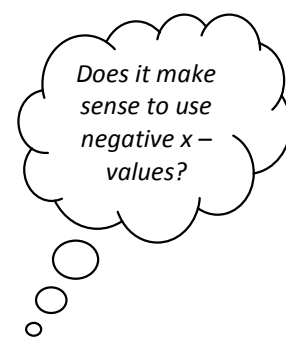
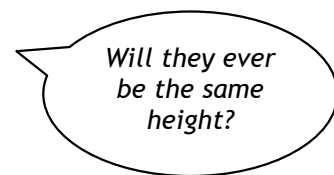
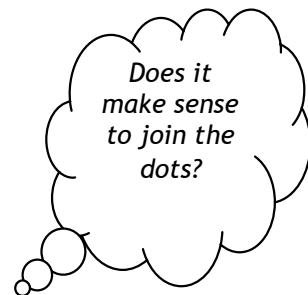
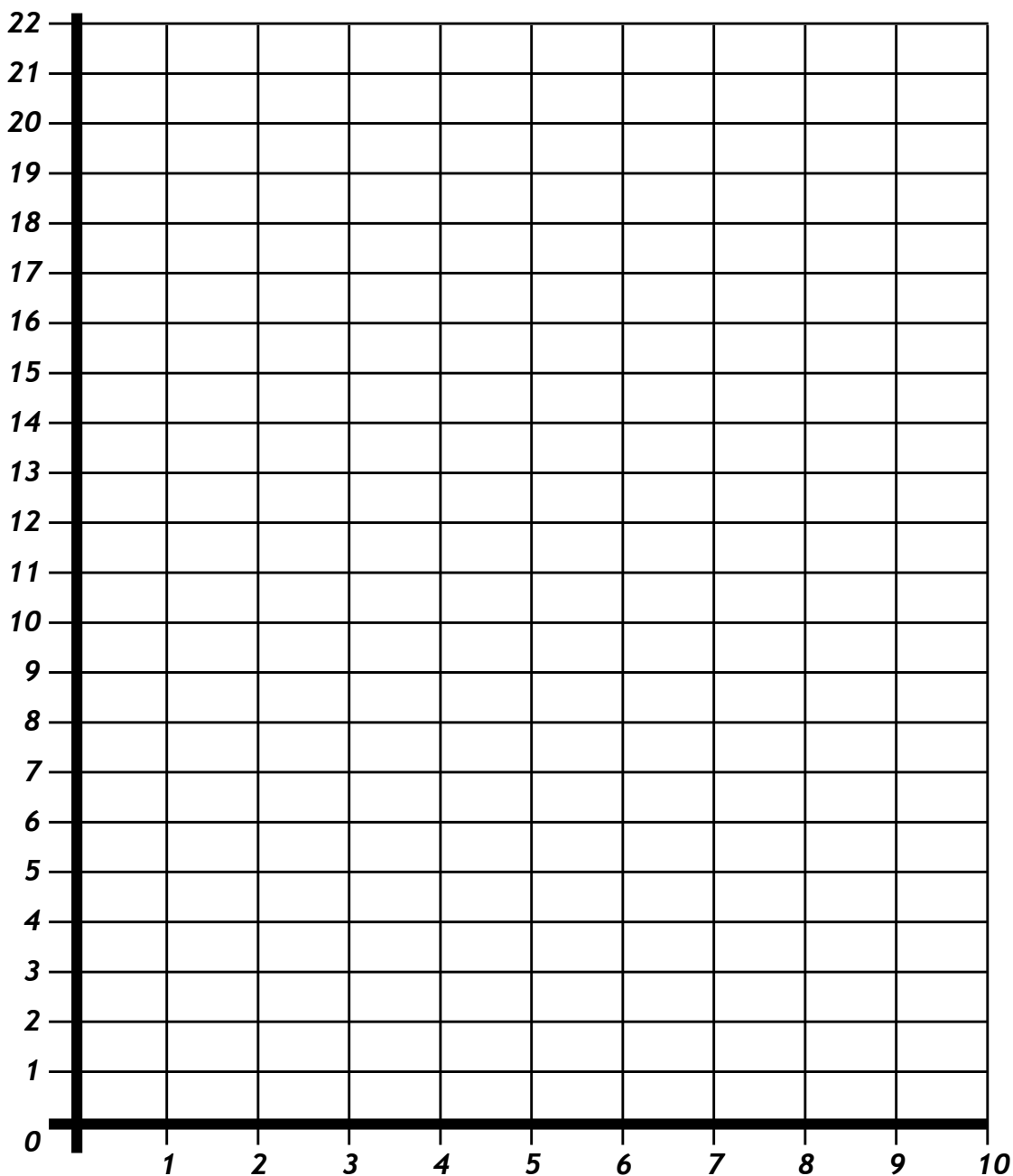


