

# ACTIVITY 6: DINO WORLD ADVENTURE GAME

**WARNING:**  
CHOKING HAZARD - Small parts.  
Not for children under 3 years.

TO PARENTS: PLEASE READ THROUGH THESE INSTRUCTIONS BEFORE GIVING GUIDANCE TO YOUR CHILDREN.

## A. CONTENTS

[1] 1 dice, [2] 6 Mould and Paint Dinosaurs [from ACTIVITY 2], [3] Game Sheet



## B. INSTRUCTIONS

Place the mould dinosaur figurines from Activity 2 on the start point. Each player rolls the dice once and whoever rolls the highest number gets to go first. Then, take turns rolling the dice to see how far forward your dinosaur can move. If your dinosaur lands on a space with **+** number eg: + 3, it gets to move 3 spaces forward! But, if your dinosaur lands on a space with **-** number eg: - 3, it will have to move 3 spaces backwards. The person who can get to the volcano the fastest is the winner!



### FUN FACTS

1. The Brachiosaurus, a huge dinosaur that is estimated to be around 85 feet long, ate between 200-400 pounds of plants everyday!
2. The first dinosaur was born 251 million years ago!
3. Dinosaurs are not actually extinct! They still live among us today in the form of birds!
4. Some dinosaurs had tails that were over 45 feet long! They used them to keep their balance while running at high speeds.
5. The word "dinosaur" in Greek means "fearfully great lizard".
6. Triceratops belonged to a family of horned dinosaurs called the Ceratopsia. Others members of this group included the Torosaurus and Styracosaurus.
7. Even though Stegosaurus's could weigh over 4.5 tonnes, they had a tiny brain. It was only about the size of a walnut.

### QUESTIONS & COMMENTS

We value you as a customer and your satisfaction with this product is important to us. If you have comments or questions, or you find any part of this kit missing or defective, please do not hesitate to contact our distributor in your country. You will find the address printed on the package. You are also welcome to contact our Marketing Support Team: Email: infodesk@4m-ind.com, Fax: [852] 25911566, Tel: [852] 28936241, Web site: WWW.4M-IND.COM

## ACTIVITY 1 & 2: MOULD & PAINT 3D DINOSAUR AND GLOW MAGNETS

**WARNING!** NOT SUITABLE FOR CHILDREN UNDER 5 YEARS. FOR USE UNDER ADULT SUPERVISION. READ THE INSTRUCTIONS BEFORE USE. FOLLOW THEM AND KEEP THEM FOR REFERENCE.

### SAFETY MESSAGES FOR USE OF PLASTER POWDER

Plaster moulding kits are considered chemical toys in the European Union. Please read through the following precautions and instructions before you start.

#### PLASTER POWDER

The plaster powder provided in this kit is a kind of calcium sulphate. The material is safe for intended use. However, it is recommended that you wash your hands after the project is done. If you have any known skin allergies, you should first seek your physician's advice before using the kit. In case of any accidental ingestion, consult a physician. Please call your local health centre or our product distributor as listed in our package for further information.

#### FIRST AID INFORMATION

If swallowed : Wash out mouth with water, drink some fresh water. DO NOT INDUCE VOMITING. Seek immediate medical advice. If in doubt, seek medical advice without delay. Take the chemical and /or product together with the container with you. In case of injury: always seek medical advice. In case of eye contact: wash out eye with plenty of water, holding eye open. Seek immediate medical advice.

#### ADVICE FOR ADULT SUPERVISION

- This chemical toy is not suitable for children under 5 years. For use under adult supervision. Keep this chemical toy set out of reach of children under 5 years old. Read and follow these instructions, the safety rules and the first aid information and keep them for reference. Incorrect use of plaster can cause injury and damage to health. Only carry out those activities which are listed in the instructions. Because children's abilities vary, even within age groups, supervising adults should exercise discretion as to which activities are suitable for a particular child. The supervising adult should discuss the warnings, safety information and the possible hazards with the child or children before commencing the activities.

- The area surrounding the activity should be kept clear of any obstructions and away from food storage. It should be well lit, ventilated and close to a water supply. The working area should be cleaned immediately after carrying out the activity. Particular attention should be paid to the safe handling of the alkalies and acids. A solid table with a heat resistant top should be used.

