**GEOGRAPHY FORM 4 PP1 MARKING SCHEME**

**SECTION A**

**Answer all the questions in this section**

1. a) i) What is the solar system? (1mk)

**Sun, the planet and other heavenly bodies all orbiting around the sun.**

ii) Name three objects involved in the formation of an eclipse (3mks)

**sun**

**moon**

**earth.**

b) Name one of the minor bodies within the solar system 91mk)

**Meteorites**

**comets**

**Asteroids**

1. a) State two conditions for the formation of fog. (2mks)

* **cooling of air below dew point at night due to loss of radiation**
* **Warm moist air passing over a cover land or water surface**
* **When air in contact with the ground is cooler as a result of terrestrial radiation**
* **The meeting of cold air masses and warm air masses.**

b) Name three factors that determine the amount of solar radiation which reaches the surface of the earth (3mks)

* **position of the earth in its orbit**
* **inclination or angle of the srufae on which the sun rays fall.**
* **The area and nature of the surface of the earth.**
* **Intensity of the suns radiation/earth average distance from the sun**
* **Transparency of th atmosphere**

1. a) List three characteristics of summer solstice (3mks)

* **High temperature**
* **longer day time than night at latitudes beyond the equator**
* **Daytime hour increase from the topics towards the poles**
* **A lot of sunshine is experienced**

b) What is an isobar? (2mks)

* **it is an imaginary line connecting places with the same air pressure**
* **it’s a line on the map connecting places with the same atmospheric pressure**

1. a) Name two conditions which occur when the materials have been force to move horizontally (2mks)

* **it can stretch**
* **it can shorten**
* **it can shear/divide into many layers**

b) State three causes of earth movements (3mks)

* **Magma movement**
* **Gravitative force**
* **Convectional theory**
* **Isostatic adjustment**

1. a) Name two types of longitudinal waves (2mks)

* **Lore waves**
* **Raleigh waves**

b) State three types of earth quakes (3mks)

* **Shallow earthquakes**
* **intermediate earthquakes**
* **Deep focus earthquakes**

**SECTION B**

**Answer question 6 and any other two questions from this section**

1. Study the map of Homa Bay (1:50000) sheet 129/2 provided and answer the following questions
2. i)Name two manmade features found at grid square 5540 (2mks)

* **house s**
* **Main track (motor able)**

ii) Calculate the bearing of the air photo principal point found at grid square 5543 form trigonometrical station found at grid square 5741 (2mks)

**320° ± 1 319°, 321°**

iii) What is the title and sheet No of the map found on the south eastern part of Homa Bay map. (2mks)

**Tittle –Awendo , sheet 130/3**

b) i) Measure the distance of dry weather road D213 from grid square 4930 up to the junction at grid square 5434. (Give your answer in kilometers and meters (2mks)

**7 km 700m**

**± 100m**

**7km 600m - 7km 800m**

ii) Calculate the area covered by the boundary of olambwe valley National reserve (2mks)

**22.5km2**

**± 0.5km2**

**22km2 – 23km2**

c) i) Reduce by half the area enclosed between grid points 580340 to 650340 and from 580410 to 650410 (2mks)

ii) On the reduced map locate the following features (4mks)

* Homa bay municipality
* papyrus swamp
* air field runaway grass/airstrip
* divisional boundary

**Answer on the graph paper**

d i) Citing evidence from the map give three social service offered within Homa Bay municipality (3mks)

* **Treatment – hospital/nursing training**
* **Education – schools**
* **Recreation – show ground**
* **security – police station**

ii) Describe the relief of the area covered by the map. (6mks)

