

# YOUR GUIDE TO ROBOTHINK

# PROGRAMS



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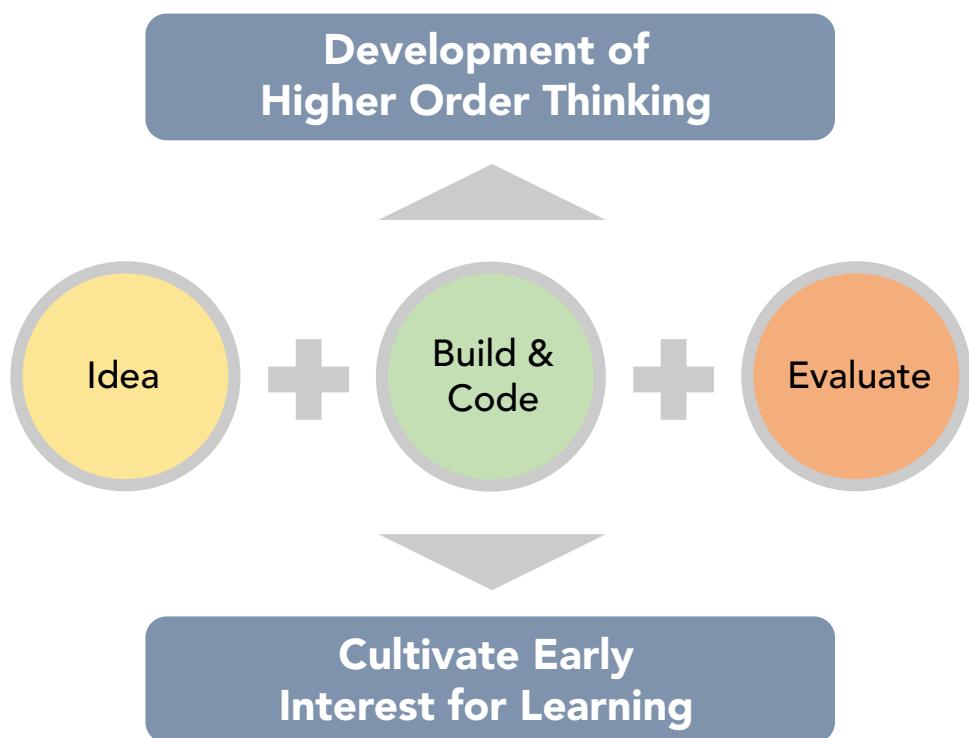
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This data is designed to help you better understand the RoboThink Program and has been developed  
with an accredited research institute.

# RoboThink Philosophy

## :Intro

RoboThink Programs cultivate creativity, problem-solving capabilities and an interest for learning through project based robotics, coding and engineering activities.



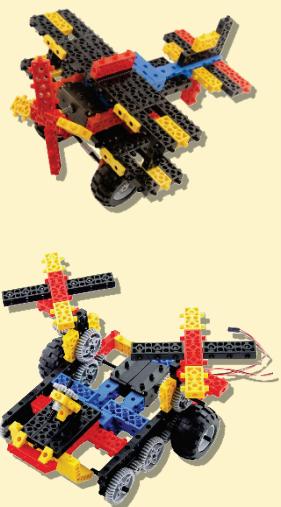
## Concept

Critical thinking, problem-solving, engineering and programming will be essential skills for the 21<sup>st</sup> century world. Prepare your child for a 21<sup>st</sup> century world with RoboThink!

# RoboThink Robotics

## What is RoboThink Robotics?

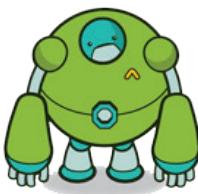
### :: Introduction



RoboThink's Robotics Programs is a structured and curriculum based engineering program where K-9 students build dynamic robotics models based on the innovative RoboThink Robotics Kit.

