- **Introduce Instructor**
- **Tell kids the we are going to build many different machines, your going to create , your own invention. To do this we'are going to work in teams. Anybody knows what that means?**
    - **You are going to help each other**
    - **And share with each other**
    - **You are going to think together about what is the best way of creating something.**
    - **For example, if we are going to build a chair using lego pieces and we are not sure what lego brick to use we can ask our team mate about what he/she thinks ....**
- **Break ICE: - have each child introduce themselves**
    - **What do they like?**
    - **What is their favor food?**
    - **Do you like to go to the park?**
    - **What do you like to do the most?**
    - **What about the seesaw? Do you like it?**
    - **Who else is with you in the seesaw?**
    - **You must be very strong! You were able to lift her/him!**
    - **Try to lift this table. Why you can not do it? You were able to lift your friend and not the table why? What is the difference?**

- **Show card #1**
    - **What are the kids doing?**
    - **Do you think they could lift this table? No? but yet they can lift each other .... Why? What is the difference?**

- They use a Lever: A lever is a simple machine. A lever is a board or bar that rests on a turning point. This turning point is called the fulcrum. An object that a lever moves is called the load. The closer the object is to the fulcrum, the easier it is to move.

Try this experiment!

Materials:

wooden ruler, textbook, and a desktop

Procedure:

Lay a ruler on your desk with part of it hanging over the edge. Place a

Spring Workshops

MUSIC

Music & Movement: Babies & Toddlers

$170
10 Weeks
Available Sessions:
☐ March 2- May 4 2006
Thursdays 10:15 am to 11:00 am

☐ February 27 - May 1 2006
Mondays 10:15 am to 11:00 am

EARLY LEARNING

Active-Tots: 18 months to 3 years

$170
10 Weeks - *No workshop the week of spring break* -
Available Sessions:
☐ March 2 - May 11 2006
Thursdays 4:00 pm to 4:45 pm

☐ March 1 - May 10 2006
Wednesdays 10:15 am to 11:00 am

SCIENCE & TECHNOLOGY

Tech-Machines: 3 to 5 years

$55
4 Weeks
Available Sessions:
☐ March 23 - April 13
Thursdays 2:00 pm to 2:45 pm

☐ March 21 - April 11
Tuesdays 10:15 am to 1:00 am

Early Simple Machines: 5+ years

$115
7 Weeks
Available Sessions:
☐ March 28 - May 9
Tuesdays 3:15 pm to 4:00 pm

☐ March 29 - May 10
Wednesdays 3:15 pm - 4:00 pm

ART

Creative Young People: 5 to 7 years

$170

10 Weeks - *No workshop the week of spring break* -
Available Sessions:
☐ February 28 - May 8
Tuesdays 3:35 pm to 4:30 pm

Creative Young People: 8 to 12 years

$170
10 Weeks - *No workshop the week of spring*
Available Sessions:
☐ February 28 - May 8
Tuesdays 4:35 pm to 5:30 pm

Spring Workshops Cont ...

SPANISH

Spanish Full Immersion: 3 to 5 years

$170
- No workshop the week of spring break –
1 workshop a week for 10 Weeks

$295
- No workshop the week of spring break -
2 workshops a week for 10 Weeks

Available Sessions:
☐ March 6 - May 15 2006
Mondays 3:15 pm to 4:00 pm

☐ March 9 - May 18 2006
Thursdays 3:15 pm to 4:00 pm

Spanish Full Immersion: 6 to 8 years

$170
- No workshop the week of spring break –
1 workshop a week for 10 Weeks

$295
- No workshop the week of spring break -
2 workshops a week for 10 Weeks

Available Sessions:
☐ March 6 - May 15 2006
Mondays 4:10 pm to 5:00 pm

☐ March 9 - May 18 2006
Thursdays 4:10 pm to 5:00 pm

Spanish Full Immersion: 9 to 12 years

$170
- No workshop the week of spring break –
1 workshop a week for 10 Weeks

$295
- No workshop the week of spring break -
2 workshops a week for 10 Weeks

Available Sessions:
☐ March 6 - May 15 2006
Mondays 5:10 pm to 6:00 pm

☐ March 8 - May 17 2006
Thursdays 5:10 pm to 6:00 pm

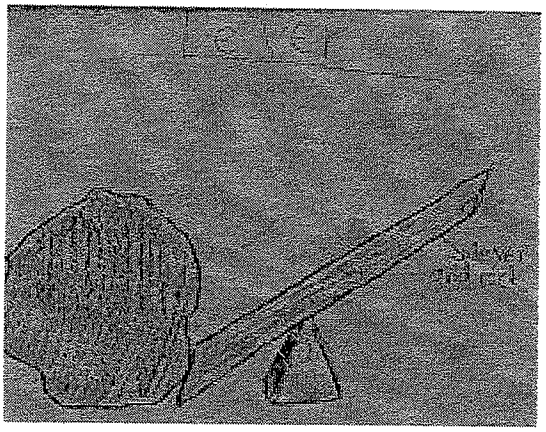
textbook on the other end. Try to lift the book by pressing down on the part of the ruler that is sticking out. Repeat this procedure several times. Move the book closer to the edge by pulling on the ruler. Continue until the book is right at the table's edge.