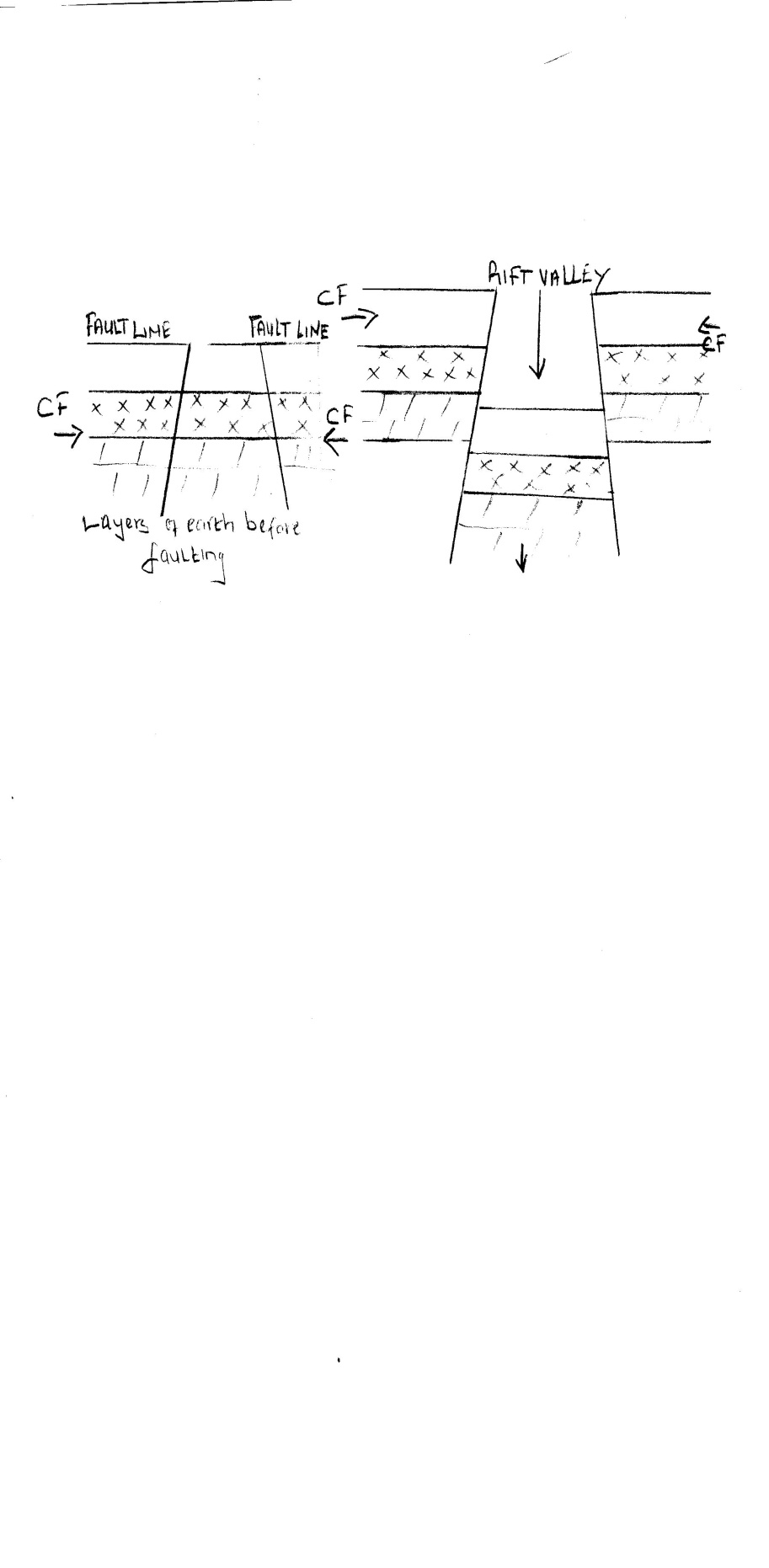
* **The western and south western part of the area covered by the map has a gentle sloping relief as evidenced by widely spaced contours.**
* **Towards the north/northwest is very steep e.g. God Nyamjini, God Nyarumbi**
* **On the North Eastern part of the area covered by Lake Victoria the landscape is gentle (lake basin)**
* **There are many river valley s dissected by rivers, some originating from Ruri Hills and Rangwenam on the Eastern part.**

1. a) Name three types of faults

* **Normal fault**
* **Reversed fault**
* **Tear, shear or slip fault**
* **A thrust fault**
* **An Anti-clinal fault**

ii) A part from compressional forces, explain two other processes that may cause faulting.

* **Tension- layers of rock are subjected to force of tension, lines of weaknesses occur leading to formation of adjacent normal faults.**
* **Shear – caused by two opposing parallel forces which result in slipping**
* **Rock strata remain intact on the surface but their structural position is altered as two adjacent portions slide past each other.**

b) With the aid of diagram, describe how compressional forces may have led to the formation of the great Rift valley (8mks) 

* **When layers of rock are subjected to compressional forces lines of weaknesses occur.**
* **This leads to formation of adjacent reverse faults**
* **The outer blocks are pushed over the middle block leaving it to form the floor of the rift valley. The overhanging sides caused due to reverse faults eventually collapse.**

c) Explain five ways in which faulting is of significance to human activities (10 mks)

* **Rift valley lakes are of economic importance e.g. fishing, mining, irrigation and domestic water supply**
* **Hot springs, geysers can be harnessed for geothermal power.**
* **Beautiful sceneries for tourist attraction e.g. hot springs, fault scarps and lakes**
* **Sources of minerals e.g. trona, potash diatomite and flouspar**
* **Riftvalley may enclose a basin in which rivers flow to form lakes or areas of inland drainage e.g. Lake Baringo and Naivasha.**
* **Block mountains may cause the reverse of drainage.**
* **Faulting across a river may make the river to disappear into it or change its direction of flow to follow the fault scarp.**

