

Brain Function

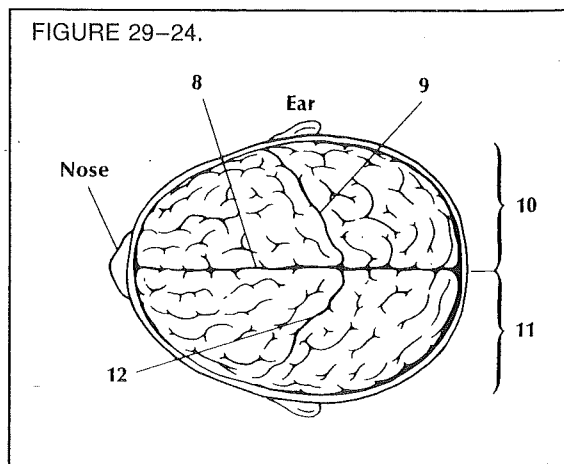
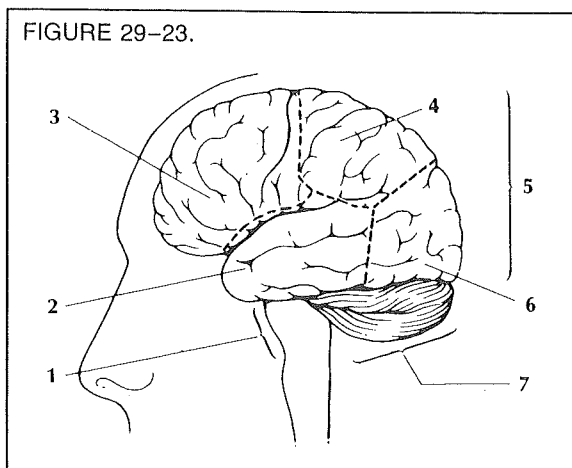
Problem: What is the function of certain brain parts?

Materials:

11 colored pencils
cerebrum graphs
brain function chart

Procedure:

1. Use Table 29-2 to record your data
2. Observe Fig. 29-23. it shows a side view of the human brain. Locate each of the following three regions. Each region is indicated by a bracket and a number.
 - a. Cerebrum- top portion of brain, largest region
 - b. Cerebellum- smaller portion toward the lower back of the brain.
 - c. Medulla oblongata- extension of central portion of brain directly above the spinal cord.
3. In table 29-2 put the name of each area beside the number it corresponds with in fig. 29-23.
4. The cerebrum, the largest area of the brain, is composed of four lobes. Each lobe is outlined with dashed lines and a number in Fig. 29-23. Locate each of the following lobes of the cerebrum.
 - a. Frontal lobe- area toward front of cerebrum, largest of lobes.
 - b. Occipital lobe- area toward back and bottom of cerebrum
 - c. Parietal lobe- area toward top and back of cerebrum, between frontal and occipital lobes.
 - d. Temporal lobe- area of lower front cerebrum, corresponds to the area of your temple.
5. In table 29-2 put the name of each lobe beside the number it corresponds with in fig. 29-23.
6. Fig. 29-24 shows a top view of the cerebrum note that it is divided into left and right sides. Locate each of the following parts of the cerebrum.
 - a. Left cerebrum half- the half on the left side of the body.
 - b. Right cerebrum half- the half on the right side of the body.
 - c. Longitudinal fissure- main line or depression that divides the left and right sides.
 - d. Left central fissure- depression that divides the left side into front and back halves.
 - e. Right central fissure- depression that divides the right side into front and back halves.
7. In table 29-2 put the name of each cerebrum part beside the number it corresponds with in figure 29-24.



Data and Observations:

Area	Name
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

Cerebrum functions

1. Obtain a chart from your teacher marked cerebrum functions. Also obtain the paper that is marked "cerebrum graphs". The chart lists some of the jobs carried out by the cerebrum. The chart also notes the area where each function is controlled. These areas can be located on the cerebrum graphs and then colored.
2. Using the chart, complete the cerebrum graphs by locating, labeling, and coloring each listed function and its specific area.

Questions and Conclusion:

1. In relation to the central fissure as well as the left and right cerebrum sides, describe the location of the brain tissue that controls each of the following functions.
 - a. Muscle movement on the right side of the body.
 - b. Muscle movement on the left side of the body.
 - c. Sensations on the right side of the body.
 - d. Sensations on the left side of the body.
2. Cite evidence that:
 - a. Most functions are evenly distributed on both sides of the brain.
 - b. Certain functions are controlled by only one brain side.
3. Damage to each of the following areas would probably interfere with what normal functions?
 - a. Right cerebrum side: L-4,5
 - b. Right cerebrum side: V-12,13,14
 - c. Left cerebrum side: L- 7,
 - d. Left cerebrum side: H- 8,9

Conclusion: What is the function of certain brain parts?

INVESTIGATION 29. BRAIN FUNCTIONS

FUNCTION	BRAIN SIDE	LOCATION
a. Movement of right leg and right side of body	left	M-2 O-1,2 N-1,2
b. Movement of left leg and left side of body	right	M-2 O-1,2 N-1,2
c. Movement of right arm and right hand	left	J-5 M-3,4 K-4,5 N-3 L-3,4,5
d. Movement of left arm and left hand	right	J-5 M-3,4 K-4,5 N-3 L-3,4,5
e. Movement of right side of face	left	J-6,7,8,9,10 K-6,7,8,9
f. Movement of left side of face	right	J-6,7,8,9,10 K-6,7,8,9
g. Detection of odors from left nostril	left	D-12 F-12 E-12
h. Detection of odors from right nostril	right	D-12 F-12 E-12
i. Comprehension (understanding) of spoken words	left	N-9 P-8,9,10 O-8,9,10 Q-8,9,10
j. Objects seen on left side of both eyes	left	V-11,12,13,14 W-11,12,13,14 X-11,12
k. Objects seen on right side of both eyes	right	V-11,12,13,14 W-11,12,13,14 X-11,12
l. Production of speech	left	G-7,8,9 I-7,8,9 H-7,8,9
m. Hearing from left and right ear	left and right	K-10,11 M-10,11 L-10,11
n. Personality	left and right	A-7,8,9,10 B-5,6,7,8,9,10 C-5,6,7,8,9,10
o. Sensations felt in right leg and right side of body	left	P-1,2 R-2 Q-1,2
p. Sensations felt in left leg and left side of body	right	P-1,2 R-2 Q-1,2
q. Sensations felt in right arm and right hand	left	M-5 O-3,4 N-4,5 P-3
r. Sensations felt in left arm and left hand	right	M-5 O-3,4 N-4,5 P-3
s. Sensations felt on right side of face	left	L-6,7,8 N-6,7,8 M-6,7,8
t. Sensations felt on left side of face	right	L-6,7,8 N-6,7,8 M-6,7,8

INVESTIGATION 29. CEREBRUM GRAPHS