Things to think about during the experiment:

-What simple machine was used in this experiment?
-Was it easier to lift the book with a short or long ruler?
-Can you think of a time when you use a simple machine like this?

Conclusion:

The ruler is a lever in this experiment. The edge of the table is the fulcrum. And the book is the load. It is easier to move an object, like the book, when the fulcrum is closer to the load. **return**



- SHOW again card #1
- - how are the children moving up & down?
- What is helping them moving up and down?
- What would happen if they changed the position of the plank on the log?
- What else moves this way?

- Let's take a BEAM and an AXLE. Using only these two elements how can we make the beam move??? Show them how.

- Spin it, then change the pivot point different locations. Doe it spin differently? How does it feel?

- Add another beam and use two pulleys as end stops.
Move it
What does it look like?

-
- Show scissors. Let's observe the scissors . Show where the lever and pivot point.

Spring Workshops

MUSIC

Music & Movement: Babies & Toddlers

$170
10 Weeks
Available Sessions:
☐ March 2- May 4 2006
Thursdays 10:15 am to 11:00 am

☐ February 27 - May 1 2006
Mondays 10:15 am to 11:00 am

EARLY LEARNING

Active-Tots: 18 months to 3 years

$170
10 Weeks - *No workshop the week of spring break* -
Available Sessions:
☐ March 2 - May 11 2006
Thursdays 4:00 pm to 4:45 pm

☐ March 1 - May 10 2006
Wednesdays 10:15 am to 11:00 am

SCIENCE & TECHNOLOGY

Tech-Machines: 3 to 5 years

$55
4 Weeks
Available Sessions:
☐ March 23 - April 13
Thursdays 2:00 pm to 2:45 pm

☐ March 21 - April 11
Tuesdays 10:15 am to 1:00 am

Early Simple Machines: 5+ years

$115
7 Weeks
Available Sessions:
☐ March 28 - May 9
Tuesdays 3:15 pm to 4:00 pm

☐ March 29 - May 10
Wednesdays 3:15 pm - 4:00 pm

ART

Creative Young People: 5 to 7 years

$170

10 Weeks - *No workshop the week of spring break* -
Available Sessions:
☐ February 28 - May 8
Tuesdays 3:35 pm to 4:30 pm

Creative Young People: 8 to 12 years

$170
10 Weeks - *No workshop the week of spring*
Available Sessions:
☐ February 28 - May 8
Tuesdays 4:35 pm to 5:30 pm

Spring Workshops Cont ...

SPANISH

Spanish Full Immersion: 3 to 5 years

$170
- No workshop the week of spring break –
1 workshop a week for 10 Weeks

$295
- No workshop the week of spring break -
2 workshops a week for 10 Weeks

Available Sessions:
☐ March 6 - May 15 2006
Mondays 3:15 pm to 4:00 pm

☐ March 9 - May 18 2006
Thursdays 3:15 pm to 4:00 pm

Spanish Full Immersion: 6 to 8 years

$170
- No workshop the week of spring break –
1 workshop a week for 10 Weeks

$295
- No workshop the week of spring break -
2 workshops a week for 10 Weeks

Available Sessions:
☐ March 6 - May 15 2006
Mondays 4:10 pm to 5:00 pm

☐ March 9 - May 18 2006
Thursdays 4:10 pm to 5:00 pm

Spanish Full Immersion: 9 to 12 years

$170
- No workshop the week of spring break –
1 workshop a week for 10 Weeks

$295
- No workshop the week of spring break -
2 workshops a week for 10 Weeks

Available Sessions:
☐ March 6 - May 15 2006
Mondays 5:10 pm to 6:00 pm

☐ March 8 - May 17 2006
Thursdays 5:10 pm to 6:00 pm

- Now let's experiment with four beams. Attach two caracters to the ends of the two beams. And watch tehm move from side to side or up and down.

- MOVE The pivot points. HOW DOES IT AFFECT THE MOVEMENT OF THE CHARACTERS??

- let's take what we have learned and let's build a seesaw.
  What would happen if you use only one bridge to support the seesaw?
  Not stable

- What do you think willhappen if you put three bricks in one side?
  it will not longer be balanced the heavier side will be weighed down.

- Can you get two bricks to balance just one brick?

- CHALLENGE: Do all of your lego people weigh the same?
  How might you find out?

- STAMPER:
  DOES THE STAMPER MOVE FREELY?
  DOES THE STAMPER STAY UP IN THE AIR?
  CAN YOU MAKE THE STAMPER TO STAY UP IN THE AIR?

Spring Break Camps

SCIENCE & TECHNOLOGY

Robocamp: 6+ years

(Campers will be grouped by age)

$221

Available Sessions:

☐ March 13 - 17

9:00 am to 12:00 pm (3 hours everyday)

ART

Creative Young People: 6+ years

(Campers will be grouped by age)

$170

Available Sessions:

☐ March 13 - 17

1:00 pm to 3:00 pm (2 hours everyday)

AUTHORIZATION TO CONSENT TO MEDICAL TREATMENT AND RELEASE TO PARTICIPATE

I (parent's name) _____ binding my heirs, executors, administrator, estate and assigns, do hereby release and agree not to hold liable Young Peoples Workshops (YPW), their officers, agents and employees, from any and all actions, causes of actions, claims, demands, costs or damages as a result of property damage or personal injuries sustained by myself, my child/children, or my property arising from or resulting from any act of omission or otherwise, of Young Peoples Workshops, their officers, agents and employees while participating in an YPW workshop or activity.