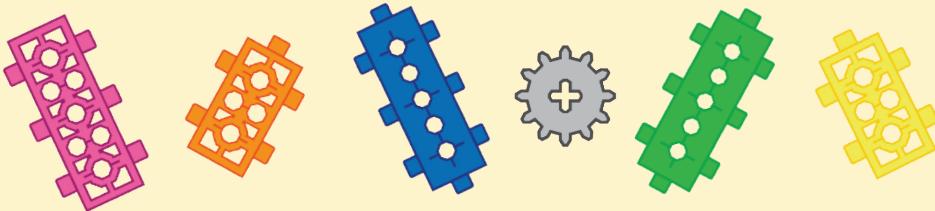
### :: Academic Benefits

- Engages visual, auditory and kinesthetic learning
- Organizational, Teamwork, Communication Skills
- Fine motor skills development
- Nurtures process oriented thinking



## Hardware

RoboThink uses a proprietary RoboThink Robotics Kit developed with ease-of-use and flexibility in mind. With no messy connectors and screws, students spend less time building, and more time thinking!



## Instruction

RoboThink Robotics lesson plans make it easy for students to learn how to build robotics models of all shapes, sizes and functions! With fun science lessons and stories, robotics has never been so fun!

**Science Lesson 6**

**Principles of Pulleys**

**What are pulleys?**

A pulley is an equipment that consists of a wheel and a cord passing through it. It changes the direction of force and is used to lift heavy objects.

**Flagpole**      **Car Jack**      **Crane**

**Fixed pulley** are the same as first class levers with a fulcrum in the middle. Not only does the size of the force change, the direction of force changes as well.

**Fixed pulley** diagram: Object gets pulled up. Rope pulls down. Weight (W) is applied downwards. Fixed pulley can lift objects from the ground.

**Movable pulley** is a pulley that moves with the load. The movable pulley allows the effort to be less than the weight of the load. It also acts as a second class lever.

**Movable pulley** diagram: The net advantage of a movable pulley is that we can use less effort to move it.

**Tower Crane** Actual Size

The machine is designed to bring heavy object to very high places.

