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#### Mini 4-H Robotics

Working with robotics can be fun.

It lets you use your hands to create something useful, or something for pleasure. It gives you a good feeling to know that something you have made is useful.

Mini 4-H lets you learn some robotics skills as you put together a project from a kit.

Kits are available at the Extension Office. There are different kits available for Kindergarten,  $1^{\rm st}$  grade, and  $2^{\rm nd}$  grade.

There are some activities in the manual for the grade you are in.

- a. Kindergarten: "Robot Friends" and "Connect the Dots"
- b. First Grade: "Build a Robot" and "Eco Friendly Robot"
- c. Second Grade: "All-About-Me Robot" and "Construct a Robot"

# **4-H Fair Exhibit**

Get a kit offered by the Extension Office (a different one is available each year in this project).

Read and follow instructions carefully.

Exhibit your Robot at the 4-H Fair.

All projects are to have a name label on them. You will receive a Mini 4-H newsletter in the mail prior to the Fair that will contain name labels.

If you have any questions about your project, please call the Extension Office at 636-2111 or 1-800-601-5826.

The 4-H pledge

A pledge is a promise you make to yourself and to the people around you.

I pledge my head to clearer thinking
My heart to greater loyalty, to use
my hands to larger service
my health to better living

The 4-H motto is "to make the best better."

#### Mini 4-H Helper's page

Welcome to the Mini 4-H Program! Mini 4-H is designed for children in grades K-2 to explore a variety of project activity areas and to interact with caring adults and other children.

Children receive this project activity manual when they enroll in Mini 4-H. This manual and the manuals on various other topics will provide fun, age-appropriate learning activities throughout their year(s) in Mini 4-H.

As a Mini 4-H adult helper, your job will be to guide and encourage each child through the activities. A wide range of activities. A wide range of activities is provided to allow you to choose the ones most appropriate for the children you are working with. It is strongly suggested that you do not complete the activities from Instead help them, guide them, work with them and let them do all that they possibly can. 4-H believes in allowing children to learn by doing. The Mini 4-H project activities are hands-on learning opportunities designed to provide a meaningful educational experience for youth.

Additionally, the Mini 4-H program is set up to allow children to display a project activity that is based upon information in this manual. Some children may want to exhibit at the 4-H Fair. The 4-H Fair is an exciting week that allows community youth to showcase their enthusiasm for learning. Children may choose to display a project activity they did by themselves or one they did with a group. Other children may choose to showcase their work in other ways, such as displaying it in a special place in their own home.

Mini 4-H is fun! Children will certainly enjoy it. You can have fun too, by guiding and helping as children participate in the program. Encourage and praise the children as they have fun learning and sharing with you. If you have any questions regarding Mini 4-H or other 4-H programs, please contact the Extension Office in your county.

#### Helper's Tips

The Mini 4-H Program can be used with individual children, but it works best when used in a group of 2 or more children. Children working cooperatively in groups develop positive images of themselves and their ideas. Other ways adult helpers can maximize the benefits of Mini 4-H are to:

- Work on a subject interesting to the child by encouraging children to choose the content area. Look through this manual and choose the project activities based on the interests and skill levels of the children
- Relax and have fun. Some children will want to finished their activities, others may not. There is no need to pressure children of this age to finish an activity, because the real learning takes place while they participate in the activity and interact with others. The finished project should not be the main focus. The knowledge children gain while they explore new areas and experiment with new ideas should be the primary goal.
- Remain flexible and adapt to the changing needs of the children.
   Restlessness or boredom may indicate a need to stop the activity and come back to it later.
- Encourage children to talk and work with each other. Children learn best
  when they are encouraged to freely share their reactions and observations.
  You may want to ask the children about what they did during an activity,
  what happened, what was the easiest, and what they like the most.

This manual contains activities for children that allow for a wide range of abilities and provide practice for developing a variety of skills.



#### Mini 4-H Page

Mini 4-H'ers have lots of fun! There are many activities for you to explore. You can try new things. You can share them with your friends and family.

Here are some things to know about 4-H.

The 4-H symbol is a four-leaf clover with an "H" in each leaf. Clover is a plant that grows in fields, yards and along roadsides. Most clovers have three leaves. Sometimes, if you look very carefully, you may get lucky and find a special clover with four leaves. A four-leaf clover is used as the symbol for 4-H to let everyone know 4-H is a special kind of group.



The 4-H colors are green and white. The four-leaf clover is green and the "H" in each leaf is white.

A group motto is a saying that tells people what is important to the group. The 4-H motto is "To make the best better." When something is better than all the others it is the best. Think about a time when you did your best. Maybe you threw a ball farther than you have ever thrown it before. Now, think about some ways you could do better. You may be able to throw farther by practicing for a while or by watching someone who can throw farther than you, to see how they throw so far. Even if you throw the ball farther than you have ever thrown it before. There are still ways that you can do better the next time. 4-H encourages you to always try to do better, even if you are doing the best you have ever done.

"To make the best better"

#### The 4-H Pledge

A pledge is a promise you make to yourself and to the people around you. The 4-H pledge is a bold print below.

