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Sokongan:



Kelestarian Penyelidikan Pendidikan dan Inovasi Ke Arah
Revolusi Industri 4.0 Dalam Mendepani Pandemic Covid-19

Uitm di hatiku



Cawangan Sarawak
Kampus Mukah



HEXA-Q: AN INTERACTIVE BOARD GAME OF BASIC EQUATIONS IN MATHEMATICS

ABSTRACT

HexaQ is an interactive educational board game in Mathematics. This two-in-one board game focuses on basic equations in Arithmetic and Algebra. The main objective of this board game is to empower and encourage students to practice simple equations involving the basic operation and linear equation in one variable through gamification. The number of players for HexaQ is from 2 to 4 players for both sets. For a beginner set of simple equations, it can be played from age 5 and above while the advanced set of linear equations in one variable can be played from Form 1 to Pre-Diploma students. The main goal of this game is to reach the headquarters (HQ) by moving the token from the pit start. To move the token, the players need to solve simple equations in the beginner set and linear equations in one variable for the advanced set. There are one mainboard and sideboard for solving equations that replace the dice. HexaQ gets its name from hexagonal shapes of the board meanwhile 'Q' is the short form from the equation. HexaQ uses edutainment aspects for the teaching and learning process in a fun way either in school or at home. In term of the novelty of the HexaQ, there are fewer board games apply the equations in Mathematics and without using the dice. HexaQ is one of the Hexa Series which consists of HexaMATH Go! and Hexapodx Go!. Both board games have won medals and awards from various innovation competitions such as SIIDEx 2019, IPPSS 2019, and eSPeDIP 2020. Therefore, HexaQ together with the other Hexa Series offers great possibilities for commercialization either for kindergarten, primary and secondary school, and pre-university level.

Keyword: HexaQ, board game, learning Mathematics, education

INTRODUCTION

Hexa Q gets its name from hexagonal shapes of the board meanwhile 'Q' is the short form from the equation. Hexa Q uses edutainment aspects for the teaching and learning process in a fun way either in school or at home. The number of players for HexaQ is from 2 to 4 players for both sets. It can be played from Pre-Schooler to Pre-Diploma students.

METHODOLOY

The main goal of this game is to reach the headquarters (HQ) by moving the token from the pit start. To move the token, the players need to solve simple equations in the beginner set and linear equations in one variable for the advanced set. There are one mainboard and sideboard for solving equations that replace the dice. Average time to finish a game is 30 – 40 minutes.

OBJECTIVES

- To empower students and to practice simple equations involving the basic operation and linear equation in one variable
- To encourage participation of the students through gamification

NOVELTY

There are fewer board games apply the equations in Mathematics and without using the dice. HexaQ is one of the Hexa Series which consists of HexaMATH Go! and Hexapodx Go!. Both board games have won medals and awards from various innovation competitions such as SIIDEx 2019, IPPSS 2019, and eSPeDIP 2020.

COMMERCIALISATION

HexaQ together with the other Hexa Series offers great possibilities for commercialization either for kindergarten, primary and secondary school, and pre-university level that further inculcate STEM interest among students.

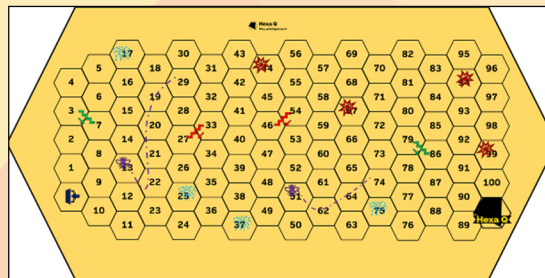
HEXA-Q GAME KITS



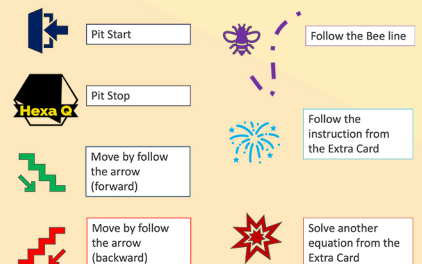
Complete Set



Equation board



Main Board



Icons in the Main Board



Beginner Set



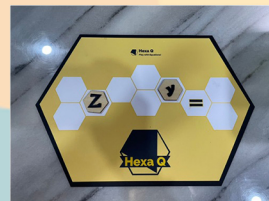
Advanced Set



The Extra Cards



Operations for Beginner Set



Variables for Advanced Set



Fractions