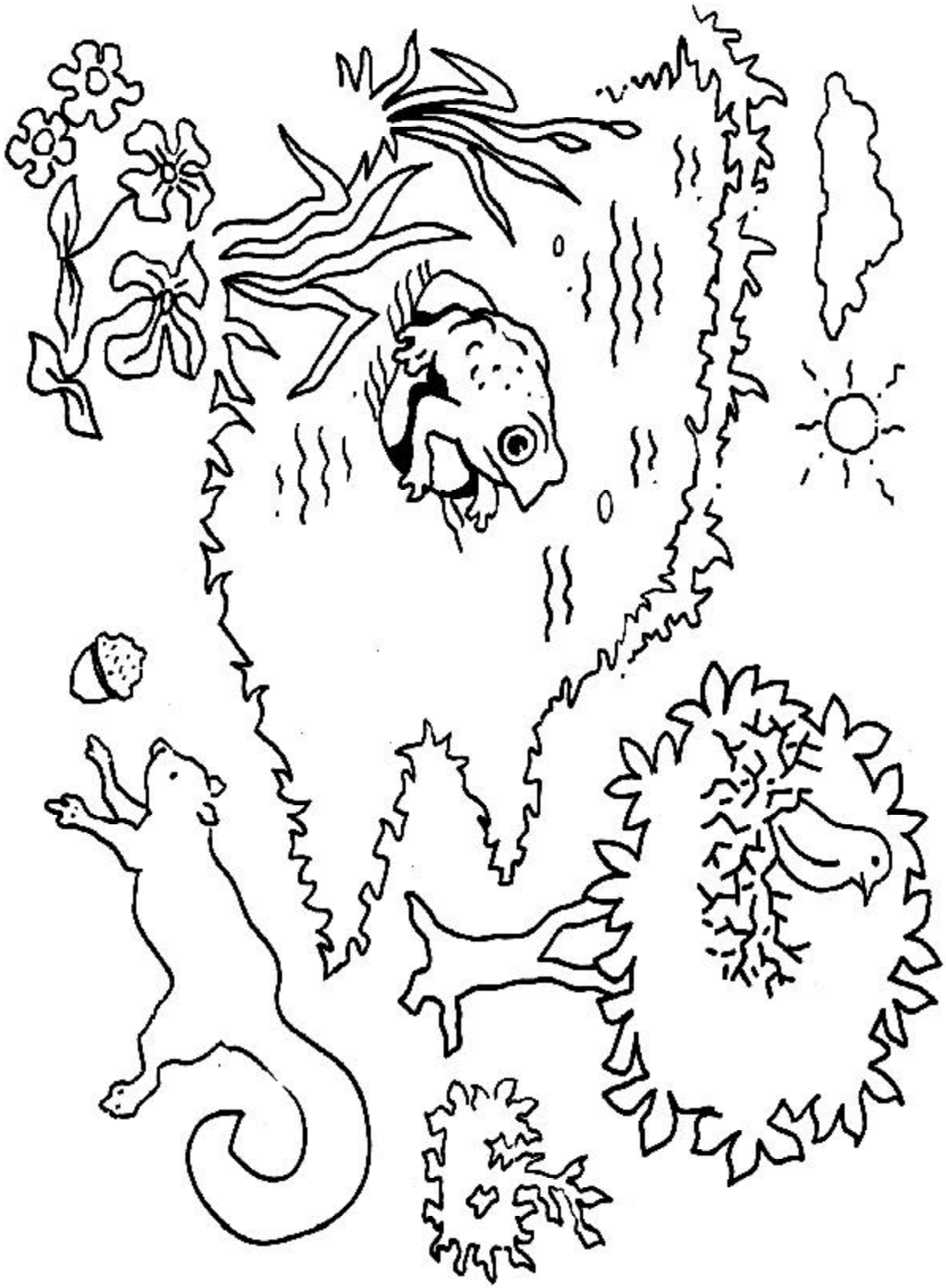


Natural Resources and Their Products

Match the natural resource with the product they make.

STORY STARTERS.....