WS4.5A Sunflowers Problem

Student Activity

Using pencil label axes clearly draw a graph of your first sunflower.
Using a different colour pencil draw a graph of the second sunflower.



Sunflower A Starting height 3 cm and grows 2 cm per day each day afterwards			
Time/d	Height/cm		

Sunflower B Starting height 6 cm and grows 2 cm per day each day afterwards			
Time/d	Height/cm		

When you have completed the table and drawn the graph of your **first sunflower** answer the following questions:

1. What values are varying?
Does one depend on the other?
Explain.
2. Identify the starting height in the table.
What time does it correspond to?
Where is the starting height on the graph?
3. Identify the rate of change of growth with time in the table.
Use the same reasoning to identify it in the graph.
4. What values are staying the same?

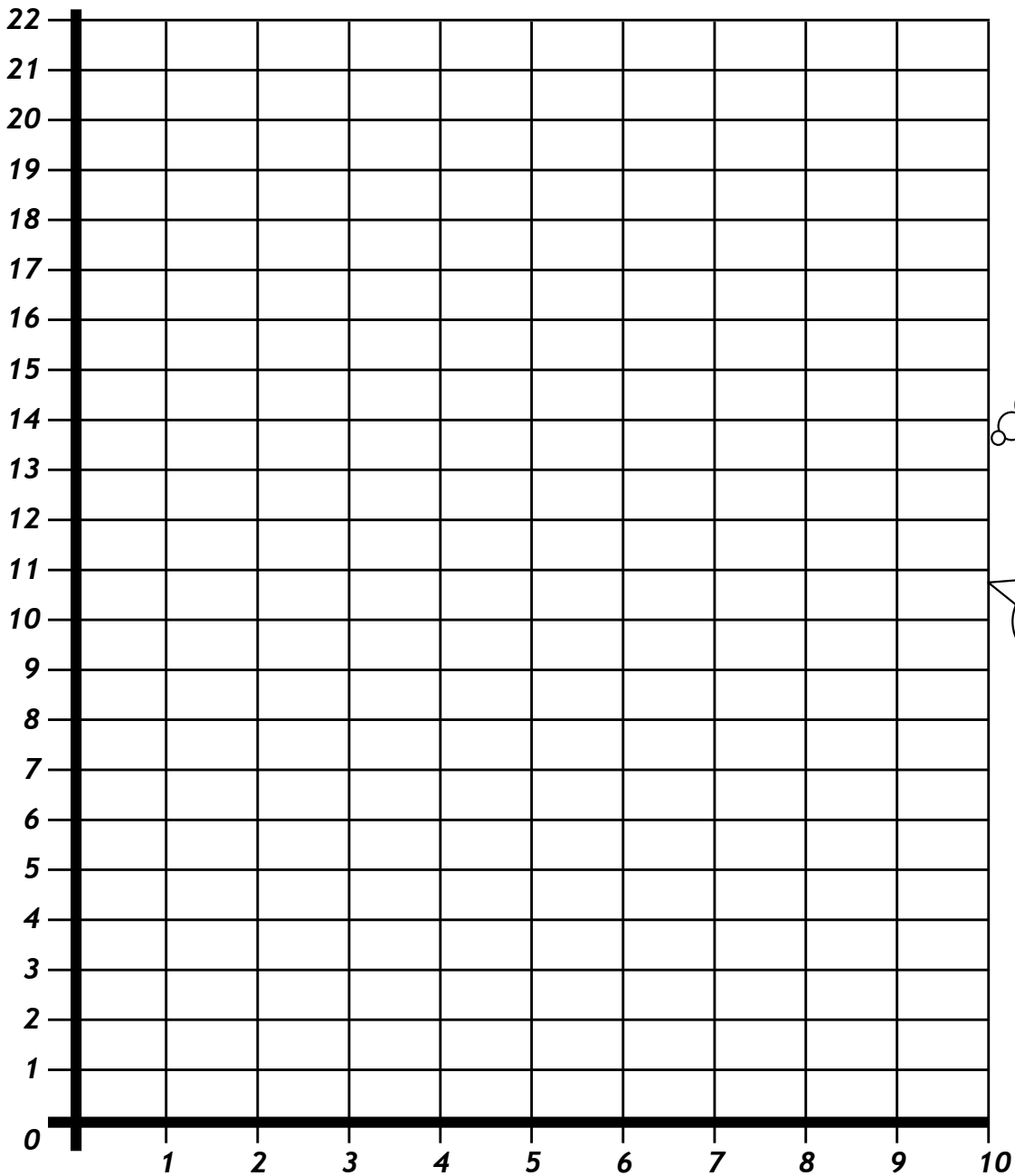
After you have the table and graph of your **second sunflower** completed answer the following:

