

✦ The Research Behind

Spark Curiosity Micro-Inquiry Tasks

Why inviting students into learning before delivering content is backed by science.

Spark Curiosity Micro-Inquiry Tasks were designed from a simple belief:

Students engage more deeply when they are invited into learning not delivered into it.

While this approach was developed through classroom experience, it is strongly aligned with research across learning science, motivation theory, and culturally responsive teaching. The six pillars below represent the foundation that makes Micro-Inquiry Tasks more than a strategy — they are a research-backed instructional commitment.

The Six Research Pillars

01 🤝

Belonging Fuels Engagement

Students are more likely to participate and persist when they feel seen, valued, and included. A strong sense of belonging directly impacts motivation and academic achievement.

Fong et al. (2024). Educational Psychology.

SPARK ALIGNMENT

- ✦ Every task invites all students to respond
- ✦ No single "right answer" lowers the risk of participation
- ✦ Students enter the learning space as contributors

02 💬

Learning is Social Before It Is Individual

Learning deepens through discussion, comparison of ideas, and shared meaning-making. Students learn more effectively when they actively engage and connect ideas collaboratively.

Ambrose et al., How Learning Works (2010). Jossey-Bass.

SPARK ALIGNMENT

- ✦ Tasks include brief think time followed by shared responses
- ✦ Follow-up questions prompt discussion, not just answers
- ✦ Students build understanding together before formal instruction

03 🔍

Curiosity Drives Cognitive Engagement

Curiosity increases attention, memory retention, and willingness to explore complex ideas. Learning is strongest when students are mentally active and engaged from the very start.

National Academies of Sciences, Engineering & Medicine (2018). How People Learn II.

SPARK ALIGNMENT

- ✦ Tasks begin with a surprising, intriguing, or relatable prompt
- ✦ Students think before being told — not the other way around
- ✦ Instruction follows curiosity, deepening its impact

04 🌍

Culturally Relevant Learning Expands Access

Students engage more deeply when learning connects to their identities, experiences, and perspectives. Multiple entry points honor diverse ways of knowing and being.

Ladson-Billings, G. (1994). Journal of Negro Education.

SPARK ALIGNMENT

- ✦ Open-ended prompts allow multiple valid interpretations
- ✦ Students can draw from personal experience and background
- ✦ There is intentional space for varied voices and perspectives

05 💛

Care is an Instructional Strategy

Classrooms built on relational trust and care create stronger conditions for learning. Care is central to effective teaching not separate from it.

Noddings, N. (2013). Caring: A Relational Approach to Ethics. UC Press.

SPARK ALIGNMENT

- ✦ Tasks are designed to include, not exclude
- ✦ Students are invited in without fear of being wrong
- ✦ The opening experience communicates: you belong here

06 🚀

The First Experience Shapes the Learning Environment

Early moments in a lesson influence participation, tone, and depth of engagement. Intentional openings foster trust, curiosity, and community throughout the lesson.

SPARK ALIGNMENT

- ✦ Micro-Inquiry Tasks are used before instruction begins
- ✦ They set expectations for thinking, discussion, and engagement
- ✦ They establish the classroom as an active, inquiry-driven space

Lemov, D. (2021). Teach Like a Champion 3.0. Jossey-Bass

✗ Spark Tasks Are NOT:

— *Icebreakers*
— *Bell Ringers*
— *Warm-Ups*

✦ They ARE:

Research-aligned instructional openings designed to activate thinking, build community, and prepare students for deeper learning.

References

Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). How learning works: Seven research-based principles for smart teaching. Jossey-Bass.

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Ready to see Spark Tasks in action? Visit ai.sparkcuriosityedu.com to explore the AI Coach Platform.