#### SAFETY RULES

- Keep children under the specified age limit and animals away from the activity area.
- Store the kit out of reach of young children.
- Wash hands after carrying out activities. Clean all equipment after use.
- Do not use any equipment which has not been supplied with the set or recommended in the instructions for use.
- Do not eat, drink or smoke in the activity area.
- Plaster dust may irritate the eyes, nose and throat. Do not place the material in the mouth. Do not inhale dust or powder. Do not apply to the body. Avoid contact with eyes.

In case of accidental ingestion, please contact your local hospital or our central office for first aid information. You may also wish to keep the following distributor contact information for further reference:

CA - PLAYWELL ENTERPRISES LTD. E: service@playwellcanada.com T: 1-416-439-0044.

UK - GREAT GIZMOS LTD. CHURCHILL COURT, 3 MANOR ROYAL, CRAWLEY, WEST SUSSEX, RH10 9LU, UK. E: enquiries@greatgizmos.co.uk. T: 44-1293-543221 W: www.greatgizmos.co.uk.

IE - GREAT GIZMOS LTD. 51 BRACKEN ROAD, SANDYFORD, DUBLIN D18 CV48, IRELAND. E: Ireland@greatgizmos.co.uk. T: 353-1-969-3241.

US - TOYSMITH. 3101 WEST VALLEY HWY EAST, SUMNER, WA 98390, USA. E: info@toysmith.com. T: 800-356-0474.

#### OTHER REMARKS ABOUT PLASTER POWDER

Before you start mixing the plaster, please note the following:

Plaster powder starts to harden once it is mixed with water. It is a gradual process in which the viscosity of the mixture will slowly reduce until it becomes hard. Always monitor the condition of the plaster when mixing. Perform the moulding when the mixture is like a smooth-paste. This is approximately 3 - 5 minutes after mixing with water. If it starts to develop into a "lump", it will be hard to use it for moulding. It is recommended that the mixing and moulding steps as described on the back should be completed within 5 - 10 minutes.

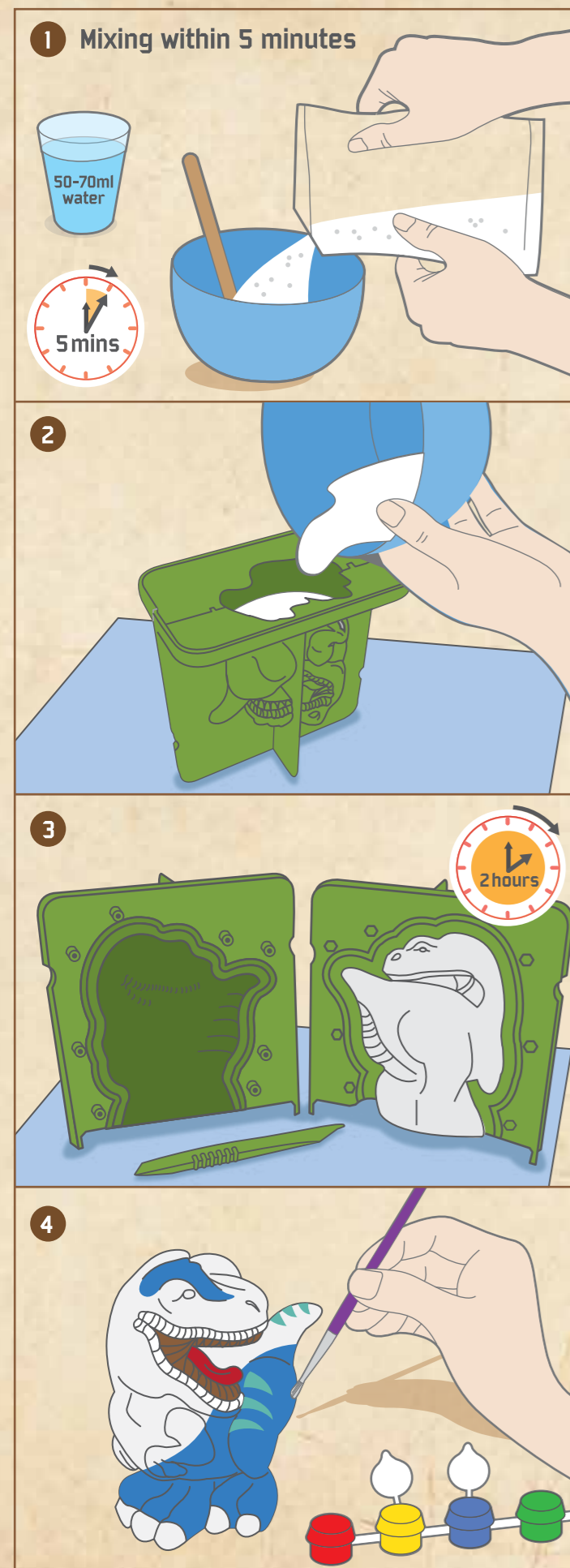
Dispose of the remaining plaster properly. Do not pour the powder down the sink or bathtub as it may clog the drain. Wash the utensils used for mixing the plaster under running water.