I further release Young Peoples Workshops, their officers, agents and employees from all liabilities for personal injury resulting from my child's failure or the failure of other participants in the activity to obey safety regulations and directions of the activity leader in good faith, in response to emergencies and exigencies which occur during the activity; provided however that nothing contained herein shall excuse any employee of YPW or person assigned to be an activity leader by an employee of Young Peoples Workshops, from the responsibility to act with reasonable care for my child's safety during the course of the activity appropriate to the circumstances.

I hereby authorize Young Peoples Workshops to consent to emergency medical or dental treatment for my child while my child is a participant in an Young Peoples Workshops program. I understand that Young Peoples Workshops will make all reasonable efforts to contact me and provide me with notice in the event that my child requires emergency medical or dental treatment.

In the event that YPW cannot contact me and give me notice, I understand that I am hereby authorizing YPW to consent to such treatment on my behalf. I understand that YPW will seek necessary emergency treatment for my child only in the event my child is injured or harmed while engaged in a workshop or activity sponsored by Young Peoples Workshops.

PHOTO USAGE

I hereby give consent to Young Peoples Workshops to use photographs of my child, in advertising publications, including but not limited to, print, video, and electronic media, produced by Young Peoples Workshops. I understand that the email address provided above will be used no more than three times per month to disseminate YPW photos, news or evaluations ONLY and will not be sold or provided to any other entity or institution for any reason. I understand I can be removed from the mailing list at any time by request.

Signature _____ **Date** _____

YPW
Young Peoples Workshops

Tech Machines
Ages 4 to 6
Day 1

Dear parents:
During this week we will be learning while playing, having fun is the best way to learn. Knowledge thru experience is the one that lasts and plants a seed in our young kid's minds; they will be our future scientist or artists.

SENSES

Young children need a range of activities in which they use all of their senses. They need time to explore and develop ideas by creating something with their hands.

DEVELOPMENT

For early year's we focus primarily on helping youngsters to develop their creative, social and expressive skills, as well as encouraging them to develop a general knowledge and understanding of the world around them. Our focus is on Science, Technology, Design, Engineering and Mathematics

PHISICAL SCIENCE

Levers, wheels, axles, pulleys and gears.

Creativity - REAL WORLS PROBLEMS

Young children need a range of activities in which they use all of their senses. They need time to explore and develop ideas by creating something with their hands.

Today

Activity 1 - SeeSaw

CONSTRUCTION HELPERS	Mr. Vargas wants to build new playground equipment for his son and daughter in their backyard. They already have a swing and a slide—he wants to add one more thing.
Logic	Explore with logic the steps to solve the situation
Social work	Learn how we are social beings and develop a sense of teamwork. Developing communication skills Following instructions. Defining rolls that play each part.
Exploring mechanicals	Use of Lego blocks to learn about mechanics
Design	Where to start to build each new vehicle.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the seesaw to make sure they have the right parts and work properly.
Real world SeeSaws	Compare the one they made with the ones they have seen at the park. Does their seesaw imitate the real-life seesaw?
Critical Thinking Questions	1. What happens when objects are moved closer to the fulcrum point? 2. What happens when objects are moved away from the fulcrum point? 3. Do they balance? 4. What would happen if you use only one bridge element to support the seesaw?
Extension	Have students move the fulcrum point away from the middle. What happens to their seesaw?

Activity 2 – Stamper

CONSTRUCTION HELPERS	Mr. Jones has just started a tool company. He wants his tools to be different from all of the other tools by putting his special logo on his tools. He is wondering what kind of machine he will need in order to put his logo on his tools.
Logic	Explore with logic the steps to solve the situation
Social work	Learn how we are social beings and develop a sense of teamwork. Developing communication skills Following instructions. Defining rolls that play each part.
Exploring mechanicals	Use of Lego blocks to learn about mechanics
Design	Where to start to build the machine.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the stamper to make sure they have the right parts and that it works properly.
Real world Stamper	Compare the one they made with the ones they have seen in real life.
Critical Thinking Questions	1. Does the stamper move freely? 2. Does the stamper stay up in the air?
Extension	Have students explore the different ways students can get the stamper to move.

Young Peoples Workshops

Tech Machines
Ages 4 to 6
Day 2

SENSES

Young children need a range of activities in which they use all of their senses. They need time to explore and develop ideas by creating something with their hands.

DEVELOPMENT

In the early years we primary focus on helping youngsters to develop their creative, social and expressive skills, as well as encouraging them to develop a general knowledge and understanding of the world around them. Our focus is on Science, Technology, Design, Engineering and Mathematics

PHISICAL SCIENCE

Levers, wheels and axles. Pulleys, gears.

Creativitv - REAL WORLS PROBLEMS

Young children need a range of activities in which they use all of their senses. They need time to explore and develop ideas by creating something with their hands.