5. Predict the height of each sunflower on day 9, if they continue to grow at the same rate each day. Can you think of more than one way to do this?
6. Express in words the relationship between the height of each sunflower on any day, its starting height, its rate of growth and the time in days elapsed since its starting height.
7. Express the above relationships in symbols.

WS4.5B Sunflowers Problem

Student Activity

Using pencil label axes clearly draw a graph of your first sunflower.
Using a different colour pencil draw a graph of the second sunflower.



Does it make sense to join the dots?

Will they ever be the same height?

Does it make sense to use negative x -values?

Sunflower B Starting height 6 cm and grows 2 cm per day each day afterwards			
Time/d	Height/cm		

Sunflower C Starting height 6 cm and grows 3 cm per day each day afterwards			
Time/d	Height/cm		

When you have completed the table and drawn the graph of your **first sunflower** answer the following questions:

1. What values are varying?
Does one depend on the other?
Explain.
2. Identify the starting height in the table.
What time does it correspond to?
Where is the starting height on the graph?
3. Identify the rate of change of growth with time in the table.
Use the same reasoning to identify it in the graph.
4. What values are staying the same?

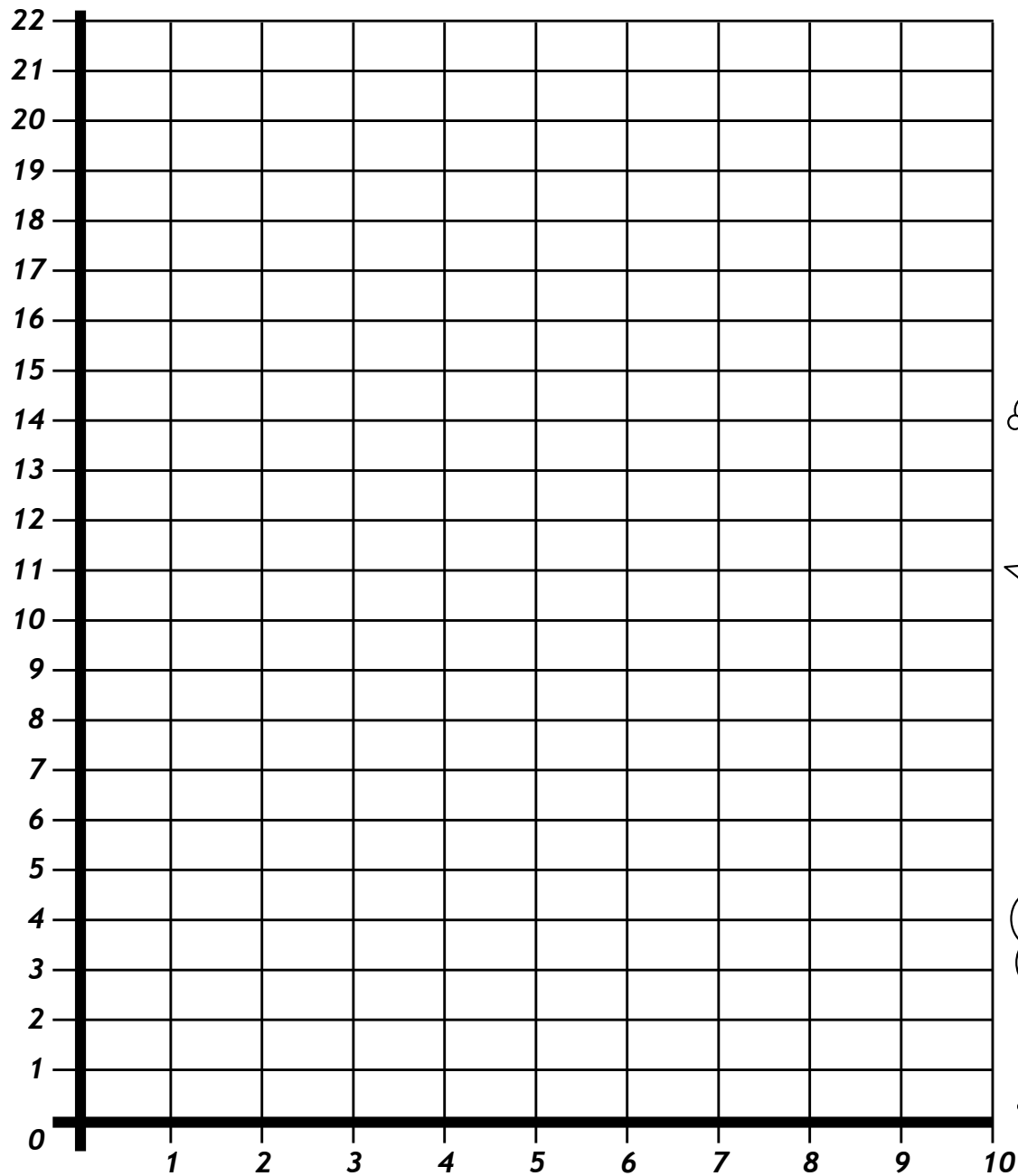
After you have the table and graph of your **second sunflower** completed answer the following:

5. Predict the height of each sunflower on day 9, if they continue to grow at the same rate each day. Can you think of more than one way to do this?