1. a) i) Define the term drainage basin (2mks)

**it’s the entire system of a a river or area drained by a river and all its tributaries and distributaries.**

ii) Describe two ways in which gorges form (4mks)

* **where water fall retreats upstream leaving a deep gorge downstream**
* **Due to antecedence, as a river erodes its valley faster than the rate of uprising**
* **Due to superimposition, when a river erodes its valley floor exposing a type of a rock different from the previous one.**
* **Where a river flows along a fault line eroding the broken rock deeply .**
* **Where a river flows along jointed limestone and erodes deeply forming a gorge.**

b) State four causes of river deposition (4mks)

* **When a river enters calm waters e.g a sea**
* **when river water freezes**
* **Increase in rivers channel width**
* **Decrease in a rivers volume**
* **Reduction in gradient of a river**

c) Explain how the following are formed

1. Antecedent drainage system (3mks)

* **A slow uplift occur along a river path**
* **The river continues to erode its valley faster than the rate of uplift.**
* **The river erodes deeply forming a gorge**
* **Such a river is said to be older in age than the structure through which its flowing**.

1. Radial drainage pattern (3mks)

* **Rivers flow down the slopes of a conical mountain**
* **They flow, from the mountain top outwards in all direction s**
* **This pattern is controlled by the slope of the land.**

d) Geography students in a school near river Tana intend to carry out a field study on the old stage of a river

1. State three preparations they would undertake before the study (3mks)

* **Conduct a pre-visit**
* **Assembling necessary tools and equipment s**
* **Preparing a working schedule**
* **Dividing students into groups ]**

1. Name three features they are likely to identify outside the river channel (3mks)

* **food plain**
* **ox-bow lake/ meander scar**
* **Deferred tributaries**

1. State three problems they are likely to experience during the study (3mks)

* **Thick vegetation may hinder movement**
* **Difficulty crossing the river due to great depth or width ;**
* **Danger of being attacked by animals e.g. crocodiles or hippos**

1. a) Define the term ice sheet ( 2mks)

**A continuous mass of frozen water completely covering the largest parts of the earth’s surface**

b i) Name five types of moraines (5mks)

* **Lateral moraines**
* **medial moraine**
* **Englacial moraine**
* **sub glacial/ground moraine**
* **terminal moraine**

ii) State three main ways in which ice moves (3mks)

* **plastic flowage ]**
* **internal shearing**
* **basal slip.**

c) Describe how a tarn is formed (5mks)

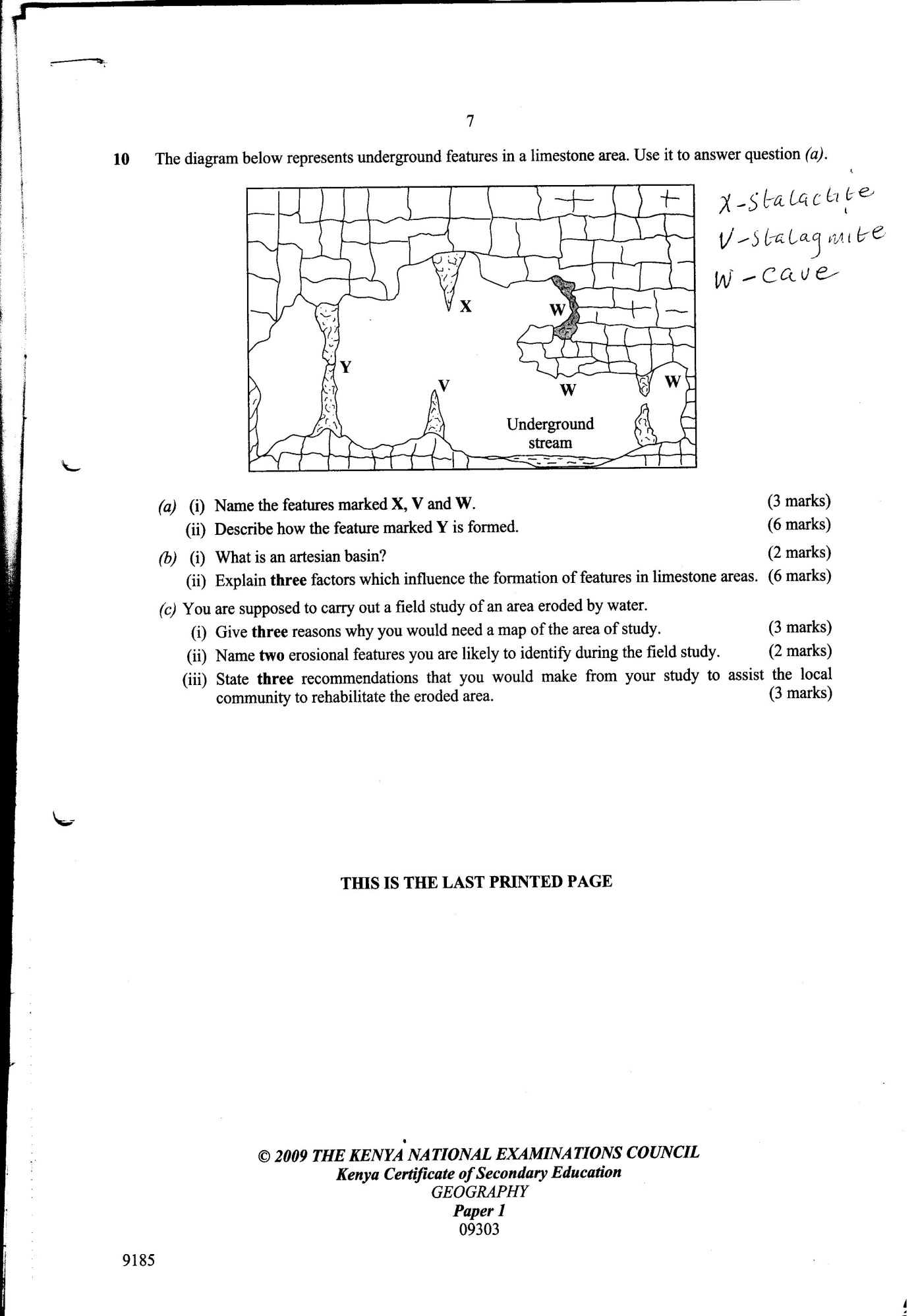
* **Originates as a small hole called nivation hollow on the glaciated mountain slope**
* **his hollow is enlarged by moving ice by the process called abrasion**
* **The hollow is deepened and widened by a process of basal sapping and back wall recession/plucking process.**
* **The front of the hollow has a raised rim called tip /threshold which helps to complete the circular shape of the depression**
* **Rain water /melt water accumulate in the hollow to form a tarn**

