Instructions: Read each question and choose the correct answer to identify the independent and dependent variables in the described experiments.

Question 1:

A scientist wants to investigate how the amount of sunlight affects the growth of a plant. They grow several plants and expose them to different amounts of sunlight for one month. Then, they measure the height of the plants.

- **What is the independent variable?**
  a) The amount of sunlight
  b) The height of the plants
  c) The type of plant
- **What is the dependent variable?**
  a) The amount of sunlight
  b) The height of the plants
  c) The type of plant

Question 2:

A researcher is studying how the temperature of water affects the time it takes for sugar to dissolve. They test with water at different temperatures and measure how long the sugar takes to dissolve.

- **What is the independent variable?**
  a) The temperature of the water
  b) The amount of sugar
  c) The time to dissolve
- **What is the dependent variable?**
  a) The temperature of the water
  b) The amount of sugar
  c) The time to dissolve

Question 3:

A student wants to know how the type of soil affects the growth of tomatoes. They plant tomato seeds in different types of soil and measure how many tomatoes grow after two months.

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- **What is the independent variable?**
  a) The number of tomatoes
  b) The type of soil
  c) The time to grow
- **What is the dependent variable?**
  a) The number of tomatoes
  b) The type of soil
  c) The time to grow

Question 4:

A teacher wants to see if the amount of study time affects students' test scores. They ask different groups of students to study for varying amounts of time before taking the same test.

- **What is the independent variable?**
  a) The test score
  b) The amount of study time
  c) The number of students
- **What is the dependent variable?**
  a) The test score
  b) The amount of study time
  c) The number of students

Question 5:

An athlete wants to find out if drinking water during exercise improves their performance. They try different amounts of water during their training sessions and measure how long they can run.

- **What is the independent variable?**
  a) The amount of water
  b) The length of the run
  c) The type of exercise
- **What is the dependent variable?**
  a) The amount of water
  b) The length of the run
  c) The type of exercise

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