Summer is our favorite time of year!

This summer get your parents, siblings, friends, and cousins together to plan, design, build, and share these activities!

From July 11 to August 12 you will get a weekly challenge to participate in! You’ll use the Engineering Design Process to tackle activities brought to you by real engineers! Use the Engineering Journal on the following pages to document your Engineering Process!

1 GET YOUR CHALLENGE
   Watch Chats with Change Makers and receive your weekly Engineering Challenge!

2 BUILD, BREAK, HAVE FUN!
   The Engineering Journal is your guide through the Engineering Design Process

3 SHARE!
   When you have your finished and final project, share it to our Facebook Page!

My age:
________________________

What I want to be when I grow up:
________________________
________________________
________________________

My favorite subject
________________________
________________________

I love:
☐ Drawing
☐ Legos
☐ Minecraft
☐ Building
☐ Being outside
☐ Crafting
☐ Games
☐ Playing with Friends
Identify the Problem
Are you trying to: fix something that doesn’t work? Make something better? Create something that’s never been done?

Learn Specifications
Are there physical constraints? Who is the user? What do they need? What will it cost? What is my budget? What is the timeline?

Brainstorm Solutions
Come up with as many possible solutions as you can. Then ask: How well do these ideas meet some or all of the requirements?

Predict the Future:
What do you think will be the biggest challenge that you face? How will you overcome that?

What materials do you need?
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
- ___________
**Design It**  
It’s time to start sketching, drawing, doodling, noodling, rendering, & wire framing!

**Build It**  
Now that you have your sketch, it’s time to build!

**Test, Improve, Redesign**  
You have a working model. Now try to break it!

**Activity**
This week’s activity is:  
**Slow It Down**

Use the QR code to watch the Chats with Change Makers episode that links with this activity.

**Share it**  
Now that you have a tested, redesigned, and final project: tell people about it! If valuable feedback is shared: consider going back to Test, Improve, Redesign, and Build it!

Use this QR code to find the Activity Guide!
Identify the Problem

Are you trying to: fix something that doesn’t work? Make something better? Create something that’s never been done?

Learn Specifications

Are there physical constraints? Who is the user? What do they need? What will it cost? What is my budget? What is the timeline?

Brainstorm Solutions

Come up with as many possible solutions as you can. Then ask: How well do these ideas meet some or all of the requirements?

What materials do you need?

☐ ________________

☐ ________________

☐ ________________

☐ ________________

预测未来:

What do you think will be the biggest challenge that you face? How will you overcome that?
**Design It**
It’s time to start sketching, drawing, doodling, noodling, rendering, & wire framing!

**Build It**
Now that you have your sketch, it’s time to build!

**Test, Improve, Redesign**
You have a working model. Now try to break it!

**Activity**
This week’s activity is:
**Critical Load**
Use the QR code to watch the Chats with Change Makers episode that links with this activity.

**Share it**
Now that you have a tested, redesigned, and final project: tell people about it! If valuable feedback is shared: consider going back to Test, Improve, Redesign, and Build it!
**Identify the Problem**

Are you trying to: fix something that doesn’t work? Make something better? Create something that’s never been done?

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**Learn Specifications**

Are there physical constraints? Who is the user? What do they need? What will it cost? What is my budget? What is the timeline?

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**Brainstorm Solutions**

Come up with as many possible solutions as you can. Then ask: How well do these ideas meet some or all of the requirements?

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**Predict the Future:**

What do you think will be the biggest challenge that you face? How will you overcome that?
Design It
It’s time to start sketching, drawing, doodling, noodling, rendering, & wire framing!

Build It
Now that you have your sketch, it’s time to build!

Test, Improve, Redesign
You have a working model. Now try to break it!

Activity
This week’s activity is: Mechanical Hand

Use the QR code to watch the Chats with Change Makers episode that links with this activity.

Use this QR code to find the Activity Guide!

Share it
Now that you have a tested, redesigned, and final project: tell people about it! If valuable feedback is shared: consider going back to Test, Improve, Redesign, and Build it!
# Identify the Problem

Are you trying to: fix something that doesn’t work? Make something better? Create something that’s never been done?

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# Learn Specifications

Are there physical constraints? Who is the user? What do they need? What will it cost? What is my budget? What is the timeline?

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# Brainstorm Solutions

Come up with as many possible solutions as you can. Then ask: How well do these ideas meet some or all of the requirements?

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# Predict the Future:

What do you think will be the biggest challenge that you face? How will you overcome that?

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**Chats with Change Makers**

**MICHAEL**

SOFTWARE QUALITY ENGINEER
Design It

It’s time to start sketching, drawing, doodling, noodling, rendering, & wire framing!

Build It

Now that you have your sketch, it’s time to build!

Test, Improve, Redesign

You have a working model. Now try to break it!

Activity

This week’s activity is:
Foil Boats

Use the QR code to watch the Chats with Change Makers episode that links with this activity.

Use this QR code to find the Activity Guide!

Share it

Now that you have a tested, redesigned, and final project: tell people about it! If valuable feedback is shared: consider going back to Test, Improve, Redesign, and Build it!

Share with us on Facebook

FB.com/DiscoverEOrg
Identify the Problem

Are you trying to: fix something that doesn’t work? Make something better? Create something that’s never been done?

Learn Specifications

Are there physical constraints? Who is the user? What do they need? What will it cost? What is my budget? What is the timeline?

Brainstorm Solutions

Come up with as many possible solutions as you can. Then ask: How well do these ideas meet some or all of the requirements?

What materials do you need?

☐ ____________
☐ ____________
☐ ____________
☐ ____________

Predict the Future:

What do you think will be the biggest challenge that you face? How will you overcome that?
Design It
It’s time to start sketching, drawing, doodling, noodling, rendering, & wire framing!

Build It
Now that you have your sketch, it’s time to build!

Test, Improve, Redesign
You have a working model. Now try to break it!

Share it
Now that you have a tested, redesigned, and final project: tell people about it! If valuable feedback is shared: consider going back to Test, Improve, Redesign, and Build it!

Activity
This week’s activity is:
**Cell Phone Stand**

Use the QR code to watch the Chats with Change Makers episode that links with this activity.

Use this QR code to find the Activity Guide!

Share with us on Facebook
FB.com/DiscoverEOrg