## CONTENTS FOR ACTIVITY 1 & 2

[1] 2 bags plaster powder, [2] 3D dinosaur moulds [2 parts], [3] 1 carving tool, [4] 1 packet of glow paint, [5] dinosaur magnet mould, [6] rubber magnet, [7] paint and paint brush [\*to be shared with ACTIVITY 4]



## INSTRUCTIONS



### 1. MIXING THE PLASTER

Read the safety instructions on the first page of this instructions before you start. The following instructions are for mixing ONE bag of plaster at a time. Prepare a mixing bowl with a smooth inside surface, a stirrer and a glass of water of approximately 50-70ml [1.7-2.4 fl.oz]. Cut open the bag of plaster powder and pour it into the mixing bowl. Start adding water. Watch the condition of the plaster paste and add the water bit by bit. Do not pour too much water in at once as that may make the plaster mixture too runny for moulding. Stir the mixture gently while you are pouring the water. Depending on the conditions, a bag of plaster [100g] will normally become a smooth paste after approximately 50-70ml water is mixed with it. Please remember to finish all mixing within 5 minutes of beginning to add water, since the plaster starts to set once water is mixed in.

### 2. MOULDING

Assemble the mould by snapping the corresponding halves together. Ensure the two parts snap firmly together to avoid leaking while performing the moulding. Place the mould on a level surface. Pour the plaster mixture into the cavities. Gently shake the mould to get rid of any air bubbles. This is an important step to create a perfect dinosaur.

### 3. LEAVE THE PLASTER TO SET

This will take approximately 120 minutes and will release some warmth at room temperature. Prepare a piece of soft cloth on the table. Once the plaster has fully hardened, gently pull the two sides of the mould apart to avoid breaking. Then, use the crafting tool to smooth the moulding seam and any rough edges.