Today

Ac ivity 1 – Car & Launcher

Too much to carry	Jackson is collecting soda cans from his neighbors so he can recycle them. He needs something he can transport the cans in because can't carry them all in his hands and they would eventually become too heavy to carry. What can he do to?
Logic MISSION	Explore with logic the steps to solve the situation. What other transportation devices can he use to help him transport his cans?
Social work	Learn how we are social beings and develop a sense of teamwork. Developing communication skills Following instructions. Defining rolls who play each part. Prepare rescue vehicles, Creating the scene: Being creative to represent the fallen trees. What to use to create the pylons....
Exploring mechanicals	Use of Lego blocks to learn about mechanics
Design	Students will build a car and a launcher.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the vehicle to make sure it has the right parts and works properly. Test the launcher to see if it launches the car properly.
Real world vehicles	Compare the one they made with the ones they have seen, how fast they go, how big they are, how heavy.
Critical Thinking Questions	1. What did the car need to have in order for the wheels to move freely? 2. Does it matter which hole in the car base the axles go through?
Extension	Students use a longer axle for the launcher. Students note what happens when they do this.
Definitions	**Wheel:** Wheels help you move an object across the ground because they cut down on the amount of friction between what you're trying to move and the surface you're pulling it against

Definitions	Gears- worm: Is a Gear in a worm shape that slows the speed of a machine. Every time the worm turns, it pushes just one tooth the spur gear round. Together, the worm and the spur gear act as brake.

Activity 2 – Food Mixer

Brand New Food Mixer	Sally is going to open a new bakery store where she will sell a variety of delicious cupcakes and cakes. She has already come up with some wonderful names for her cupcakes, such as Tangy Tangerine Fluff, and Rainbow Snow and Ice. She wants to be able to make a lot of cake batter at one time so she can cook cupcakes throughout the day without having to stop to make more.
Logic MISSION	Explore with logic the steps to solve the situation. Discus what we can build to help her make large quantities of batter.
Social work	Learn how we are social beings and develop a sense of teamwork. developing communication skills Following instructions. Defining rolls who play each part. Prepare rescue vehicles, creating the scene: Being creative the accident and how to let people know about it.
Exploring mechanicals	Use of mega blocks to learn about mechanics
Design	Look into the different kinds of gears they will need.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the mixer to make sure they have the right parts and that it works properly.
Real world vehicles	Compare the one they made with the ones they have seen, how fast they go, how big they are, how heavy. Difference in each one.
Definitions	Gearing up, gearing down, speed, force, torque, driver, follower, ratios
Critical Thinking Questions	Do the beaters turn faster or slower than the rate at which you turn the handle? How is the increased speed being transmitted to the wheel?
Extension	Change the model so that the beaters goes around 5 times every time the handle goes down once.

Tech Machines
Ages: 4 to 6
Day 3

SENSES

Young children need a range of activities in which they use all of their senses. They need time to explore and develop ideas by creating something with their hands.

DEVELOPMENT

For early year's we focus primarily on helping youngsters to develop their creative, social and expressive skills, as well as encouraging them to develop a general knowledge and understanding of the world around them. Our focus is on Science, Technology, Design, Engineering and Mathematics

PHISICAL SCIENCE

Levers, wheels and axles. Pulleys, gears.

Creativity - REAL WORLS PROBLEMS

Young children need a range of activities in which they use all of their senses. They need time to explore and develop ideas by creating something with their hands.

Today

Activity 1- Crane

Large Load	The construction workers are building a new tall building. They need to carry the large heavy beams to the top of the building to continue constructing the building, but the beams are too heavy for the workers to carry up the stairs because the building is just too high. The workers are trying to figure out how to lift the beams up to the top of the building.
Logic MISSION	Explore with logic the steps to solve the situation. The equipment must be able to lift very heavy loads.
Social work	Learn how we are social beings and develop a sense of team work. developing communication skills Following instructions. Defining rolls who play each part. Prepare rescue vehicles, Creating the scene: Being creative the fair.
Exploring mechanicals	Use of mega blocks to learn about mechanics
Design	Prepare crane making sure pulley is functional.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the crane to make sure they have the right parts and work properly.
Real world vehicles	Compare the one they made with the ones they have seen, how fast they go, how big they are, how heavy. Difference in each one how they takeoff and land noise etc. Occupancy The drivers what type of jobs they do, uniform they wear. Different geographic situations
Critical Thinking Questions	1. Does the pulley turn freely? 2. Does the rope utilize the groove in the pulley? What would happen if it didn't? 3. How does the rope affect the lifting of objects? 4. What happens to the rope when a heavy object is lifted.
Extension	Will the rope work better on the larger pulley?
Definitions	**Pulley**: A wheel with a rope going through it that moves to change the direction of pulling force.

Logic	Explore with logic the steps to solve the situation
Social work	Learn how we are social beings and develop a sense of teamwork. Developing communication skills Following instructions. Defining rolls that play each part.
Exploring mechanicals	Use of Lego blocks to learn about mechanics
Design	Where to start to build the clown eyes.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the gears to make sure they have the right parts and work properly.
Real world gears	Compare the one they made with the ones they have seen.
Critical Thinking Questions	Do the eyes move in opposite direction? Why do you think that is? Which gear is the driver and which gear is the follow gear? What do you think will happen to the eyes if you turn the handle faster?
Extensions	Will the eyes turn in the same direction if you turn the handle backwards? Why or why not? What do clockwise and counterclockwise mean?