**Actual Size**

**Size 45**

**Size 64**

**Tower Crane Parts List | Let's make the tower crane!**

|     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |    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AC639 | AC640 | AC641 | AC642 | AC643 | AC644 | AC645 | AC646 | AC647 | AC648 | AC649 | AC650 | AC651 | AC652 | AC653 | AC654 | AC655 | AC656 | AC657 | AC658 | AC659 | AC660 | AC661 | AC662 | AC663 | AC664 | AC665 | AC666 | AC667 | AC668 | AC669 | AC670 | AC671 | AC672 | AC673 | AC674 | AC675 | AC676 | AC677 | AC678 | AC679 | AC680 | AC681 | AC682 | AC683 | AC684 | AC685 | AC686 | AC687 | AC688 | AC689 | AC690 | AC691 | AC692 | AC693 | AC694 | AC695 | AC696 | AC697 | AC698 | AC699 | AC700 | AC701 | AC702 | AC703 | AC704 | AC705 | AC706 | AC707 | AC708 | AC709 | AC710 | AC711 | AC712 | AC713 | AC714 | AC715 | AC716 | AC717 | AC718 | AC719 | AC720 | AC721 | AC722 | AC723 | AC724 | AC725 | AC726 | AC727 | AC728 | AC729 | AC730 | AC731 | AC732 | AC733 | AC734 | AC735 | AC736 | AC737 | AC738 | AC739 | AC740 | AC741 | AC742 | AC743 | AC744 | AC745 | AC746 | AC747 | AC748 | AC749 | AC750 | AC751 | AC752 | AC753 | AC754 | AC755 | AC756 | AC757 | AC758 | AC759 | AC760 | AC761 | AC762 | AC763 | AC764 | AC765 | AC766 | AC767 | AC768 | AC769 | AC770 | AC771 | AC772 | AC773 | AC774 | AC775 | AC776 | AC777 | AC778 | AC779 | AC780 | AC781 | AC782 | AC783 | AC784 | AC785 | AC786 | AC787 | AC788 | AC789 | AC790 | AC791 | AC792 | AC793 | AC794 | AC795 | AC796 | AC797 | AC798 | AC799 | AC800 | AC801 | AC802 | AC803 | AC804 | AC805 | AC806 | AC807 | AC808 | AC809 | AC810 | AC811 | AC812 | AC813 | AC814 | AC815 | AC816 | AC817 | AC818 | AC819 | AC820 | AC821 | AC822 | AC823 | AC824 | AC825 | AC826 | AC827 | AC828 | AC829 | AC830 | AC831 | AC832 | AC833 | AC834 | AC835 | AC836 | AC837 | AC838 | AC839 | AC840 | AC841 | AC842 | AC843 | AC844 | AC845 | AC846 | AC847 | AC848 | AC849 | AC850 | AC851 | AC852 | AC853 | AC854 | AC855 | AC856 | AC857 | AC858 | AC859 | AC860 | AC861 | AC862 | AC863 | AC864 | AC865 | AC866 | AC867 | AC868 | AC869 | AC870 | AC871 | AC872 | AC873 | AC874 | AC875 | AC876 | AC877 | AC878 | AC879 | AC880 | AC881 | AC882 | AC883 | AC884 | AC885 | AC886 | AC887 | AC888 | AC889 | AC890 | AC891 | AC892 | AC893 | AC894 | AC895 | AC896 | AC897 | AC898 | AC899 | AC900 | AC901 | AC902 | AC903 | AC904 | AC905 | AC906 | AC907 | AC908 | AC909 | AC910 | AC911 | AC912 | AC913 | AC914 | AC915 | AC916 | AC917 | AC918 | AC919 | AC920 | AC921 | AC922 | AC923 | AC924 | AC925 | AC926 | AC927 | AC928 | AC929 | AC930 | AC931 | AC932 | AC933 | AC934 | AC935 | AC936 | AC937 | AC938 | AC939 | AC940 | AC941 | AC942 | AC943 | AC944 | AC945 | AC946 | AC947 | AC948 | AC949 | AC950 | AC951 | AC952 | AC953 | AC954 | AC955 | AC956 | AC957 | AC958 | AC959 | AC960 | AC961 | AC962 | AC963 | AC964 | AC965 | AC966 | AC967 | AC968 | AC969 | AC970 | AC971 | AC972 | AC973 | AC974 | AC975 | AC976 | AC977 | AC978 | AC979 | AC980 | AC981 | AC982 | AC983 | AC984 | AC985 | AC986 | AC987 | AC988 | AC989 | AC990 | AC991 | AC992 | AC993 | AC994 | AC995 | AC996 | AC997 | AC998 | AC999 | AC9999 |
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# RoboThink Robotics

## Curriculum & Programs

### Curriculum

The RoboThink Robotics Curriculum is divided into 5 levels.

1

#### **Blocks**

Introduction to RoboThink blocks and building basic block based models. 16 Lessons.

2

#### **Gears & DC Motor**

Introduction to various gears, axles as well as the DC Motor. Study of transforming and transferring motion. 11 Lessons.

3

#### **Mainboard & Wired Remote**

Introduction to intermediate level electronics. Study of robots that move and are controllable. 22 Lessons.

4

#### **Sensors**

Introduction to various types of sensors. Study of autonomous robots and understanding sensor electronics. 10 Lessons.

5

#### **Wireless Remote & Servo Motor**

Introduction to advanced electronics. Study of using high precision parts and application of all parts to build advanced designs. 6 Lessons.

6



## Class

RoboThink STEM Class covers robotics, coding and engineering concepts comprehensively. Every week, students build models, study coding concepts and complete fun engineering projects.