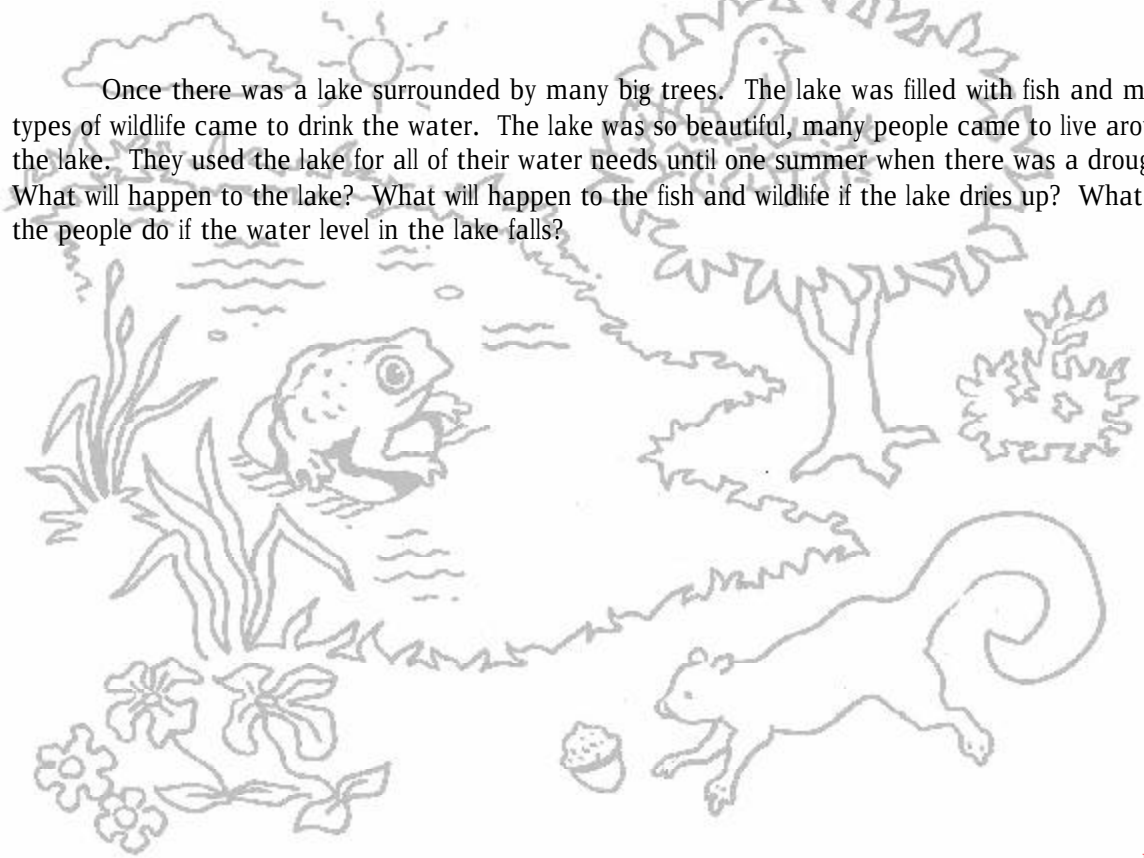
One day you went fishing in a small pond and caught a very nice fish. You took the fish to your Grandmother, who cooked it for dinner. You had so much fun catching that fish, you took all of your classmates to the pond to fish. Do you think there will be enough fish for everyone? What do you think will happen to the other aquatic life in the pond if you catch all of the fish?