I pledge...

my head to clearer thinking,
my heart to greater loyalty,
my hand to larger service, and
my health to better living for
my dub, my community,
my country, and my world.

What do these words means?

<u>I Pledge my Head</u> <u>to clearer thinking</u>, means I promise to use my head to make good choices.

My heart to greater loyalty, means to use my heart to be a good friend.

My hands to larger service, and, means to use my hands to do helpful things for others.

My health to better living, means to take care of my body and to show others how to live in a healthy way.

For my club, my community, my country and my world, means to help my group, my community, my country and my world be happy and safe for everyone.

When making your Robotics project you will use a kit. Ask a grown-up to help you and always use safety habits.

#### **Kits**

You can get your robotics kit at the Extension Office. There will be a kit for each grade shown below.

- 1. Read the instructions with the kit so you know how to put it together properly.
- 2. Bring your finished project to the 4-H Fair.



Kindergarten Tin Can Robot



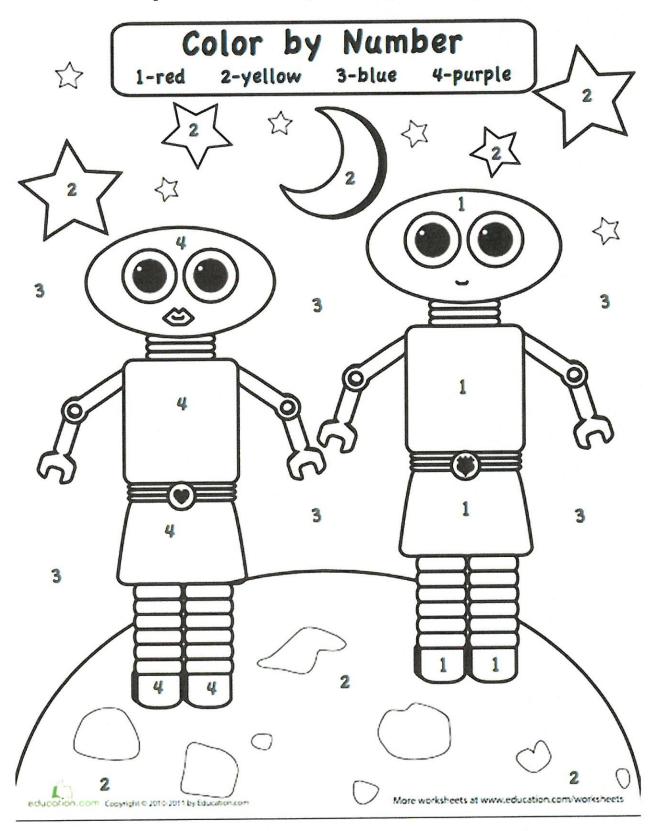
First Grade Solar Robot



Second Grade Educational Motorized Robot

## **Kindergarten Activity: Robot Friends**

Use red, yellow, blue, and purple crayons or colored pencils to complete the picture. Show a family member your masterpiece!

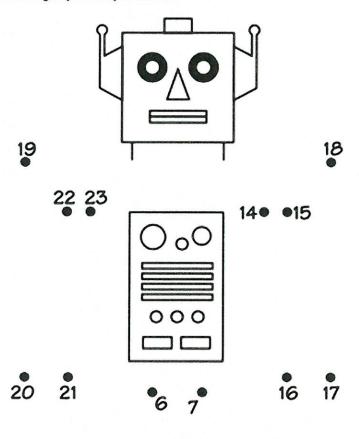


### **Kindergarten Activity: Connect the dots**

Connect the dots to complete the picture!



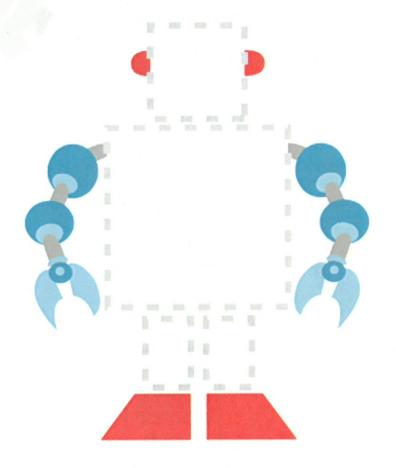
In the future, basic tasks may be automated. Can you connect the dots to find the machine that will perform these tasks? Color it brightly when you find it.



#### First Grade Activity: Build a Robot

Cut, draw, and glue to build your robot!

# Build a Robot



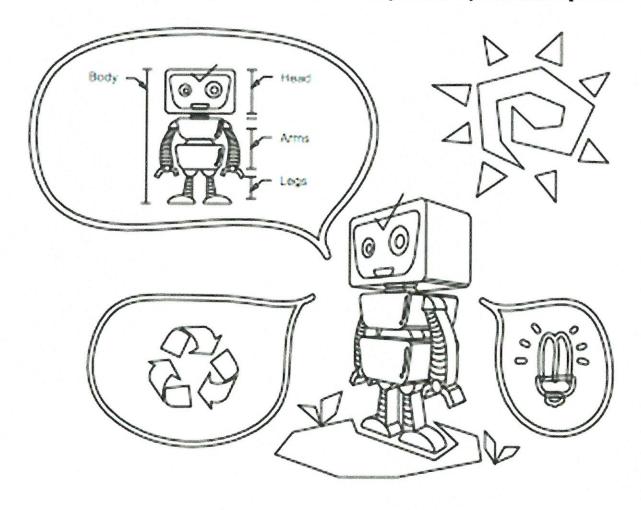
First, cut off the bottom part of the page along the dotted line. Then, >< cut out the



of the page along the dotted line. Then, cut out the shapes and glue them on the picture above to build a funky robot! Don't forget to draw a face. Hang your robot in a special place.

