**Overview**

Students answer questions online before class, promoting preparation for class and encouraging them to come to class with a "need to know."

**Type of Method**

Instructional strategy

**Level**

- Designed for: Intro College Calculus-based 📘, Intro College Algebra-based 📘, Intro College Conceptual, Intermediate, Upper-level Undergraduate 📘
- Can be adapted for: Any

**Setting**

- Designed for: Lecture - Large (30+ students) 📘
- Can be adapted for: Lecture - Small (<30 students), Lab, Studio

**Coverage**

Few topics with great depth, Many topics with less depth

**Topics**

Mechanics, Electricity / Magnetism, Waves / Optics, Thermal / Statistical, Modern / Quantum, Mathematical, Astronomy, Other Science, Pedagogy

**Instructor Effort**

Medium, High

**Resource Needs**

Computers for students, Course management system or other way of collecting responses online

**Skills**

- Designed for: Conceptual understanding 📘, Making real-world connections, Using multiple representations, Study skills
- Can be adapted for: Metacognition

**Research Validation**

Based on research into: theories of how students learn 📘

Demonstrated to improve: conceptual understanding 📘, problem-solving skills 📘, beliefs and attitudes 📘, retention of students 📘, study skills 📘, classroom observations 📘

Studied using: student interviews 📘, classroom observations 📘

**Compatible Methods**

Peer Instruction, PhET, UW Tutorials, Ranking Tasks, ILDs, CGPS, Physlets, Context-Rich Problems, RealTime Physics, Workshop Physics, TIPERs, ABP Tutorials, SCALE-UP, Modeling, OSP, SDI Labs, OST Tutorials, ISLE, Thinking, Problems, Workbook for Introductory Physics, LA Program, PBI, PET, PSET, LEPS, CAE TPS, Lecture-Tutorials, Astro Ranking Tasks, MBL, New Model Course, CPU,
**Similar Method**
None

**Developer(s)**
G. Novak, A. Gavrin, E. Patterson, W. Christian

**Website**
http://jittdl.physics.iupui.edu/jitt/

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**Teaching materials**

The JiTT website has a large [collection of JiTT activities](http://jittdl.physics.iupui.edu/jitt/) for many topics in physics and for many other disciplines.