Young Peoples Workshops

Tech Machines
Ages: 4 to 6
Day 4

SENSES

Young children need a range of activities in which they use all of their senses. They need time to explore and develop ideas by creating something with their hands.

DEVELOPMENT

For early year's we focus primarily on helping youngsters to develop their creative, social and expressive skills, as well as encouraging them to develop a general knowledge and understanding of the world around them. Our focus is on Science, Technology, Design, Engineering and Mathematics

PHISICAL SCIENCE

Levers, wheels and axles. Pulleys, gears.

Creativity - REAL WORLS PROBLEMS

Young children need a range of activities in which they use all of their senses. They need time to explore and develop ideas by creating something with their hands.

Today

Activity 1 – Car with a Crane

Tony Saves the day	Aplville is linked to Cliffville by a tunnel through the mountain. One day, Tony is driving his truck along the steep mountain road when suddenly sees a huge pile of rocks blocking the read, There are several difficult situations lets think of some and try to solve them
Logic MISSION	Explore with logic the steps to solve the situation. Discus how to create the tunnel and a rock side. How are tunnels build?
Social work	Learn how we are social beings and develop a sense of teamwork. developing communication skills Following instructions. Defining rolls who play each part. Prepare rescue vehicles, creating the scene: Being creative the accident and how to let people know about it.
Exploring mechanicals	Use of mega blocks to learn about mechanics
Design	Prepare rescue vehicles, type of tires they need.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the vehicles to make sure they have the right parts and work properly. Check the tunnel and clean up the area,
Real world vehicles	Compare the one they made with the ones they have seen, how fast they go, how big they are, how heavy. Difference in each one how they takeoff and land noise etc. Occupancy. The drivers what type of jobs they do, uniform they wear. Different geographic situations
A CAR WITH A CREANE	To help move all the rocks blocking the way we need a car with a crane. The car with a crane uses the worm gear to loft a load and to hold it in place while the care moves along.
Measuring wheel	To measure the distance we need to move the rocks to clear the tunnel. We need to create a measuring wheel and include a measuring gauge and a pointer

	Axle: axle is the object that attaches the wheel to the object it's moving

Activity 2 – Cab & Trailer

Too heavy to carry.	The construction workers are transporting some cables and cement blocks for the bridge they are building. There is too many cables and blocks to fit into a pick-up truck, but not enough to fit into a large semi truck.
Logic MISSION	Explore with logic the steps to solve the situation. What other transportation devices can they use to help them transport their materials?
Social work	Learn how we are social beings and develop a sense of teamwork. Developing communication skills Following instructions. Defining rolls who play each part. Prepare rescue vehicles, Creating the scene: Being creative to represent the fallen trees. What to use to create the pylons....
Exploring mechanicals	Use of Lego blocks to learn about mechanics
Design	Students will rebuild the car and build a trailer to attach to the car.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the vehicle to make sure it has the right parts and works properly. Test the trailer to see if it works properly.
Real world vehicles	Compare the one they made with the ones they have seen in real life. How are they the same/different?
Critical Thinking Questions	1. Does the trailer move freely? 2. Can the cab be used to pull a longer trailer? 3. What makes this trailer work?
Extension	Students predict whether the trailer can be attached to any point and still turn? Students will then test their predictions.
Definitions	Trailer: part of a large van that is pulled by a truck or tractor; use especially for hauling freight.

Young Peoples Workshops

Tech Machines
Ages: 4 to 6
Day 5

SENSES

Young children need a range of activities in which they use all of their senses. They need time to explore and develop ideas by creating something with their hands.

DEVELOPMENT

For early year's we focus primarily on helping youngsters to develop their creative, social and expressive skills, as well as encouraging them to develop a general knowledge and understanding of the world around them. Our focus is on Science, Technology, Design, Engineering and Mathematics

PHISICAL SCIENCE

Levers, wheels and axles. Pulleys, gears.

Creativity - REAL WORLS PROBLEMS

Young children need a range of activities in which they use all of their senses. They need time to explore and develop ideas by creating something with their hands.

Today

Activity - MerryGoRound - Gears

A day out with Charlie and Fiona	Charlie the Copper and Fiona the Flyer are having a very different sort of day. They usually carry workers and heavy equipment to remote areas where work need to be done but access is difficult. Today they are going to the Smallville Annual Fair to give people rides for fun. This big fair has lots of stalls, Competitions, brass bands and bouncy castles and of course ice cream and candy.
Logic MISSION	Explore with logic the steps to solve the situation. Build Charlie and Fiona making sure how many people can the fit to ride.
Social work	Learn how we are social beings and develop a sense of team work. developing communication skills Following instructions. Defining rolls who play each part. Prepare rescue vehicles, Creating the scene: Being creative the fair.
Exploring mechanicals	Use of mega blocks to learn about mechanics
Design	Prepare rescue vehicles, type of tires they need.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the vehicles to make sure they have the right parts and work properly.
Real world vehicles	Compare the one they made with the ones they have seen, how fast they go, how big they are, how heavy. Difference in each one how they takeoff and land noise etc. Occupancy The drivers what type of jobs they do, uniform they wear. Different geographic situations

tivity 2 - Clown Eyes - Gears

Googly Eyes	Steve is in charge of the Fun House at the same Smallville Annual Fair that Charlie and Fiona are at. He wants to put something silly on the side of the fun house so kids will know that it is a fun and silly place to go.