## Weekly Class

## Camp

RoboThink Robotics Camps are offered in 3 different levels: Beginner, Intermediate and Advanced. Students are given the opportunity to build robots, solve challenges with robots they have built and even battle their friends!

Offered as a monthly or weekly camp

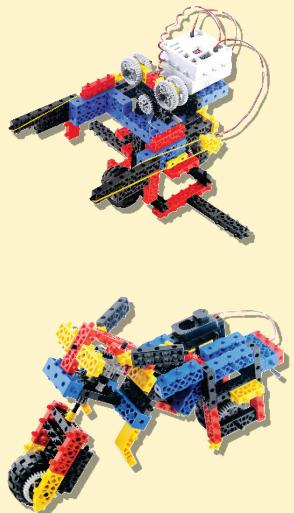


# RoboThink Programming

## What is RoboThink Programming?

### :: Introduction

RoboThink Programming teaches students K-9 how to program with the RoboThink Robotics Kit, Scratch and our workbooks.



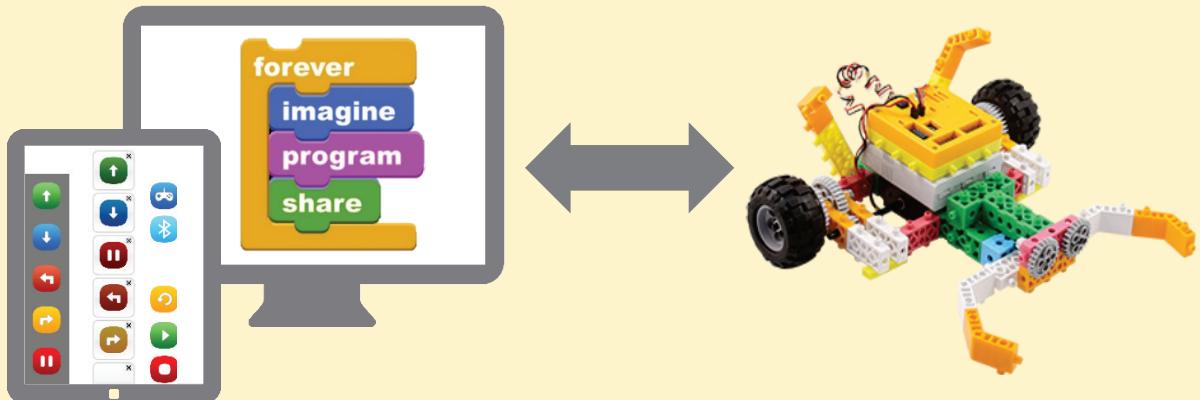
### :: Academic Benefits

- Study of real programming concepts
- Application of hardware and software solutions to problems
- Encourages self-motivated and exploratory learning
- Early exposure to technology and understanding how computers work



## • Hardware

The RoboThink Programming Curriculum utilizes the power of the RoboThink Robotics Kit and Scratch, a MIT developed coding platform for students. Students are able to build and code robots that runs programs students write!



## • Instruction

Unlike other programs, RoboThink Programming offers a step by step lesson plans and accompanying workbooks for the entirety of the program!



# RoboThink Programming

## Curriculum & Programs

### Curriculum

The RoboThink Coding Program is divided into 7 levels.

1

#### **Ro-Code Beginner**

For younger students K-1, study of basic sequencing and moving robots using sequencing.

2

#### **Ro-Code Advanced**

Students use the more advanced RoboThink Ro-Code Program to learn about if & else statements.

3

#### **Movement**

Introduction to Scratch and controlling vehicles using Scratch. Study of debugging concepts.

4

#### **Sensory**

Use of IR and LED sensors in a variety of robotics projects. If & Else concepts explored in depth.

5

#### **Analogue**

Study of analog values from sensors and applying values in meaningful solutions to challenges.

