

Teach  
to  
Dream

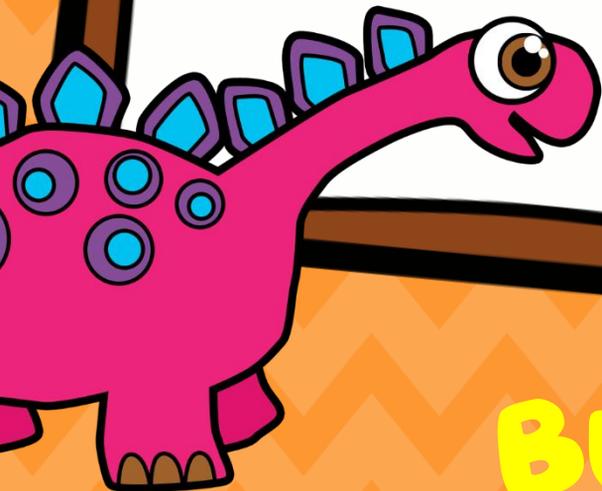
**PRINT & GO!**

# STEM/ STEAM CHALLENGES

INCLUDES:

- ~Task Cards
- ~Task 3D display option
- ~Student sheet
- ~Reflection
- ~Foldable

**Dinosaur  
Theme**



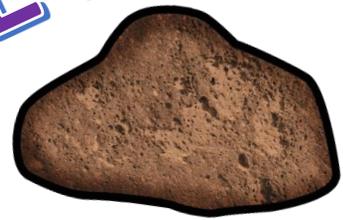
**BUNDLE!**

STEAM by  
Theme

# Cave Shelter

**The Scenario:** You have gone back in time and are living with the dinosaurs. They are normally a lot of fun to be around, but at times you may need to seek protection from a cave.

**The challenge:** To design and create a shelter that will keep you safe. It needs to be at least 2.5 cm (1 inch) thick and be able to withstand a heavy weight (rocks). How will you get in and out?



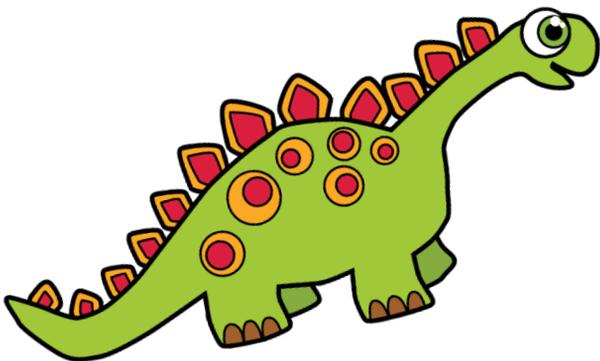
## Possible Materials to use:

- ~ Pop sticks
- ~ String
- ~ Paper
- ~ Craft items
- ~ Glue

Search materials  
around the class.

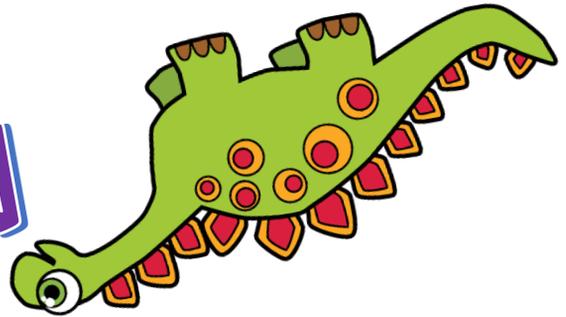
## Remember to:

- Complete the design stage first.
- Record the process/ steps as you complete them.
- Work as a team.
- Listen to other group member's ideas, and test them out.
- All contribute to the task.
- Be sensible and on task.
- Clean up after yourself
- Over come challenges – think how you could do it differently.
- Decorate it with your own personal touch.
- Be CREATIVE



Dinosaur Theme

## Dinosaur Theme



- Remember to:**
- Complete the design stage first.
  - Record the process/ steps as you complete them.
  - Work as a team.
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  - Actively contribute to the task.
  - Be sensible and help yourself.
  - Overcome challenges – think about how you could do it differently.
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**Possible Materials to use:**

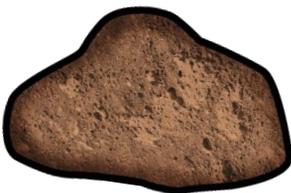
- ~ Paper
- ~ Tape
- ~ Craft items
- ~ Scrap materials
- around the classroom.