	Belt: a band of strong flexible material used in machinery to transmit motion or power or to move articles.

Activity 2 - Fan

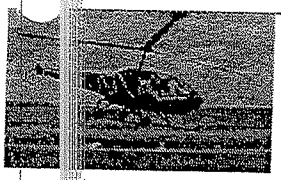
Getting Rid of Excess Heat	The construction workers have just built a new house. The new owner is worried that in the summer time, it will get very hot in the rooms. He doesn't want to use the central air unless he really needs to because of the cost involved. What could be added to the rooms to help?
Logic MISSION	Explore with logic the steps to solve the situation.
Social work	Learn how we are social beings and develop a sense of team work. developing communication skills Following instructions. Defining rolls who play each part. Prepare rescue vehicles, Creating the scene: Being creative the fair.
Exploring mechanicals	Use of mega blocks to learn about mechanics
Design	Prepare fan making sure the fan has a belt drive to help the blades turn.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the fan to make sure they have the right parts and work properly.
Real world vehicles	Compare the one they made with the ones they have seen, how fast they go, how big they are, how heavy. Different geographic situations
Critical Thinking Questions	1. Do the blades revolve smoothly? If not, what can you do to fix it? 2. Do the blades turn at the same speed as the crank handle?
Extension	Can the long beams be used to make a faster fan?
Definitions	**Pulley**: A wheel with a rope going through it that moves to change the direction of pulling force. **Belt**: a band of strong flexible material used in machinery to transmit motion or power or to move articles. **Direction of motion** **horizontal; vertical**

Young Peoples Workshops

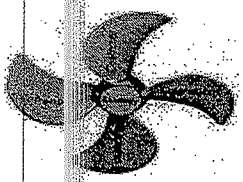
Tech Machines
4 to 6

Ian

A day out with Charlie and Fiona	Charlie the Copper and Fiona the Flyer are having a very different sort of day. They usually carry workers and heavy equipment to remote areas where work needs to be done but access is difficult. Today they are going to the Small Ville Annual Fair to give people rides for fun. This big fair has lots of stalls, Competitions, brass bands and bouncy castles and of course ice cream and candy.
Logic MISSION	Explore with logic the steps to solve the situation. Build Charlie and Fiona making sure how many people can the fit to ride.
Social work	Learn how we are social beings and develop a sense of team work. Developing communication skills Following instructions. Defining rolls who play each part. Prepare rescue vehicles, Creating the scene.
Exploring mechanicals	Use of mega blocks to learn about mechanics
Design	Prepare rescue vehicles, type of tires they need.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the vehicles to make sure they have the right parts and work properly.
Real world vehicles	Compare the one they made with the ones they have seen, how fast they go, how big they are, how heavy. Difference in each one how they takeoff and land noise etc. Occupancy. The drivers what type of jobs they do, uniform they wear. Different geographic situations
Merry-go Round	Construct a game that can be fun in a fair. Shows how size gears can be used to make parts of a model move at different speeds. Tow gears of different sizes mashed together will operate in different speeds. When a large gear turns a smaller gear, it will reduce and increase in output speed When a small gear turns a larger gear, it will produce a reduction in output speed
Definition	**Speed:** changing location by moving rapidly slowly. **Increase:** a process of becoming larger or longer or more numerous or more important; **Reduction:** a process of slower.