6

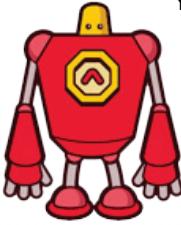
#### **Variables**

Study of variables and application of variables in advanced code and robotics.

7

#### **Lists**

Study of lists, databases and application of lists in advanced code and robotics.



## Class

RoboThink STEM Class covers robotics, coding and engineering concepts comprehensively. Every week, students build models, study coding concepts and complete fun engineering projects.

## Weekly Class

## Camp

RoboThink Robotics Camps are offered in 3 different levels: Beginner, Intermediate and Advanced. Students are taken through an accelerated program where coding concepts are covered and explored through project based lessons.

Offered as a monthly or weekly camp



# RoboThink Products

## Product Listing

### :: Retail Products

Loved the program? Want to take it home? RoboThink now offers kits to take home once you are done with your camp or class!

1

#### **RobotIQ Series**

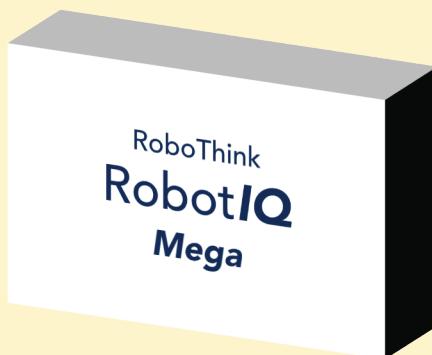
Available to students who finish each lesson of the robotics program, the RobotIQ series allows students to take home the same components from class and explore the exciting world of STEM from home!

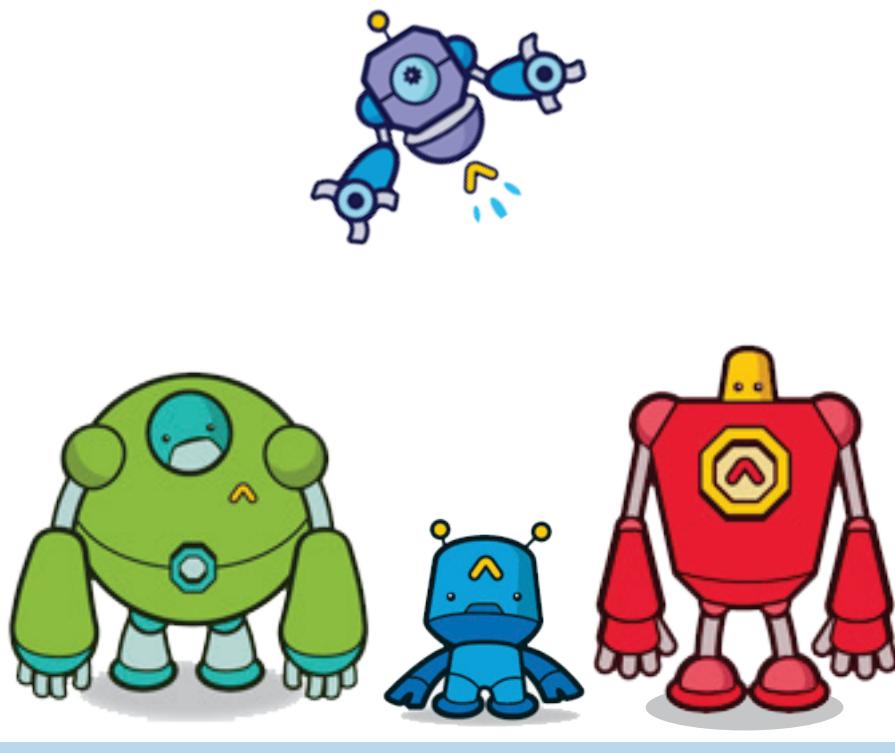


2

#### **Mega RobotIQ Series**

All steps are combined into one easy box to build your dreams!





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This data is designed to help you better understand the RoboThink Program and has been developed  
with an accredited research institute.



Build, Code and Play with Robots