STEAM by  
Theme

# Cave Shelter

**The Scenario:** You have gone back in time and are living with the dinosaurs. They are normally a lot of fun to be around, but at times you may need to seek protection from a predator.

**The challenge:** To design and create a shelter that will keep you safe. It needs to be at least 2.5 cm (1 inch) thick and be able to withstand a heavy weight (rocks).  
How will you get in and out?



# Dino Scare

**The Scenario:** Living with the dinosaurs can sometimes have its problems. The height and weight difference is a big one. At times you need to look bigger and scarier than you actually are.

**The challenge:** To design a device that would make you appear scarier/ bigger to the dinosaurs. How will you show that you are still friendly to other people? Will it be easy to attach/detach?

## Possible Materials to use:

- ~ Pop sticks
- ~ String
- ~ Paper
- ~ Craft items
- ~ Glue
- ~ Scrap materials around the class.

## Remember to:

- Complete the design stage first.
- Record the process/ steps as you complete them.
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  - Overcome challenges – think about how you could do it differently.
  - Decorate it with your own personal touch.
  - Be CREATIVE

**Possible Materials to use:**

- ~ Paper
- ~ Tape
- ~ Craft items
- ~ Scrap materials around the classroom.

STEAM by Theme

# Dino Scare

**The Scenario:** Living with the dinosaurs can sometimes have its problems! The height and weight difference is a big one. At times you need to look bigger and scarier than you are to be safe.

**The challenge:** To design a device that would make you appear scarier/ bigger to the dinosaurs. How will you show that you are still friendly to other people? Will it be easy to attach/use?



# Ride a Dino

**The Scenario:** Living with the dinosaurs can have its advantages. Some of the dinosaurs can move much quicker than you, whilst the height of some of them would let you see new views and reach new heights. How can you use them for transport?

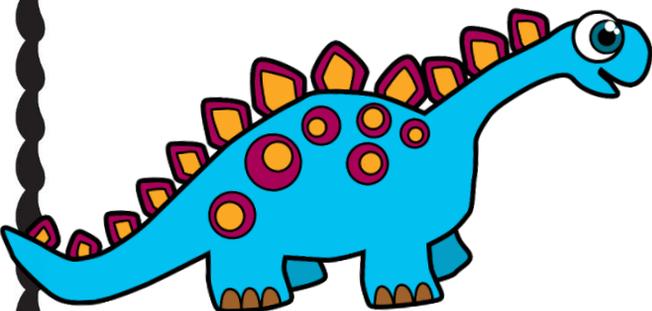
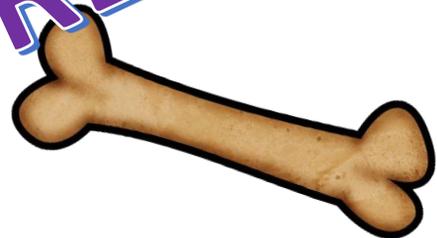
**The challenge:** To design and create a contraption that will let you ride a dinosaur safely. How will you attach it to the dinosaur's back? How will the design protect you from falling off? Do you need a side cover?

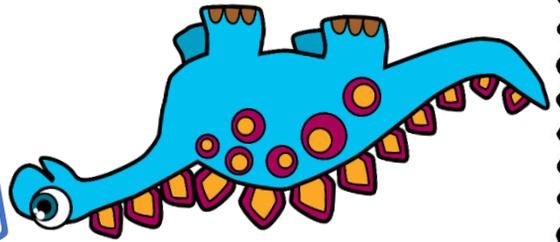
## Possible Materials to use:

- ~ Pop sticks
- ~ String
- ~ Paper
- ~ Craft items
- ~ Glue
- ~ Scrap materials from the class.