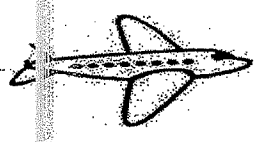
ROTOR BLADE



PROPELLER

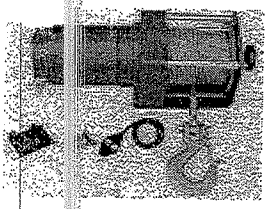
TAIL

HELICOPTER

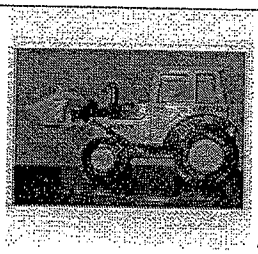


AIRPLANE

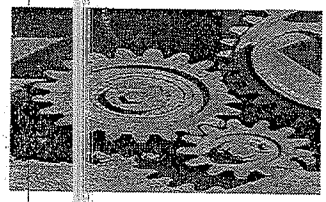
Stormy Weather	A power company has called in the Tech Machines team to help them repair damage caused by a storm. The team has to travel to a remote site. Power lines have come off their pylons. To make matters worse the river has burst its bank and flooded the access road, and damaged the bridge.
ogic MISSION	Explore with logic the steps to solve the situation. Inspect the bridge and repair it, and repair the power lines asp so that power is restored for the people living in the area.
ocial work	Learn how we are social beings and develop a sense of team work. developing communication skills Following instructions. Defining rolls who play each part. Prepare rescue vehicles, Creating the scene: Being creative to represent the fallen trees. What to use to create the pylons....
xploring mechanicals	Use of mega blocks to learn about mechanics
esign	Prepare rescue vehicles, type of tires they need.
rganizational skills	Sorting and classifying materials, by color, size, style and functionality.
esting	Test the vehicles to make sure they have the right parts and work properly.
eal world vehicles	Compare the one they made with the ones they have seen, how fast they go, how big they are, how heavy. The drivers what type of jobs they do, uniform they wear. Different geographic situations
WINCH	Demonstrates how a crown gear can be used to transfer the handle being turned through 90 degrees to operate the winding mechanism. Construct one and use it to clear the damaged are after storm. **Crown Gear:** has a special curved teed which enable it to mesh at right angles with a spur gear. When a crown gear works with a larger or smaller spur gear, a change un output speed as direction is produced.
efinitions	**Winch:** Lifting device consisting of a horizontal cylinder turned by a crank on which a cable or rope winds. **Crown Gear:** Wheelwork consisting of a connected set of rotating gears by which force is transmitted or motion or torque is changed.



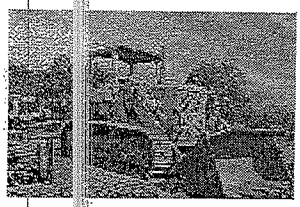
WINCH



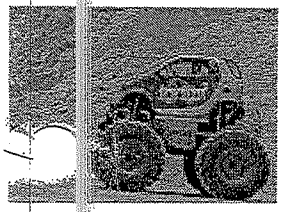
SHOVEL



CROWN GEAR



TRACK - BUCKET



WHEELS

Young Peoples Workshops

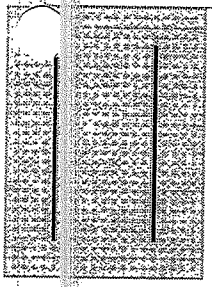
Tech Machines
4 to 6

Dear parents:

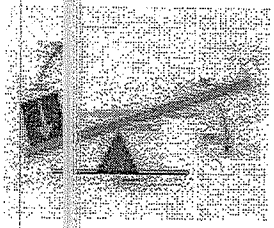
Thank you for bringing your kids to our Tech machines camp. During this week we learned while playing, and having fun. We developed social skills by working together helping others and shearing ideas.

Today

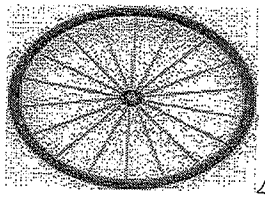
t Stamper	Introduce the use of tow parallel levers (beams) This are used to lift and lower a weight.
ogic MISSION	Explore with logic the steps to solve the situation. Discus how to create a stamper.
ocial work	Learn how we are social beings and develop a sense of team work. developing communication skills Following instructions. Defining rolls who play each part.
xploring mechanicals	Use of mega blocks to learn about mechanics.
esign	Design template to stamp modeling material.
rganizational skills	Sorting and classifying materials, by color, size, style and functionality.
esting	Test the stamper with modeling material. Lean up and down movement with leveler to create movement within a structure. Different impressions.
eal world machines	Compare the one they made with the ones they have seen, how fast they go, how big they are, how heavy. Can we make a product with this stamper?
ood Mixer	Make a Food mixer to produce a product that can be used later. Translate an everyday object into an early simple machines model.
OCABULARY	**Axle:** : a point on which a wheel rotates **Parallel:** something having the property of being analogous to something else **Lever:** a simple machine that gives a mechanical advantage when given a fulcrum.



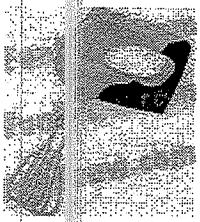
PARALLEL



LEVER



AXLE

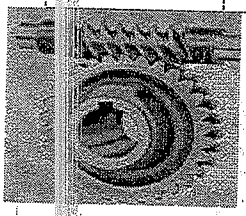


FOOD MIXER BEATERS

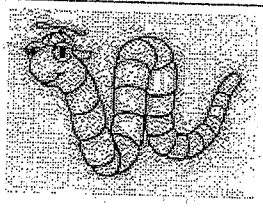
Young Peoples Workshops

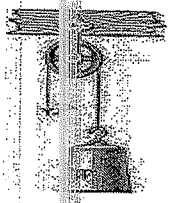
Tech Machines
4 to 6

Tony Saves the day	Alpville is linked to Cliffville by a tunnel through the mountain. One day, Tony is driving his truck along the steep mountain road when suddenly sees a huge pile of rocks blocking the road. There are several difficult situations. Lets think of some and try to solve them
Logic MISSION	Explore with logic the steps to solve the situation. Discus how to create the tunnel and a rock side. How tunnels are build?
Social work	Learn how we are social beings and develop a sense of teamwork. developing communication skills Following instructions. Defining rolls who play each part. Prepare rescue vehicles, Creating the scene:.
Exploring mechanicals	Use of mega blocks to learn about mechanics
Design	Prepare rescue vehicles, type of tires they need.
Organizational skills	Sorting and classifying materials, by color, size, style and functionality.
Testing	Test the vehicles to make sure they have the right parts and work properly. Check the tunnel and clean up the area,
Real world vehicles	Compare the one they made with the ones they have seen, how fast they go, how big they are, how heavy. Difference in each one how they takeoff and land noise etc. Occupancy. The drivers what type of jobs they do, uniform they wear. Different geographic situations
A CAR WITH A CREANE	To help move all the rocks blocking the way we need a car with a crane. The car with a crane uses the worm gear to lift a load and to hold it in place while the crane moves along.
Measuring wheel	To measure the distance we need to move the rocks to clear the tunnel. We need to create a measuring wheel and include a measuring gauge and a pointer
Definitions	Worm Gears: Is a Gear in a worm shape that slows the speed of a machine. Every time the worm turns, it pushes just one tooth the spur gear round. Together, the worm and the spur gear act as brake.

