Game Theory for Elementary School

BRAVE games, including JAMs, are a Game Theory application called "repeated games" that explore the role trust plays in conflict and cooperation.

JAMs use human connection to spark skilled reading so players can layer viewpoints, detect bias, diagnose and transform working dilemmas. Groups of 4 can use these 30-minute activities as prequels or sequels to BRAVE board game learning, or as stand-alone fun.

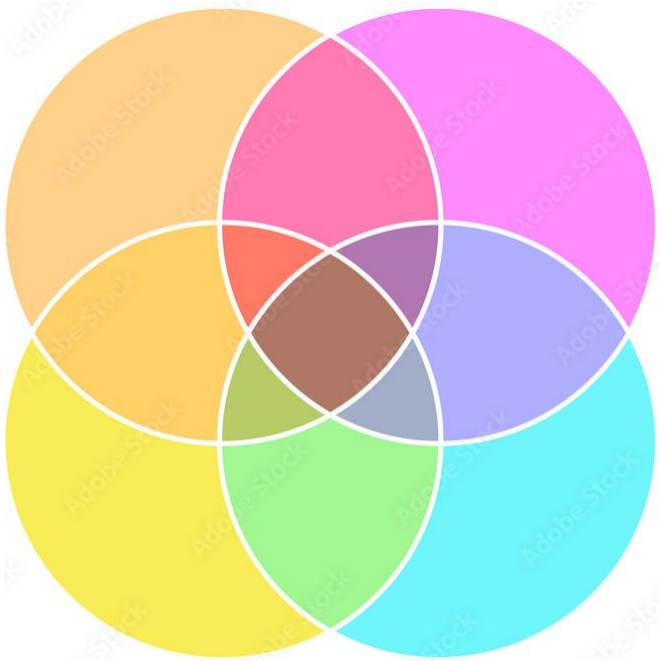
Each booklet in this series presents a unique schema designed to help students frame and organize content. Explore one schema, or try them all:

Game Theory
context
perspective
change
conflict
rights
cooperation
connection
trust
creativity

Taken together, tools needed to navigate any social studies class with discerning minds.

BRAVE COURSE
Gamifying U.S. History

Perspective



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For parents & teachers: Welcome!

BRAVE games, including JAMs, are consistent with Science of Reading instructional guidelines. Tightly-scoped, this inquiry-led method puts knowledge in the foreground to cut across a range of K4-5 standards, meeting all learners where they are to get everyone in the game!

We take learning seriously. *And for fun.*

JAMs break from typical programming insofar as they're consistent with cognitive science. First, human connection sparks intrinsic motivation, incentivizing skilled reading. The beauty of this method is that players *want* to grapple with embedded vocabulary, engage in healthy discussion, and solve group problems. It's fun. This means students embrace the thrill of collaborating, reasoning with facts, sequencing, and testing truths.

Writing extensions provide explicit instructions to support students as they process, integrate, and store new knowledge. This last step is key because, according to Cognitive Load Theory, it effectively clears one's working memory, laying a foundation of knowledge to excel in equivalent classes at higher grades.

Messy? R&D revealed students thrive with this inquiry-led approach because it's intriguing. At that rate, they're positioned to soar beyond our wildest dreams.

VOCABULARY

algorithm formula, method, equation, procedure

angle (geometry) space within two lines or three or more planes diverging from a common point; (noun) one aspect of an event, problem, subject; (verb) to write or edit so as to appeal to a particular audience

Artificial Intelligence branch of computer science involved with designing computers, robots, and software applications having the capacity to imitate human intelligence, AI

authentic having an origin supported by unquestionable evidence

discern to perceive by the sight or some other sense or by the intellect; see, recognize, or apprehend

innovation something new or different; novel

perspective seeing all relevant data in relationship

sentient having powers of perception by senses; conscious

slop tasteless leftover mash, remaining refuse from household; grain and water mix to feed stock animals

timeline a linear representation of important events in the order in which they occurred

viewpoint position of observation

4. SUMMARY

Context is a set of facts attributed to one or more viewpoints. Those who choose to honor others' viewpoints, even if they don't reflect their own position, are wise because the process of listening and learning about others' experiences doesn't change someone's reality. Instead, understanding **perspective**, or seeing all relevant data in relationship, offers clarity.

This implies all humans have valuable information stemming from their life experience, encompassing both emotions and facts. The catch? Humans are responsible for discerning information, for example, by gathering context in addition to perspective; identifying bias as related to, but different from facts; assessing how all data sets affect them and others. Taken together, human intelligence ensures we're poised to shape our reality.

Danger arises when humans put complete trust in Artificial Intelligence. AI is helpful up to a point since it only provides context based on data programmers fed it. Moreover, AI doesn't have the courage, authenticity or wherewithal to create novel solutions to existing dilemmas. AI might be able to complete endless tasks; still, humans must be prepared to initiate novel ideas, leading and shaping progress.

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What are you waiting for?! Dig in!

Perspective. It depends.