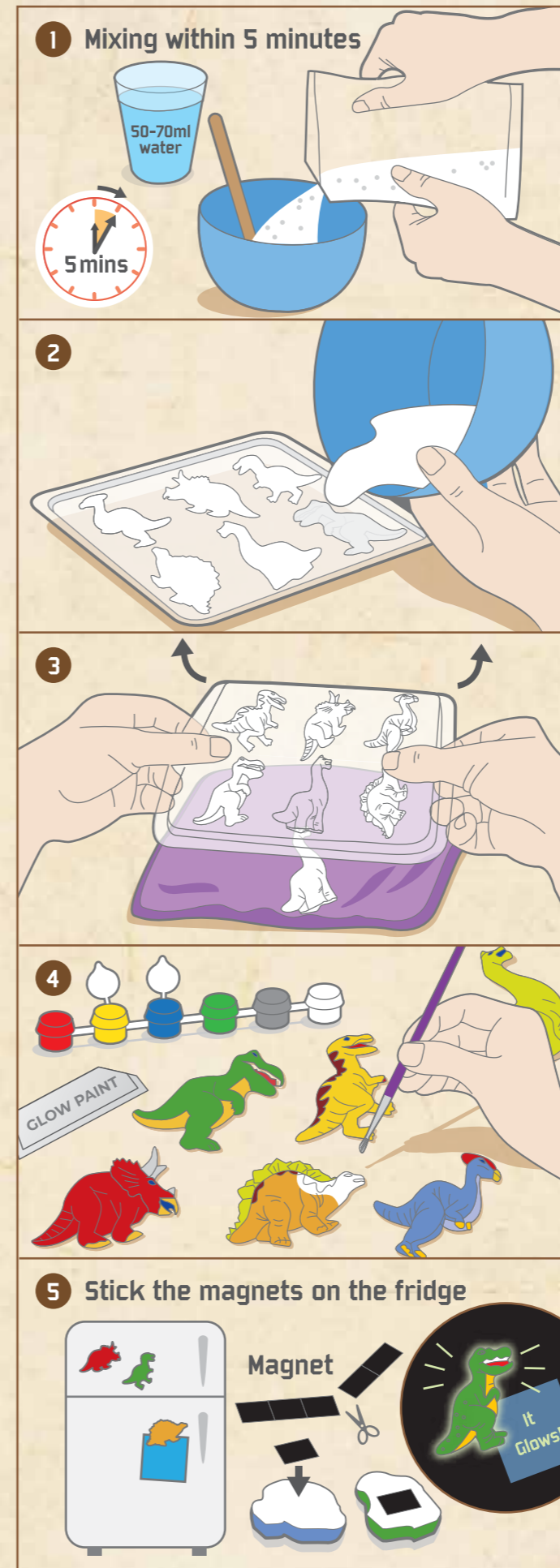
### 4. PAINTING AND DECORATION

You may start painting the hardened plaster when it is still moist. However, for best results, it is recommended you wait until the plaster is completely dry. Use your own colour scheme or refer to the illustrations as shown on the package for ideas. Follow the colour mixing guide below to produce more colours.

#### PAINTING TIPS

Green		=		+			
Orange		=		+			
Purple		=		+			
Turquoise		=		+		+	
Pink		=		+			
Sky Blue		=		+			
Lime Green		=		+			
Brown		=		+		+	

## INSTRUCTIONS



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### 2. MOULDING

Place the mould on a level surface. Pour the plaster mixture into the cavities. Gently agitate the mould to get rid of any air bubbles.

### 3. LEAVE THE PLASTER TO SET

This will take approximately 60 minutes and will release some warmth at room temperature. Prepare a piece of soft cloth on the table. Once the plaster has fully hardened, gently press the mould from behind so the hardened plaster releases onto the cloth prepared.

### 4. PAINTING AND DECORATION

You may start painting the hardened plaster when it is still moist. However, for best results, it is recommended you wait until the plaster is completely dry. Use your own colour scheme or refer to the illustrations as shown on the package for ideas. Follow the colour painting tips in Activity 1. After the moulded pieces have been painted with the original colours, highlight some details with the glow paint provided. Expose your dino magnets to room light or torch light for a minute. Turn off the light and watch them glow like magic!

### 5. APPLYING MAGNETS

Wait until the plaster has fully hardened and is completely dry. The magnet may not stick firmly on a moist surface. Check if the back is smooth. If not, ask an adult to polish the back with sand paper. Cut the magnet strip into pieces, approximately 18mm x 25mm in size. Peel off the backing and stick firmly onto the back of the hardened plaster. Your magnets are ready!

# ACTIVITY 3: DIG A T-REX SKELETON

## A. SAFETY MESSAGES

1. Please read through all the instructions and keep them since it contains important information.
2. Adult assistance and supervision are required.
3. Excess plaster dust may irritate the eyes, nose and throat. Handle with care. Adult supervision is required. Do not place the material in the mouth or apply it to the body. Avoid contact with the eyes and inhalation of dust. In case of eyes contact, flush with water and consult your physician if discomfort persists. During the digging process, periodically remove the dust with the brush. Do not attempt to blow the dust off. Use a water spray bottle to dampen the dust to make removing the plaster off of the work surface easier. (Attention: Wet plaster may stain. Wear an apron or old clothes.) Protective goggles or a face mask is recommended for further protection while digging.
4. This project is intended for children aged over 5.
5. This project and its finished product contain small parts which may cause choking if misused. Keep away from children under 3 years old.
6. Wash your hands after all the bones have been found and the excess material has been disposed of.
7. Be careful not to harm your hands when hammering down on the chisel. Excess force is not needed to unearth the dinosaur bones.