## Remember to:

- Complete the design stage first.
- Record the process/ steps as you complete them.
- Work as a team.
- Listen to other group member's ideas, and test them out.
- All contribute to the task.
- Be sensible and on task.
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  - Overcome challenges – think about how you could do it differently.
  - Decorate it with your own personal touch.
  - Be CREATIVE

**Possible Materials to use:**

- ~ Paper
- ~ Tape
- ~ Glue
- ~ Craft items
- ~ Scrap materials around the classroom.

STEAM by Theme

# Ride a Dino

**The Scenario:** Living with the dinosaurs can have its advantages. Some of the dinosaurs can run much quicker than you, whilst the height of others would let you see new and reach new heights. How can you use them for transport?

**The challenge:** To design and create a contraption that will let you ride a dinosaur safely. How will you climb onto the dinosaur's back? How will the design protect you from falling off? Do you need a shade?



# FOOD COOKER

**The Scenario:** You need to cook all of your food on a fire. When you need to turn the food, you often risk getting burnt. How can you find a way to place your food on the fire, turn it and retrieve it without getting burnt?

**The challenge:** To design and construct a tool to help you with your cooking. The tool can only be made out of items found in your environment. You must use sticks (pop sticks), vines (string) and a group covering (scrap material). Can you cook more than one item at a time?

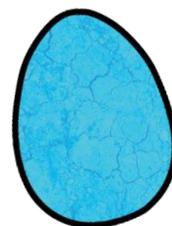
## Possible Materials to use:

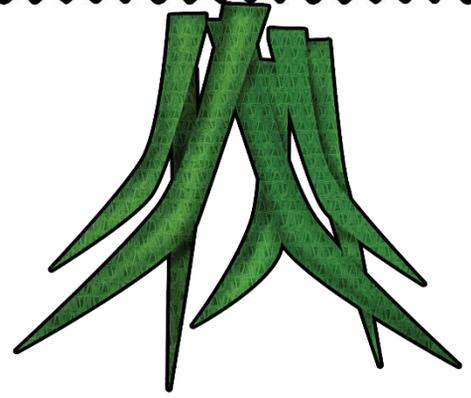
- ~ Pop sticks
- ~ String
- ~ Paper
- ~ Craft foam

Scrap materials around the class.

## Remember to:

- Complete the design stage first.
- Record the process/ steps as you complete them.
- Work as a team.
- Listen to other group member's ideas, and test them out.
- All contribute to the task.
- Be sensible and on task.
- Clean up after yourself
- Over come challenges – think how you could do it differently.
- Decorate it with your own personal touch.
- Be CREATIVE





around the classroom.

~ Scrap materials

~ Craft items

~ Tape

~ Paper

to use:

Possible Materials

- Remember to:**
- Complete the design stage first.
  - Record the process/ steps as you complete them.
  - Work as a team.
  - Listen to other group members' ideas, and test them out.
  - Actively contribute to the task.
  - Be sensible and...
  - Clear your own space.
  - Overcome challenges – think about how you could do it differently.
  - Decorate it with your own personal touch.
  - Be CREATIVE

PREVIEW

PREVIEW

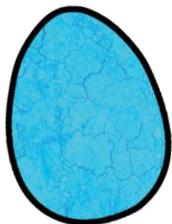
STEAM by Theme

# Food cooker

**The Scenario:** You need to cook all of your food on a fire. When you need to turn the food, you often risk getting burnt. How can you find a way to place your food on the fire so that you can retrieve it without getting burnt?

PREVIEW

**The challenge:** To design and construct a tool to help you with your cooking. The tool can only be made out of items found in your environment. You may use sticks (pops sticks), string (any group covering scrap material). Can you cook more than one item at a time?