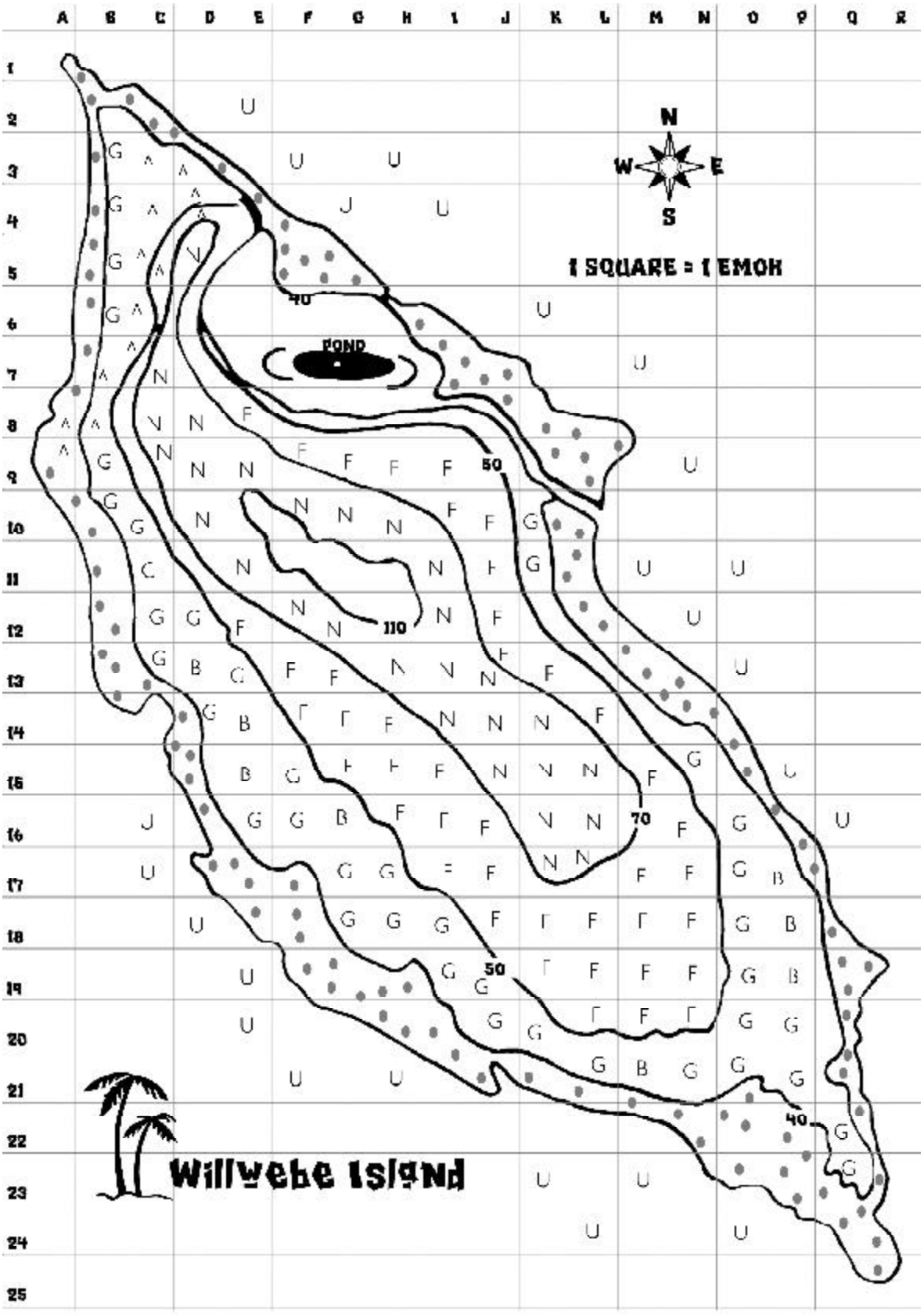
You find a plant with a beautiful flower and you decide to pick the flower and take it to your Mother. Your Mother thanks you for the flower and tells you it is from a very rare plant used to make medicine. What will happen to the plant now that you have picked the flower? What would happen if there are no other plants like this one that can be used to make medicine?

One day during recess you see a beautiful caterpillar. You catch the caterpillar, put it into a jar, and take it back to the classroom. What do you think will happen to the caterpillar? What would happen if everyone in your class caught a caterpillar?

One fall day your class goes for a walk in the woods. There are many acorns on the ground. You and your classmates, collect all you can find and bring them back to school. What will happen to the forests if there are no acorns? What will happen to the deer who like to eat acorns?

Once there was a lake surrounded by many big trees. The lake was filled with fish and many types of wildlife came to drink the water. The lake was so beautiful, many people came to live around the lake. They used the lake for all of their water needs until one summer when there was a drought. What will happen to the lake? What will happen to the fish and wildlife if the lake dries up? What will the people do if the water level in the lake falls?