## B. REMARKS

1. Always work on a solid, level surface. Cover the work surface with newspaper to protect the working surface and make the clean-up process easier.
  2. Wear a apron or old clothes as plaster can stain clothing. Use laundry detergent on stained clothing and wash separately.
  3. Dispose of the excess plaster into the trash. Do not put the plaster powder down a sink or bathtub drain as this may clog the pipe.
- Note: The kit is intended for kids to imitate a paleontologist digging for fossils. The digging process has to be done with patience like real paleontologist. The whole process may take a few hours or days to complete. However, if you would like to quicken the digging process, spray water onto the plaster or submerge the whole block into a sink of water for a minute before digging. This will soften the plaster. Be aware that wet plaster may stain.

## C. CONTENTS

(1) 1 plaster block with dinosaur skeleton embedded, (2) 1 adhesive tab for attaching bones together, (3) 1 hammer, (4) 1 chisel, (5) 1 brush



### SUGGESTION:

You can reuse the package box as a digging tray when digging the dinosaur. It can help keep the playing area clean and tidy.

## D. INSTRUCTIONS

1. Use the hammer to gently hit the round chisel cover to chip off plaster with the chisel. When dinosaur skeleton bones begin to emerge, dig with care! Gently scrape and cut off the plaster surrounding the bones with the rough blade at the end of the hammer's handle.
2. Use the brush to dust off the remaining plaster from the dino skeleton.
3. Any remaining dust can be wiped off with a damp cloth. Use the tip of the brush to remove the remaining plaster from the small slots on the dinosaur bones for easy assembly.
4. Once all the dinosaur bones have been found, follow the assembly instructions to put the bones together.
5. Use the adhesive tab included to attach the dinosaur bones together. The adhesive tab can also be used for repositioning the bones.

## E. ASSEMBLY INSTRUCTIONS

Tyrannosaurus Rex: Total 12 parts.

Attach the bones together according to the diagram.



