

Phrase It

Model Name and Number: Phrase It YE.531

Topic: Imagination and creativity (“thinking out of the box”).

Accessory Tools: 2 straight nail beams, 85 chain links.

- Provide additional parts during the lesson so that the students can improve or build new models.

Lesson’s Goals:

- ❖ The students will practice and create riddles using the commands that they learned over the year.
- ❖ The students will develop teamwork strategies during a competition.

Lesson Structure:

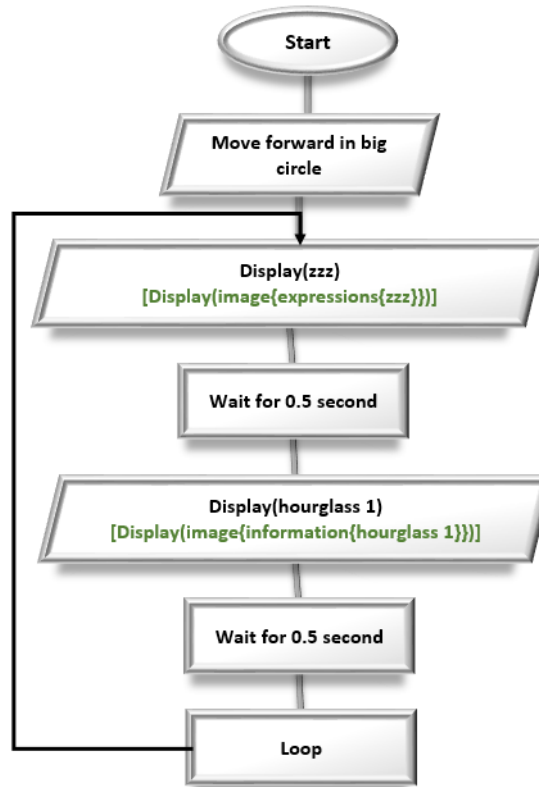
1. Explain the model built in class
2. Flowchart - algorithm
3. Programming
4. Construction
5. Playing with the model
6. During the last 10 minutes of the lesson, ensure that all the models are dismantled, and the pieces are all placed back into the Young Engineer kits.

Explanation of the model built in class:

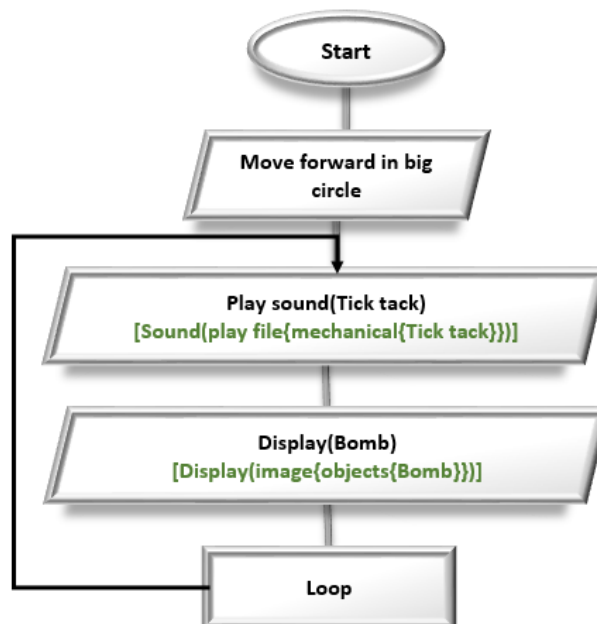
All models built in this class are motorized and must have the capability of moving. The smart brick must be connected to the model at a 45-degree angle, allowing the text on the screen to be easily read. Each team may build any model they desire. The concept is that the riddles are displayed on the model (further explanation will be provided) and therefore its shape is irrelevant.

Operational Algorithm – Recommended:

“Bed Time”

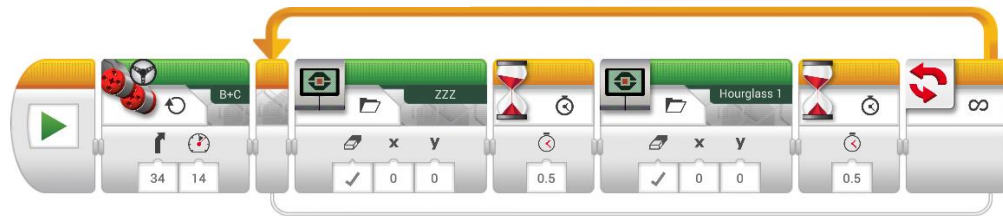


“Ticking Bomb”

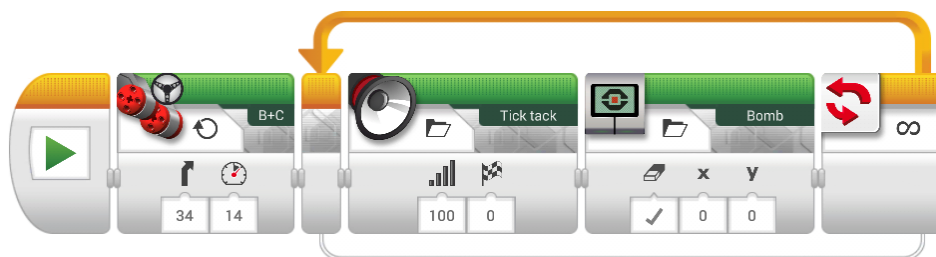


Programming – Recommended:

Bed Time



Ticking Bomb



True Love



Playing with the model:

The challenge of this lesson is to create a riddle for the other teams to figure out using the drawings in the app. The riddle must be short, simple and easy to work out.

Riddle types:

- Idiom hint (“like father like son”)
- Song hint
- Location hint
- A known figure

Tools for the hints:

- Displaying drawings from the smart brick
- Playing sounds from the smart brick
- Using the parts to build a model
- Improving the model to describe motion, a figure or a color

Notes for the Instructor:

- ✓ Assist the students during the planning process for the riddles. Pay attention to groups who are struggling to come up with ideas, or riddles that will be hard to build and not easy to demonstrate.
- ✓ Encourage the children to improve their model so that the message is delivered through the riddle. If needed ask the students to build a simpler model which will be easier for them to understand the hints.
- ✓ At the beginning of the lesson, provide the students with examples for possible riddles, and ensure they understand the class objective. The riddle bank below can be used to help you.

Riddle examples – riddle bank:

Idioms (“Like father like son”)

- **Good Idea**
- **Night out**
- **Christmas tree**
- **3 on a tree**

Songs:

- Always **Look** at the **bright side** of life

Location:

- **Big Ben**, London (a clock making a sound).

Known figure:

- **Thomas Edison** inventor of the **lightbulb**.