6. Express in words the relationship between the height of each sunflower on any day, its starting height, its rate of growth and the time in days elapsed since its starting height.
7. Express the above relationships in symbols.

WS4.5C Sunflowers Problem

Student Activity

Using pencil label axes clearly draw a graph of your first sunflower.
Using a different colour pencil draw a graph of the second sunflower.



Does it make sense to join the dots?

Will they ever be the same height?

Does it make sense to use negative x -values?

Sunflower C Starting height 6 cm and grows 3 cm per day each day afterwards			
Time/d	Height/cm		

Sunflower D Starting height 8 cm and grows 2 cm per day each day afterwards			
Time/d	Height/cm		

When you have completed the table and drawn the graph of your **first sunflower** answer the following questions:

1. What values are varying?
Does one depend on the other?
Explain.
2. Identify the starting height in the table.
What time does it correspond to?
Where is the starting height on the graph?
3. Identify the rate of change of growth with time in the table.
Use the same reasoning to identify it in the graph.
4. What values are staying the same?

After you have the table and graph of your **second sunflower** completed answer the following:

5. Predict the height of each sunflower on day 9, if they continue to grow at the same rate each day. Can you think of more than one way to do this?
6. Express in words the relationship between the height of each sunflower on any day, its starting height, its rate of growth and the time in days elapsed since its starting height.
7. Express the above relationships in symbols.