### FUN FACTS

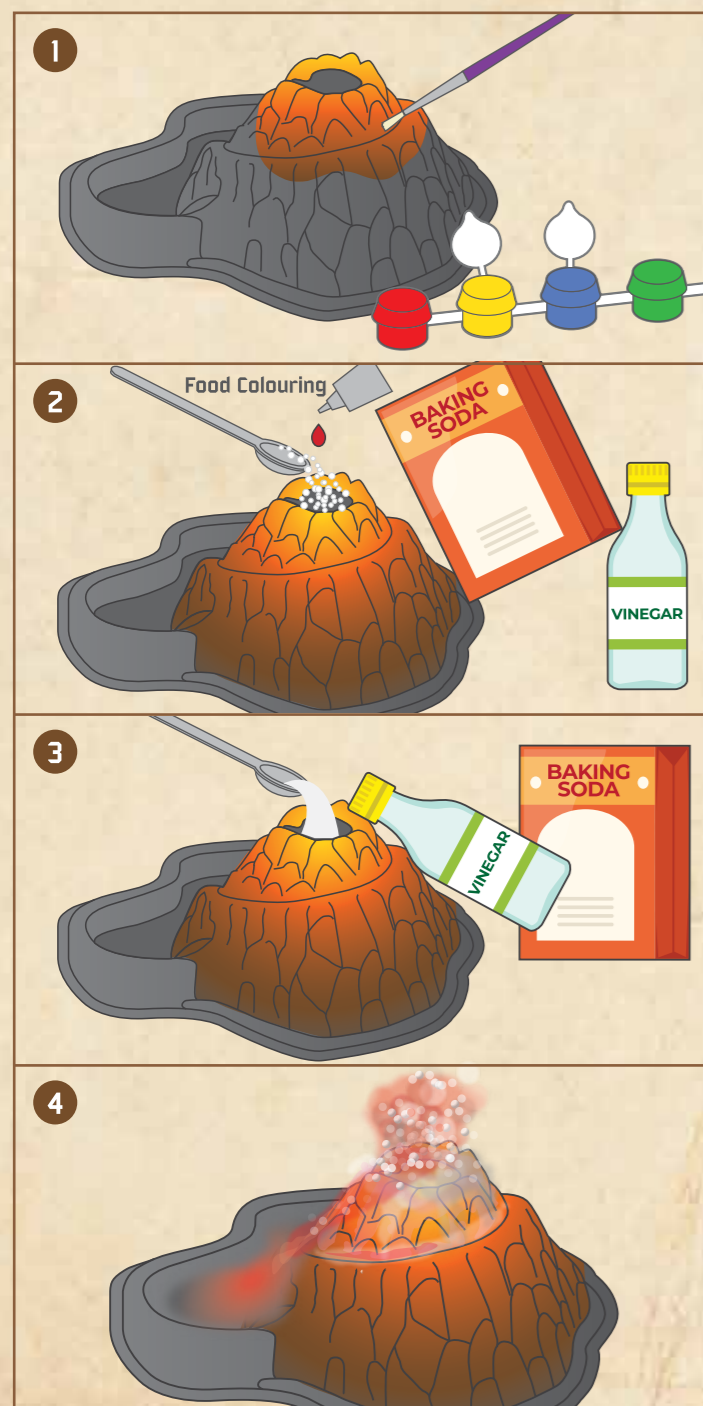
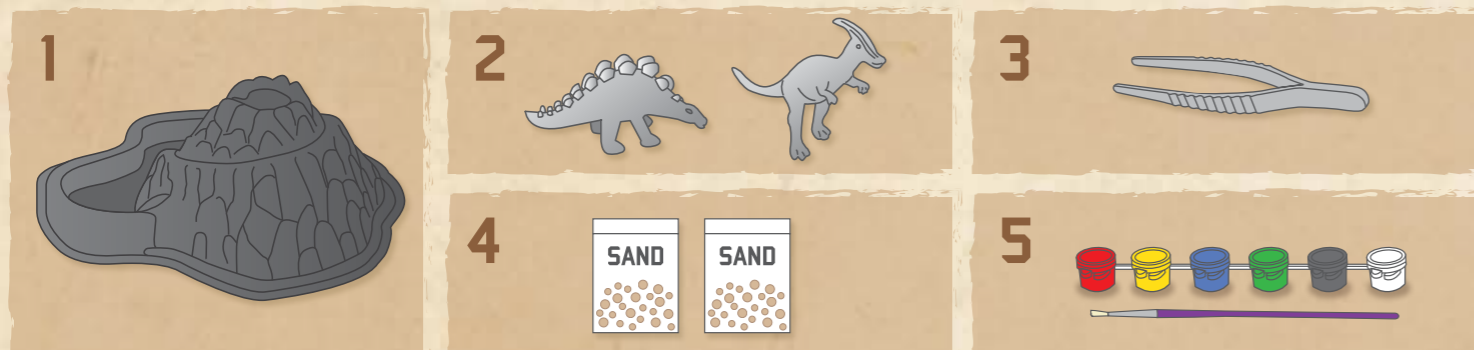
1. The name 'Tyrannosaurus' means 'Tyrant lizard' and 'Rex' means 'King'. This deadly dinosaur is often called T. Rex for short.
2. The T. Rex belonged to a family of dinosaurs called the Tyrannosauridae. They were part of a larger group of meat-eaters called the Carnosauria.
3. The first T. Rex bones were found in Montana, USA in 1902. They included the jaws, parts of the skull, backbones, shoulders, pelvis and the back legs.

# ACTIVITY 4: VOLCANO ERUPTIONS

## A. CONTENTS FOR ACTIVITY 4 AND 5

[1] volcano & quicksand pool blister mould, [2] 2 dinosaur figurines [styles may vary], [3] gripper, [4] 2 sand bags, [5] paint and paint brush [\*to be shared with ACTIVITY 1 & 2]

From Home: cornstarch flour, baking soda, vinegar, large flat tray, dish-washing detergent, red food colouring, teaspoon [Ask for adults' permission and assistance in getting these materials for the experiments.]