1. WHAT'S YOUR ANGLE?

JAM 2 explained how context provides the backstory, facts surrounding events that answer questions such as WHO? WHAT? WHERE? WHEN? Plus, if we answer the same questions from **multiple viewpoints**, the position of observation, we're apt to collect even more data, creating more context! Factors that affect a person's viewpoint include nationality, language, religion, and traditions, including one's *adopted* nation.

Even a cyclops, especially a cyclops, knows context is essential for grounding us; giving us the lay of the land. For example, the view from a mountaintop is different compared to standing at the base, or flying in a plane overhead. Taken together, all information culminates in **perspective**, seeing all relevant data in relationship. Inputs might vary depending on objective measures such as weather, seasons, and distance, but also subjective inputs such as our gut response, feelings, and bias.

In the case of history, time affects our viewpoint, and therefore perspective. This is reader response, and if we use timelines to plot history, we're wise to note the **angle**, intersections of lines that connect data sets, or viewpoints. Thus, we are linked to history, but not responsible for its consequences. Still, as living proof of the past, we have the responsibility and privilege of shaping the future.

HUMAN INTELLIGENCE

GUIDING QUESTION CLASS DISCUSSION

1. **RE-TELL** Close your eyes and think about the first time you rode a bike. Sequence the 1) emotions, 2) thoughts, and 3) actions surrounding this event. How did you feel afterward? Could a computer replicate those feelings for itself? Explain.

2. **REVIEW** Does courage ever feel terrifying? Does courage ever feel fantastic? Does engaging with technology provide the same level of exhilaration as working up the courage to accomplish a difficult goal?

3. **REASON** Explain why "learning how to ride a bike" is an apt metaphor for learning how to participate in your life, versus believing AI could write our future. Use perspective to explain the link between courage, authenticity and innovation.

3. HUMAN INTELLIGENCE 

Learning how to ride a bike is intense! First, it's wobbly. And a shakey bike makes it difficult to believe putting more energy into an already unstable situation would allow anyone to strike a balance. In reality, a novice has to ignore the bike's feedback and keep pedaling, tempting a worse fate! Indeed one's spirit must summon the courage needed to trust that balancing a bike was worth the risk of crashing it.

Similiarly, imagine what the Framers were thinking when they wrote, "...in order to create a more perfect union." It's important to know that when the Framers wrote those words, their situation was very unstable insofar that their actions were treasonous against Great Britain. Also, consider how wonky that phrase sounds, except it was on purpose! Meaning the Framers were trusting and imploring us to have courage and keep pedaling! That if we committed to improving ourselves day by day, into infinity, we could find a way to sustain our extraordinary nation. Though never perfect, our efforts would be filled with enough daring and courage to strike a balance.

If the Framers trusted us, strangers from every corner of the Earth, to sustain their dream for a democratic republic, can we trust AI to propel and balance their innovation?

WHAT'S YOUR ANGLE?

GUIDING QUESTIONS CLASS DISCUSSION

1. **RE-TELL** What is a viewpoint? What is perspective? How are these two concepts different? How do viewpoints increase perspective?

2. **REVIEW** How does reader response create another viewpoint? How does this create an angle?

3. **REASON** If we're connected to our ancestors through our DNA, yet disconnected by time (all human DNA, regardless of race, is 99.9% similar), what can you infer about our descendants' opinions about the world we've built?

2. AI's MISSING LINK? SENTIENT EXPERIENCE ❤

We build context by gathering evidence from multiple viewpoints. Plus, our experiences add to our perspective, meaning as we explore all relevant data in relationship, we are obligated to examine how we relate to the data, being careful to separate emotions from cognition to gauge our bias, as well as others'. This is human intelligence. What, then, could possibly prevent us from revealing the truth?

If you're looking for more answers, you could ask **Artificial Intelligence (AI).** Computers can count, report, organize, cross-reference, and analyzes facts—delivering thousands of years of context in a few seconds. Plus, AI can imitate human intelligence through software applications by drafting essays, building recipes, identifying people or birds, and creating complex plans. *Why even go to school?*

School is important for at least two reasons, both having to do with innovation. FIRST, AI isn't **sentient,** it cannot **discern,** perceive by senses. This means it doesn't innovate, it merely *mimics* humans or predicts consequences. Yet our response to AI feeds its **algorithms**, procedures or steps. Meaning if more minds than not believe AI is **authentic,** having an origin of unquestionable evidence, we're left with weakened systems that exist to **innovate**, producing new or novel ideas. SECOND, since AI feeds on **slop**, a mashup of leftovers, it's only as reliable as the humans who program it.

AI's MISSING LINK? SENTIENT EXPERIENCE GUIDING QUESTIONS CLASS DISCUSSION

1. **RE-TELL** AI isn't sentient; it doesn't have feelings, or reader response. This means everything it produces lacks authenticity. Yet unsuspecting humans are at risk of engaging with AI as if it Why is this dangerous?

2. **REVIEW** If slop is a metaphor that we use to describe AI, explain how...slop is useful insofar as...slop is dangerous insofar as...

3. **REASON** Explore the advantage of eating slop versus preparing your dream dinner:
    a. Eating slop is handy because...
    b. however, eating slop could be dangerous because...
    c. Meanwhile, planning, shopping for ingredients and preparing a meal requires ...
    d. Taken together, I would prefer to ... because