PREVIEW

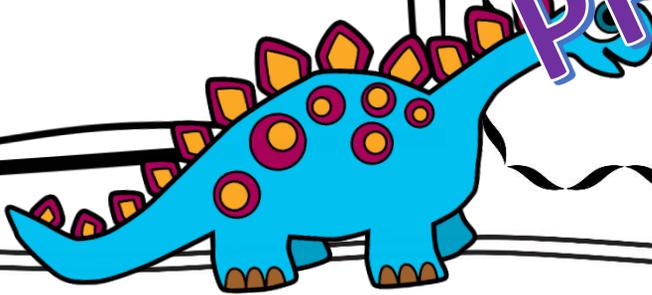
**TITLE:**

Materials Used:

**DRAW IT!**

PREVIEW

PREVIEW



**The Process:**

Step 1: \_\_\_\_\_

PREVIEW

PREVIEW

**TITLE:**

Materials Used:

**DRAW IT!**

PREVIEW

PREVIEW



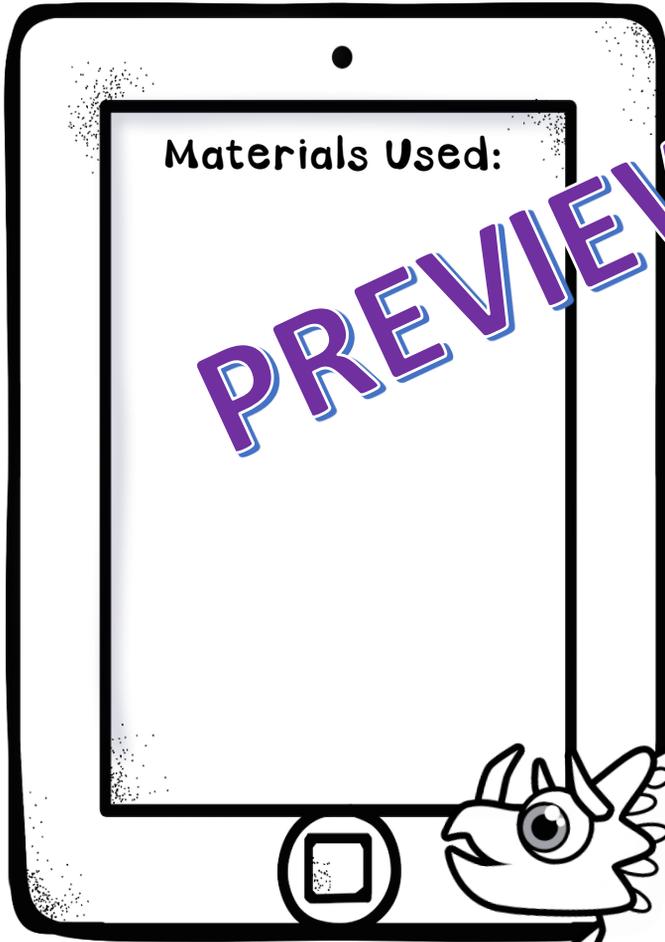
**The Process:**

Step 1: \_\_\_\_\_

PREVIEW

PREVIEW

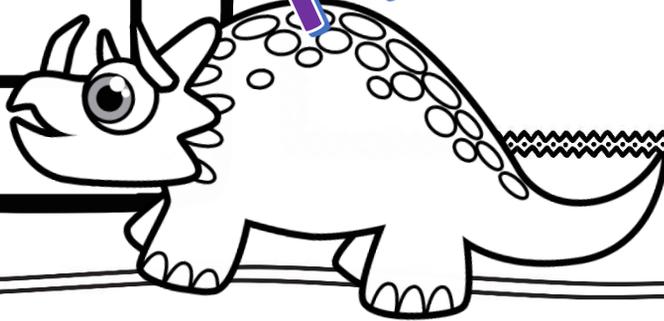
**TITLE:**



**PREVIEW**

**DESIGN IT!**

**PREVIEW**



**The Process:**

Step 1: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

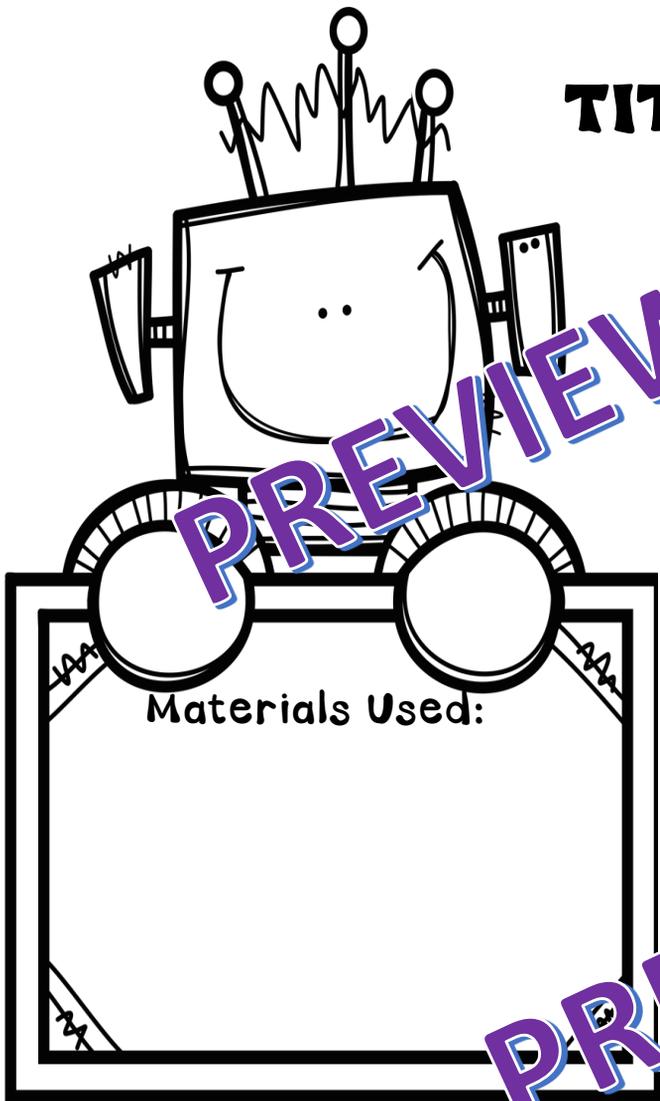
\_\_\_\_\_

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**PREVIEW**

**TITLE**

**DESIGN IT!**



**PREVIEW**

**The Process:**

Step 1: \_\_\_\_\_

**PREVIEW**

**PREVIEW**

# Reflection

## Team work

I would rate my groups cooperative skills as 1 2 3 4 5.  
Give reasons for your choice

How did you share out roles and jobs?

How did you manage any differences of opinion/ issues?

PREVIEW

PREVIEW

## New Learning

What new science/ technology concepts have you discovered?

How do you think your design could assist others/ be used in society?

What data did you use

PREVIEW

## Challenges

What challenges did you come across?

