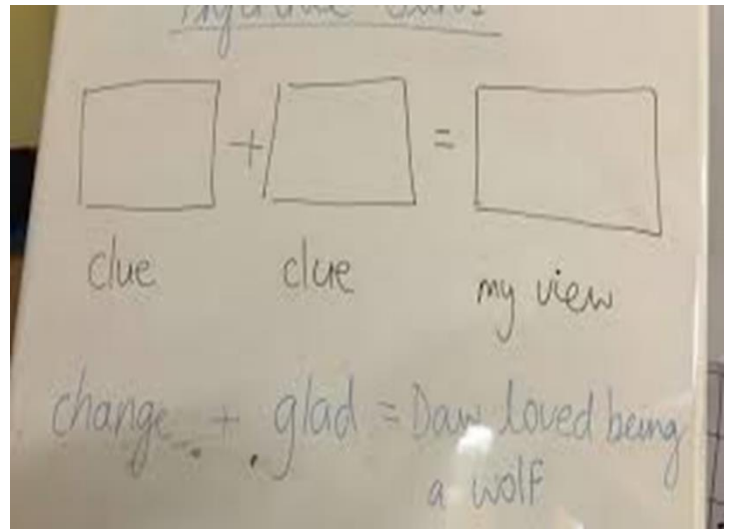
Making Inferences: Reading between the Lines

Directions: Read the text to make an inference based on the information provided and what you already know. Remember, you want to reveal what the author isn't telling the reader directly.

What I know from **the text**:

What I know from **my brain**:

My Inference



Question	It Says...	I Say...	And So...
Step 1... Write the question (created or provided)	Step 2... Find information from the text that will help answer the question.	Step 3... Think about what you know about that information.	Step 4... Combine what the text says with what you know to come up with the answer.

Questioning

It is important for teachers to read extracts of any texts prior to the lesson to identify where inferences can be made or drawn upon. Whilst children are reading, they should not be interrupted by questioning, or introduced to questioning immediately afterwards. They need a short amount of time to digest what they have read and discuss any vocabulary they are unsure of.

For inferencing to be successful it is important to choose texts that are pitched correctly and provide plenty of opportunities for inference.

Questions on inference would normally include words or phrases such as:

- Why...? / How...? / Which...?
- Explain why...
- Give two reasons...
- Give an impression...

Children need to learn what the meaning of the question words such as ‘who’ , ‘when’ and ‘why’ so that they can understand the question and identify the correct part of the text or image to answer appropriately.

Other questions to discuss might be, for example, ‘what impression do you get...’, children must understand that, in this context, ‘impression’ refers to a character’s personality based on their appearance, their actions or motives. It can also be referring to an object that creates an image in the mind or an opinion of something based on how it looks or how it is described.

Graphic response formats:

The skill of inference is also assessed through a number of question types which may require additional teacher modelling, such as ‘true or false’ questions, or ‘impressions and evidence’ questions (KS2 only).

40 Edward found a game. How can you tell that there was something strange about the game?

Explain **two** ways, using evidence from the text to support your answer.

1. _____

2. _____

3 mar

32 What impressions do you get of Piper’s house?

Give **two** impressions, using evidence from the text to support your answer.

Impression	Evidence

The quality of answers expected:

Questions should be very clear and require an answer that can be justified by written evidence within the text or visual evidence in an image. Most questions that assess this skill require an explanation or justification of the readers' opinion. The reader is often expected to use direct evidence to validate their answer.

Usually, inference questions will be extended. This should be explained to children and how to achieve a full response.

One way to ensure a full response within an inference question is to use the phrase 'PEPE' (Point, Explain, Point, Explain).

For example:

Question: How do you know Timothy is angry?

Answer:

Point	Explain
"He stormed into the classroom slamming the door behind him"	This tells us that he is angry because he is acting violently towards the door and 'storming in' suggests he is walking quickly and aggressively.
"He threw his books across the floor"	This suggests that he is not in the mood to do work and that he is taking his emotions out on his books in an aggressive way.