## B. SAFETY MESSAGES

1. Keep young children and animals away from the experiments area.
2. Do not eat or drink in the experimental area.
3. Do not allow chemicals to come into contact with the eyes or mouth.

## C. INSTRUCTIONS

1. Use the paint and paint brush to highlight the volcano crater. You may need to paint it twice for a better result. It is recommend you wait until the paint is completely dry for next step. Follow the painting tips in Activity 1.
2. Place the volcano on a large flat tray to avoid making a mess. Cover the table with old newspaper. Put two teaspoonfuls of baking soda into the volcano. Add a few drops of dish-washing detergent and red food colouring. This will make the "lava" effect look more dramatic.
3. Slowly pour a teaspoonful of vinegar into the volcano and watch it erupt with 'bubbly lava'.
4. You can continue to add more vinegar to cause more 'lava' to erupt out of the volcano. Eventually the eruptions will stop.

Remarks: You could repeat the eruption process unlimited number of times. However, remember to rinse the volcano with water after each use to prevent the residual vinegar from eroding the plastic.

## FUN FACTS

1. Volcanoes are openings in the Earth's surface. Once the magma comes out of the volcano, it is known as lava.
2. Lava can flow at a rapid speed. The most lava ever recorded from a single volcanic eruption was the 1783 Laki eruption in Iceland.
3. The lava and ash from volcanoes produces nutrient-rich soil perfect for growing amazing food! That's why many people choose to live close to volcanoes despite how dangerous it can be.
4. Baking soda is a base and vinegar is an acid which creates an acid-base chemical reaction. This reaction produces carbon dioxide bubbles which rise to the top and produce the "lava eruption".

# ACTIVITY 5: QUICKSAND EXPERIMENT



## A. INSTRUCTIONS

1. Pour all 2 bags of sand and 17g [about 3.5 teaspoonfuls] of corn starch [from home] into a mixing bowl. Mix them well with a stirring spoon [from home].
2. Slowly add 17ml of water, little by little into the mixing bowl. Gently stir the mixture while you pour the water until it forms an even paste. If you stir it quickly, the paste will become hard.
3. After the mixture is stirred well, pour it into the quicksand pool. Your quicksand pool is done!
4. Place the dinosaur figurine into the pool. Watch it sink over time.
5. Use the gripper to take them out of the quicksand.

## B. QUICKSAND HANDLING

1. Do not keep the quicksand for more than 2 days as it will start to ferment.
2. If you want to re-use the sand, pour the mixture into a mixing bowl. Add 200ml of water and stir it well with a stirring spoon. Rest it for 1 minute to let the sand precipitate. Pour away the water and the corn starch solution. Let the sand dry for reuse.

## HOW DOES THE QUICKSAND WORK?

After you add some water to the mixture [sand and corn starch], it will become thick. If you stir or poke it quickly, this makes the substance very hard. This happens because the corn starch grains are mixed up and cannot slide over each other due to the lack of water between them. Stirring slowly allows more water between the corn starch grains, letting them slide over each other much easier. Therefore, if you poke it slowly, it feels runnier and more like liquid. The particles' ability to move depends on the force or stress applied to it. This is similar to the way real quicksand works. When you step on a patch of quicksand lightly, it liquefies and makes you sink slowly. If you panic and quickly pull your foot out, the quicksand feels like a solid.

## FUN FACTS

1. Quicksand is basically just sand that has become so saturated with water that the friction between sand particles is reduced. The resulting sand is a mushy mixture that can no longer support any weight.
2. Quicksand is most likely to be found on riverbanks, beaches, lake shorelines, marshes and near underground springs.
3. Struggling in quicksand - or just about any quick movement - causes you to sink more. Slow movements are much more effective.
4. Don't worry! Quicksand won't suck you all the way down. As we are less dense than the sand, you will likely sink only to chest-level. To get out of quicksand, do not panic. Try lying back on the sand's surface and float, much like what you do in water.