A B C D E F G H I J K L M N O P Q R
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
N
W
E
S
1 SQUARE = 1 EMOH
POND
40
50
110
70
50
40
Willwebe Island

NR 4

RESOURCE LOCATION AND MAP SYMBOLS CHART

N	Nut Trees grow on all land on the island at the altitudes from 70 feet up to 110 feet.
F	Fruit Trees grow on all the land on the island at the altitudes from 50 to 70 feet.
B	Berry Bushes grow only at 40-50 feet.
G	Grass grows at 40-50 feet in areas where there are no berry bushes.
• • •	Sandy Soil is located in all land at 40 feet or lower.
	Freshwater Pond is located at the northeast part of the island and an altitude of 40 feet. It covers more than 9 emohs.
	Freshwater Stream flows from the southeast end of the pond to the cove. It flows southeasterly following the contours of the land from an altitude of 40 feet to the cove going through the coordinates of I-8, J-8, K-9, L-10.
UU	Salty Water surrounds the island.
^ ^	Rocky Cliffs are on the west portion of the island at coordinates B7-8, C3-7, D3-4.
EMOH	One unit of space (land or water)

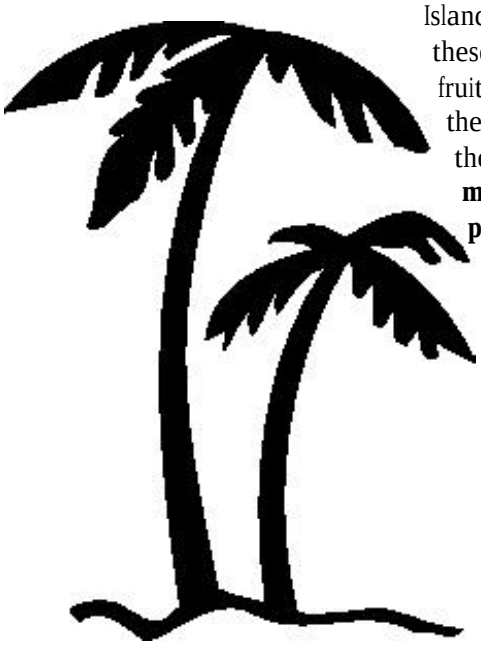
WILLWEBE ISLAND

Willwebe Island is a very special, beautiful island with some unusual vegetation. It's size is about 187 emohs, and there are a variety of topographic conditions. The elevation rises sharply on the west portion of the island where there are steep, rocky cliffs. This area is unsuitable for homes. Water flows from the rocky cliffs to the east into a freshwater pond. The pond in the northeast part of the island covers about 8 emohs and is at an altitude of 40 to 50 feet. A stream flows southeast from the pond to the cove. The island is surrounded by salty water.

There are flat open areas on the east and south ends of the island. On the east end near the sheltered cove, the land is sandy and low enough to be flooded (lower than 40 feet) – this land is unsuitable for growing food or building homes. The land from 40 to 50 feet grows grass and bushes with delicious berries. There are no large trees at this altitude.

There is one level area on the top of the hill in the center of the island. It is high enough to provide protection from floods and is clear of any vegetation. At the higher altitudes on the sides of the hill grow wonderful, nutritious nut trees. Edible fruit trees also grow on the sides of the hill at the lower altitudes (50 – 70 feet).

There are 25 settlers that are going to settle the island. All have agreed to live in harmony with nature while meeting their basic survival needs without depleting the resources on the island. Each settler is to have shelter. Each settler has brought enough clothing for one year, enough food for one week, and all the tools necessary for building shelter and harvesting food.

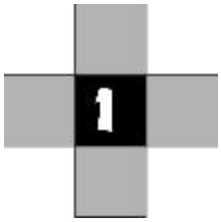


The settlers will need to make choices as to where to build their shelter and how to live in a way that attempts to leave enough resources for future generations to live on Willwebe Island. Future generations will have many of the same needs as these settlers do for food, water, shelter, and space. The nuts, fruits and berries on the island provide all of the food needs for the 25 settlers if they do not use them all to build and locate their shelters. **The goal of Willwebe Island is to have as many preserved areas as possible while still providing food and shelter for the 25 settlers.**

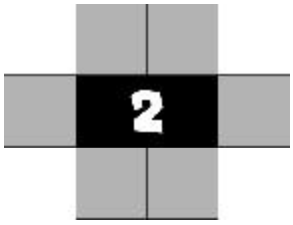
Settlers have many choices to make. First, they must decide what type of shelter to build. Secondly, they will need to decide where to locate the shelters. Any settlement will displace some natural resources, which the settlers will need for food. Natural resource decision-making considers the limits of the environment and its components. Responsible stewardship of the land and the natural resources requires wise choices.