## First Grade Activity: Eco friendly Robot

Use crayons, colored pencils, markers, or any other art supplies to color your robot. Then write a story about your robot. Show a family member your finished picture!



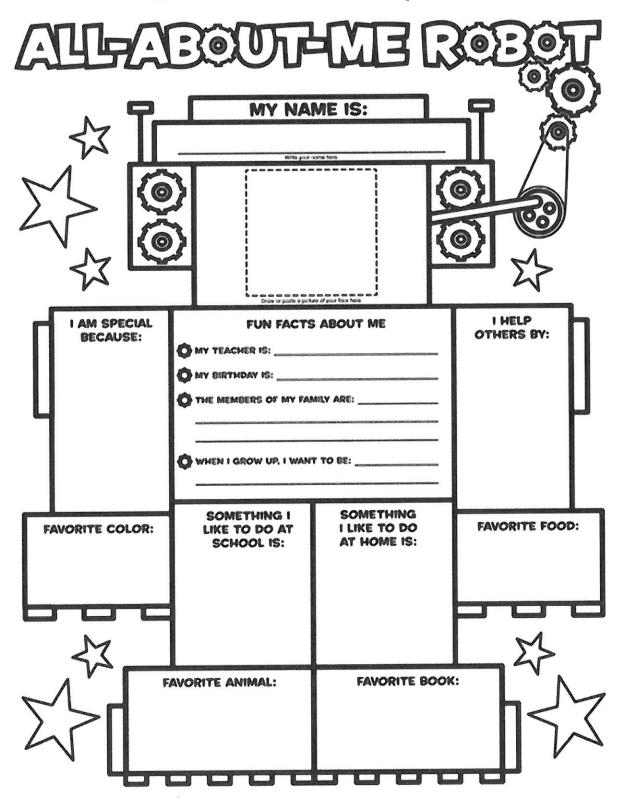
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Note: More worksheets at www.education.com/worksheets



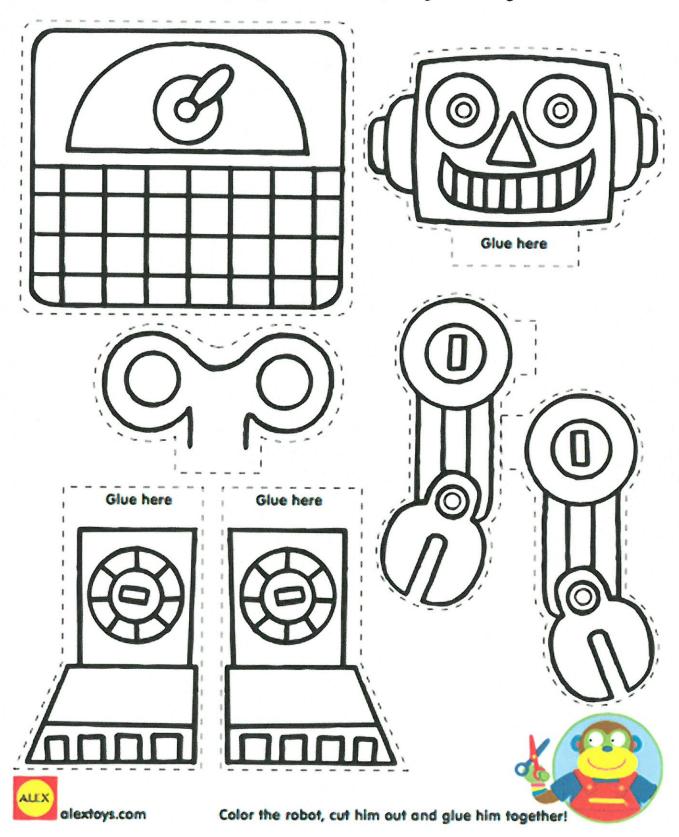
#### Second Grade Activity: All-About-Me Robot

Use colored pencils, crayons, markers, or any other art supplied to decorate your robot. Fill out the information about yourself.



## Second Grade Activity: Construct a Robot

First color the robot, then cut him out, and glue him together!





## Noble County Mini 4-H Record Sheet

Name		Grade in School
Addre	 2SS	
		Township
Numb	per of years in Mini 4-H	Number of years in project
Memb	ber's Signature	
		urs worked to complete project
C.	Money spent on project:	
	Cost of supplies: (list) _	
	OR	
	Foods – number of	
	times made	
	_	
D.	List the things that you le	earned while you were doing Mini 4-H: