Short Term Memory Validation

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mark \_\_\_\_\_\_\_/27 Complete the table for the short term memory investigation.

|  |  |  |  |
| --- | --- | --- | --- |
| Aspect of  investigation | What was this for your investigation | Possible mark | Mark  achieved |
| Independent  variable |  | 1 |  |
| Dependent  variable |  | 1 |  |
| Controlled  variables |  | 2 |  |
| Hypothesis |  | 2 |  |

1. Write a definition for short term memory.

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(1 mark)

1. What type of graph did you use to show your data? Give a reason for your choice.

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(2 marks)

## Marijuana's (Cannabis)Effects

Marijuana is derived from the cannabis plant containing more than 400 chemical constituents. Tetrahydrocannabinol (THC) is the main psychoactive ingredient in marijuana. It binds to cannabinoid (CB) receptors, widely distributed throughout the nervous system, and other parts of the body. In the brain, CB receptors are found in high concentrations in areas that influence pleasure, memory, thought, concentration, sensory and time perception, appetite, pain, and movement coordination. This is why marijuana can have wide ranging effects, including:

* Impaired short-term memory.
* Slowed reaction time and impaired motor coordination.

Here is an abstract on an investigation into Cannabis and short term memory.

# Short-term Memory Impairment in Cannabis-Dependent Adolescents

Richard H. Schwartz, MD; Paul J. Gruenewald, PhD; Michael Klitzner, PhD; Paul Fedio, PhD .

We evaluated the short-term memory of 10 cannabis-dependent adolescents and compared the results with performance of 17 subjects in two control groups. The control groups included 8 adolescent drug abusers who had not been long-term users of cannabis and another 9 adolescents who had never abused any drug. All three groups were matched on age, IQ, and absence of previous learning disabilities. Adolescents with a history of frequent alcohol or phencyclidine abuse were excluded from entering the study. A group of seven memory tests were administered initially to all subjects and another set of test were administered 6 weeks later. Significant differences between the cannabis-dependent group and the two control groups were found. After 6 weeks of supervised abstention from intoxicants, subjects in the cannabis-dependent group showed some significant improvement on the Test; however, the improvement failed to achieve statistical significance. We concluded that cannabis-dependent adolescents have selective short-term memory deficits that continue for at least 6 weeks after the last use of marijuana.

1. Can you suggest a hypothesis for this investigation?

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(2 marks)

Complete this table for the investigation described above.

1. Complete the table for the short term memory investigation.

|  |  |  |  |
| --- | --- | --- | --- |
| Aspect | What was this for your investigation | Possible mark | Mark |
| Independent  variable |  | 1 |  |
| Dependent  variable |  | 1 |  |
| Controlled  variables |  | 5 |  |

### Concentration of psychoactive ingredients

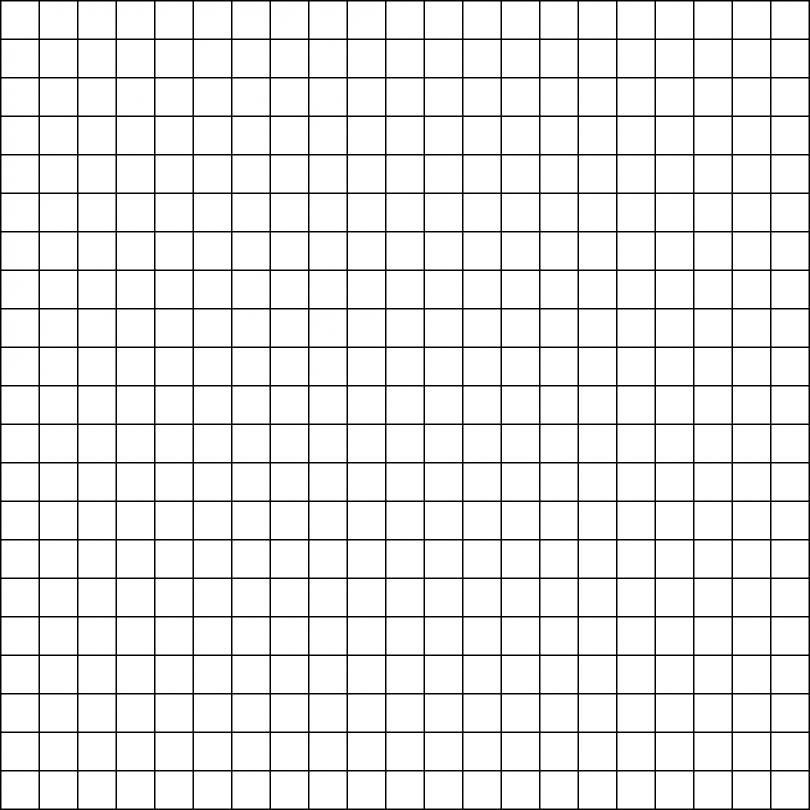
According to the [United Nations Office on Drugs and Crime](http://en.wikipedia.org/wiki/United_Nations_Office_on_Drugs_and_Crime) (UNODC), "the amount of THC present in a cannabis sample is generally used as a measure of cannabis potency." The three main forms of cannabis products are the flower, resin (hashish), and oil (hash oil). The UNODC states that cannabis flower contains 5% THC content, resin contains 20% THC content", and that "Cannabis oil contains 60% THC content.

From this data construct a suitable table and graph for the THC percentage content for Cannabis flower, resin and oil.

Table

(4 mark)

Graph

[](http://www.google.com.au/url?sa=i&rct=j&q=blank%20graph%20grid&source=images&cd=&cad=rja&docid=DK6BB7lhySz85M&tbnid=Zc580DLZn361uM:&ved=0CAUQjRw&url=http%3A%2F%2Fwww.fishershypnosis.com%2Fblank-crossword-puzzle-grid.html&ei=kSAIUuneCYfGkQX73IBY&psig=AFQjCNG8qnsoNzWlMMWlrvYBIUCWMw5WlA&ust=1376350706632871)

(5 marks)