d) What is the difference between a Roche moutonee and a crag and tail (2mks)

A roche moutonee is smooth on the windward side and rough on the leeward side, while a crag and tail has a long tail of material on the leeward side which are sheltered form withdrawal by a rock mass.

e) Explain the significance of glaciated landscape. (8mks)

* **Glacial mountains provide rich upland pasture for summer grazing**
* **Glaciated mountains and features within them provide beautiful sceneries which attracts tourists and sports on the mountains.**
* **Glaciated coasts provide fjords which give deep natural harbours for shipping /fishing**
* **some glacial lakes provide useful route ways and are useful sources of fish.**
* **Hanging valleys provide water falls which are suitable sites for hydro-electric power generation**
* **Outwash plains and old lake beds provide fertile grounds for farming**
* **Glacial erosion exposes minerals which become easy to exploit**
* **Glacial mountains provide water for domestic and industrial used, through permanent rivers which** **originate from such areas. (4x2 mks)**

1. The diagram below represents features in a limestone area. use it to answer question 10 
2. i) Name the features marked X, V and W (3mks)

**X – Stalactite**

**V- Stalagmite**

**W- Cave**

ii) Describe how the feature marked Y is formed (6mks)

* **Feature – limestone pillar /column.**
* **it is a projection that joins stalactite and stalagmite**
* **it is formed by a stalagmite that increases in height until it reaches the cave ceiling**
* **May also be formed when a stalactite and stalagmite grow progressively towards each other to form one continuous feature**

1. i) What is an artesian basin (2mks)

**It is a saucer shaped depression which consists of a layer of permeable rock sandwiched between two layers of impermeable rocks. One or both ends of the permeable rock are exposed on the surface**.

ii) Explain three factors which influence the formation of features in limestone area (6mks)

* **Nature of rocks- should be hard and well jointed limestone rock, dolomite or chalk.**
* **A deep water table – Water table should be far below the surface to give water room for percolation to lower depths.**
* **Climate should be hot and humid (2x3mks)**

1. You are supposed to carry out a field study of an area eroded by water .
2. Give three reasons why you would need a map of the area of study. (3mks)

* **Avoid getting lost**
* **Giving direction of the place of study (location )**
* **Avoid wasting time in the event of getting lost.**

1. Name two erosional features they are likely to identify during the field study (2mks)

* **Limestone pavement**
* **grikes and clints**
* **blind valleys**
* **limestone gorge**
* **dolines**
* **uvalas**
* **poljes**

1. State three recommendations that you would make from your study to assist the local community to rehabilitate the eroded area (3mks)

* **Undertake afforestation and re-a forestation**
* **Terracing**
* **planting cover crops**
* **building of gabions**
* **mulching**
* **filling in the gaping hallows with soil**