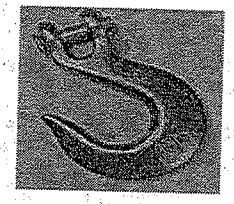


WORM GEAR

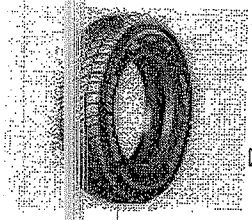




PULLEY



HOOK



TIRE / WHEEL

8 PM The Light Before Christmas	8 PM The Light Before Christmas			8 PM The Light Before Christmas 9 PM U2 3D	Christmas 8 PM The Light Before Christmas 9 PM U2 3D	
14 1 PM The Light Before Christmas 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Grand Canyon Adventure 3D: River at Risk 5 PM The Light Before Christmas 7 PM The Light Before Christmas 8 PM The Light Before Christmas	**15** 10 AM - 10:45 AM Texas: The Big Picture 11 AM The Light Before Christmas 12 PM Grand Canyon Adventure 3D: River at Risk 1 PM The Light Before Christmas 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Grand Canyon Adventure 3D: River at Risk 5 PM The Light Before Christmas 7 PM The Light Before Christmas 8 PM The Light Before Christmas	**16** 10 AM - 10:45 AM Texas: The Big Picture 11 AM The Light Before Christmas 12 PM Grand Canyon Adventure 3D: River at Risk 1 PM The Light Before Christmas 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Grand Canyon Adventure 3D: River at Risk 5 PM The Light Before Christmas 7 PM The Light Before Christmas 8 PM The Light Before Christmas	**17** 10 AM - 10:45 AM Texas: The Big Picture 11 AM The Light Before Christmas 12 PM Grand Canyon Adventure 3D: River at Risk 1 PM The Light Before Christmas 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Grand Canyon Adventure 3D: River at Risk 5 PM The Light Before Christmas 7 PM The Light Before Christmas 8 PM The Light Before Christmas	**18** 10 AM Polar Express: An IMAX 3D Experience 12 PM Polar Express: An IMAX 3D Experience 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Grand Canyon Adventure 3D: River at Risk 5 PM The Light Before Christmas	**19** 10 AM - 10:45 AM Texas: The Big Picture 11 AM The Light Before Christmas 12 PM Polar Express: An IMAX 3D Experience 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Grand Canyon Adventure 3D: River at Risk 5 PM The Light Before Christmas 7 PM The Light Before Christmas 8 PM Polar Express: An IMAX 3D Experience	**20** 10 AM Polar Express: An IMAX 3D Experience 10 AM - 10:45 AM Texas: The Big Picture 11 AM The Light Before Christmas 12 PM Polar Express: An IMAX 3D Experience 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Grand Canyon Adventure 3D: River at Risk 5 PM The Light Before Christmas 7 PM The Light Before Christmas 8 PM Polar Express: An IMAX 3D Experience
21 1 PM The Light Before Christmas 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Polar Express: An IMAX 3D Experience 7 PM The Light Before Christmas 8 PM The Light Before Christmas	**22** 10 AM - 10:45 AM Texas: The Big Picture 11 AM The Light Before Christmas 12 PM Grand Canyon Adventure 3D: River at Risk 1 PM The Light Before Christmas 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Polar Express: An IMAX 3D Experience 7 PM The Light Before Christmas 8 PM The Light Before Christmas	**23** 10 AM - 10:45 AM Texas: The Big Picture 11 AM The Light Before Christmas 12 PM Grand Canyon Adventure 3D: River at Risk 1 PM The Light Before Christmas 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Polar Express: An IMAX 3D Experience 7 PM The Light Before Christmas 8 PM The Light Before Christmas	**24**	**25**	**26** 10 AM - 10:45 AM Texas: The Big Picture 11 AM The Light Before Christmas 12 PM Grand Canyon Adventure 3D: River at Risk 1 PM The Light Before Christmas 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Grand Canyon Adventure 3D: River at Risk 5 PM The Light Before Christmas 7 PM The Light Before Christmas 8 PM The Light Before	**27** 10 AM - 10:45 AM Texas: The Big Picture 11 AM The Light Before Christmas 12 PM Grand Canyon Adventure 3D: River at Risk 1 PM The Light Before Christmas 2 PM Wild Ocean 3D 3 PM The Light Before Christmas 4 PM Grand Canyon Adventure 3D: River at Risk 5 PM The Light Before Christmas 7 PM The Light Before Christmas 8 PM The Light Before