

In most academic, professional, vocational, and/or real-life learning situations, teaching and acquiring content (significant information about a subject or subtopic) is an important goal. Instead of relying on only lecture, study, and testing methodologies, try increasing participants' engagement or motivation by presenting and reinforcing subject matter through "competitive gaming"—perhaps on various kinds of QUIZ BOARDS.

Without detracting from the challenge of strategizing or the thrill of winning, these multi-purpose activities "deliver" maximal educational benefit. They really work!



➔ SPECIFIC TOPIC OF IDEA X: General science (*Tic-Tac-Toe* BOARDS and procedures)

➔ MATERIALS: For each pair or group of players, a set of 15 to 30 *Question Cards* with the corresponding *Answers* accessible; a selected GAME BOARD

1. What instrument uses light and lenses to magnify small objects up to 2500 times?
 a. a telescope
 b. a microscope
 c. an X-ray machine

2. What U.S. government agency was in charge of space exploration?
 a. NASA
 b. the IRS and INS
 c. HUD

3. What's a star pattern like the "Big Dipper" called?
 a. An astronaut
 b. A meteoroid
 c. A constellation

4. What happens during an eclipse of the sun?
 a. The moon moves in front of the sun.
 b. It rains or hails.
 c. The sun goes through the planet Earth.



ABOVE, LEFT: Sample *Item Cards* for a game of QUIZ-BOARD KNOWLEDGE on the subtopic of *Astronomy*. Answers—like 1. *b* 2. *a* 3. *c* 4. *a*— should be made available on *Card Backs* or in a numbered list. During a game, players compete in winning chances to make moves by answering questions correctly.

ABOVE, RIGHT: Even *Tic-Tac-Toe* BOARDS, which can be simply drawn on *paper*, are available in more permanent forms. Game markers like *Checkers* can be used on BOARDS made of durable material.

INSTRUCTIONS

1. Prepare sets of *Quiz-Item Cards* in advance. The items in each set can follow any appropriate format—*Yes/No*, *True/False*, *Multiple-Choice*, *Wh-*, *Short Answer*, *Essay*, and/or any two or more of these. Here are possibilities based on the **SPECIFIC TOPIC** of *Astronomy* introduced on the previous page:

YES or NO? Do scientists use *microscopes* to magnify small things in a laboratory? (ANSWER = Yes)

TRUE or FALSE: An *X-ray machine* uses light with lenses to enlarge very small things. (ANSWER = False.

CORRECTION = A *microscope* uses light with lenses to magnify very small things in a laboratory.)

MULTIPLE CHOICE: *What device* uses colored alcohol or mercury to measure temperature (amount of heat)?

a. a telescope b. a microscope c. an X-ray machine d. a thermometer (ANSWER = d)

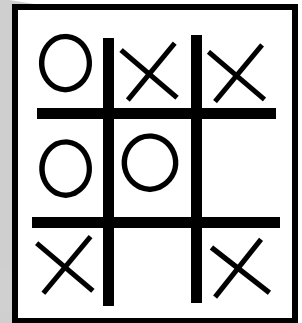
WH- or SHORT ANSWER: *What instrument* gathers light from faint distant objects and enlarges those objects for viewing by the human eye? (ANSWER = a telescope)

SHORT-ESSAY ANSWER: *What does an X-ray machine do?* (ANSWER = It “sees through” human tissue to bone.)

2. Exhibit the selected **GAME BOARD**, such as a hand-drawn or prepared *Tic-Tac-Toe Grid*.

Teaching Tips

Go over procedures and rules for competitive play on the chosen kind of **BOARD** before introducing the concept of *content through Quiz Items*. In *Tic-Tac-Toe*, for instance, two individuals or teams try to “occupy” three consecutive boxes in a row, column, or line by drawing symbols (*X*'s vs. *O*'s) or by placing contrasting *Markers*. The example to the right has seven out of nine boxes filled in; there are two ways for the “*X*” competitor(s) to win on his/her/their next turn or move, but only one for the “*O*” player(s).



4. To use a **GAME-BOARD** with the whole class, divide participants into two *teams*, one represented by *X*'s and the other, by *O*'s. Picking *Quiz-Item Cards* in random order, read aloud a question to each of the groups in turn. After each correct response, the team (member) that gave it places *that* group's symbol in one of the boxes in the *Tic-Tac-Toe Grid*. Play alternates between the two opponents until one wins. If there's time, conduct—or have students lead—a review of *Game* subject matter.
5. Next, divide the class into groups of *three to seven*, each with *two* competing individuals or teams plus someone to read aloud *Quiz Items*. Each group gets an appropriately sized set of *Quiz-Item Cards* with a **GAME BOARD**—or they produce their handdrawn *Grid(s)* on paper. Make correct *Answers* available to *Questioners*.

At the same time, each group plays a *Tic-Tac-Toe* version of the **KNOWLEDGE GAME**. On their turns, the *Questioner* presents each individual, twosome, or threesome with a *Quiz Item*, checking on the correctness of *his/her/their* response (and telling the right answer, if necessary.) When allowed to, competitors place their *X*'s or *O*'s onto the **GAME BOARD**—until there is a winner. With someone else as *Questioner* each time, play continues for several rounds. After all questions have been asked, the group can get a new set of *Quiz-Item Cards* to continue play.

4. Reconvene the class; collect the sets of *Quiz-Item Cards*. Review the information by playing one or more **KNOWLEDGE GAMES** with the whole class and/or by giving another kind of oral or written *Quiz* on the material.

OTHER AREAS OF APPLICATION: Any content area in which *facts* are taught, such as *history, civics, geography, economics, literature, art, music, math, science, technology,* and many more.

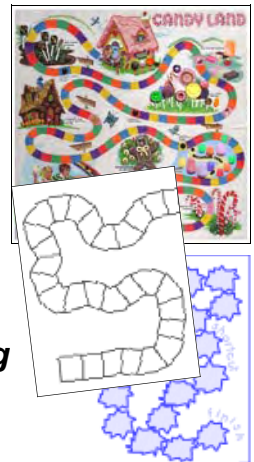
In addition to *Tic-Tac-Toe*, some kinds of classic **GAME BOARDS** that might work well for **KNOWLEDGE** competitions include *Checkers/Chess, Chinese Checkers, Nine Men's Morris, Ludo, Sorry! Hex, Picaria, Backgammon, Start-to-Finish Paths,* and others of geometric design—with accompanying game pieces such as *markers, chips, counters, marbles; dice, spinners;* and the like.

Some of these are illustrated to the right. Game procedures, strategies, rules, and other stimuli can be found online.

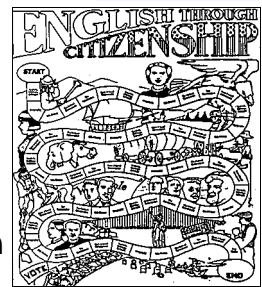


POSSIBLE VARIATIONS

- ➔ Instead of a strategic **GAME BOARD**, supply each group with a *Start-to-Finish Path Board*. In turn, players move their markers ahead one space after responding to a *Quiz-Card Item* correctly—and perhaps go backwards a space if they answer wrong or not at all. In a “multi-level, differentiated” **KNOWLEDGE GAME** version, *Items* can be “weighted” as worth 1 to 5 “points” according to how *challenging* or difficult they seem. After each right (or wrong) *Answer*, a player moves ahead (or back) the corresponding number of spaces.



An even more organized version of the **GAME OF KNOWLEDGE** could be played on a *Path Board* with three to eight *subtopics* of content printed into spaces (of different colors); for instance, within the subject matter of *Americana*, five of these might be [a] *Symbols & Holidays*, [b] *Famous People*, [c] *Geography*, [d] *Citizenship*, and [e] *Government*. From an appropriate number of stacks of (differently colored) *Quiz-Item Cards*, a *Question* is read aloud when a competitor lands on the corresponding space. For “leveling” or reinforcement, the *content* of each item can appear in three forms—*Yes/No, Multiple-Choice,* and *Wh-*, worth 1, 2, or 3 points (spaces), respectively.



- ➔ Instead of using a **GAME BOARD**, pattern a **KNOWLEDGE GAME** after a *TV Quiz Show* like *Jeopardy, Family Feud, Who Wants to Be a Millionaire, Are You Smarter Than a Fifth-Grader,* etc. If feasible, you might try beginning with a commercial or classroom **GAME** version. Even more productive, however, may be to create targeted (curriculum) content and adapt procedures/rules for your own purposes.

RELATED **AUTHORS & EDITORS** MATERIALS: Products designed in *game formats*—*English Through Citizenship: the Game* [ISBN 978-1-891077-34-0] and *Agreeable Aging: The Game of Knowledge*: [ISBN 978-1-891077-46-3]—already coordinate the motivational benefits of cooperative/competitive play and strategy with content. Also, any quiz-like question-and-answer resource material, such as that included in the reproducible tests of *Teachers' Guides* and *Instructors' Manuals*, can be copied onto *Quiz-Item Cards* for use in *Knowledge Games*.