SHELTERS ON WILLWEBE ISLAND

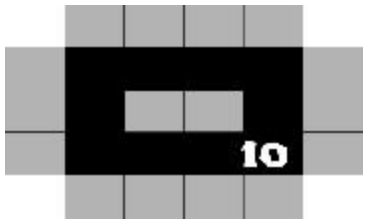
House Shapes and Emohs Used



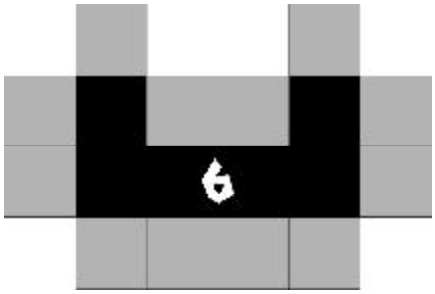
SINGLE SETTLER HOUSE
Requires 1 complete emoh for the house and
4 emohs of land around the house.
Total: 5 emohs.



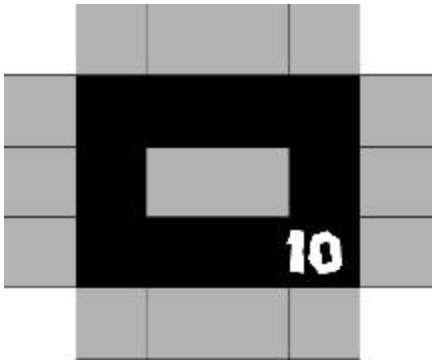
TWO -SETTLER HOUSE
Requires 2 complete emohs for the house and
6 emohs of land around the cluster house.
Total: 8 emohs.



THREE-SETTLER HOUSE
Requires 3 complete emohs for the house and
8 emohs of land around the cluster house.
Total: 11 emohs.



SIX-SETTLER U-HOUSE
Requires 6 complete emohs for the cluster and
12 emohs of land around the cluster house.
Total: 18 emohs.



TEN-SETTLER BLOCK HOUSE
Requires 10 complete emohs for the cluster and
16 emohs of land around the cluster house.
Total: 26 emohs.

SHELTERS ON WILLWEBE ISLAND

Houses may be located anywhere on the island except on the sandy soil, the rocky cliffs, or in the pond and stream. The settlers should preserve the maximum amount of land and resources, in deciding the location of the houses. The houses may be arranged in clusters. Each shelter requires one or more **complete** emohs of suitable land. Additionally, each house needs space around it. The space around a house **can** be shared with another house as long as the houses do not touch one another. The area around a house **may** include the sandy soil, rocky cliffs, or pond and stream as long as the house is completely located on land suitable for building.

RESOURCE USE WORKSHEET

Preserved habitat areas are made up of 4 adjacent (touching) emohs that contain either a berry bush, nut or fruit tree, or grass. These areas can be **any** 4-emoh shape, as long as the corners touch - side by side, in a vertical or horizontal row, in a box shape, with corners meeting. Not all of the unused resources will form a preserve – preserves are **only** made when there are 4 emohs touching. **The goal is to have as many preserved areas as possible while still providing food and shelter for the 25 settlers.**

The best settlement plan will leave the maximum amount of resources and preserved areas. For the settlers to survive there must be 25 emohs of any combination of food and 10 emohs of grass.

Resources on Island	Resources available **before** settlement	Resources available **after** houses are built	Resources used to survive (at least 25 food and 10 grass)	Resources remaining
Berry Bushes (B)	8			
Fruit Trees (F)	43			
Nut Trees (N)	29			
Grass (G)	41			
TOTAL	**121**			

How many preserves were you able to make? _____