How did you work to fix them?

If you were to do this task again, what would you change and why?

PREVIEW

# Folding Mini Book

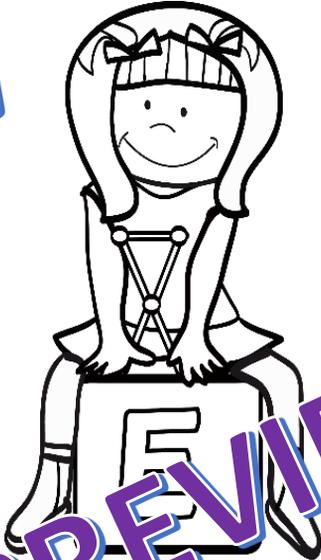
Cut around the outside, then fold on the middle line

<p>PREVIEW</p>	 <p>What science concepts/terms did you discover/ use?</p>
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<p>PREVIEW</p>	 <p>How did you decide on the materials to use?</p>
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## Folding Mini Book

Cut around the outside, then fold on the middle line

<p>PREVIEW</p>	 <p>Were there any challenges, if so how did you fix them?</p>
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<p>PREVIEW</p>	 <p>How did you add your own personal touch to the design? What did you decorate it with?</p>
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Interactive folding information cards

Cut around the outside, then fold on the middle line.

Glue blank section into student's book, students write inside.

<p>PREVIEW</p>	 <p>What data did you use or find out about?</p>
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	<p>PREVIEW</p> <p>PREVIEW</p>
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