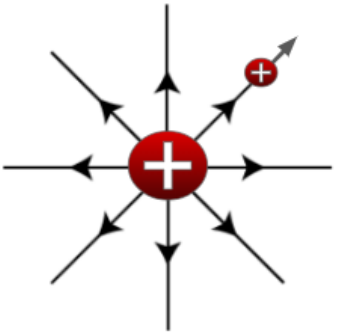
Electric Fields

Space School

1) Use the word bank to fill in the missing words.

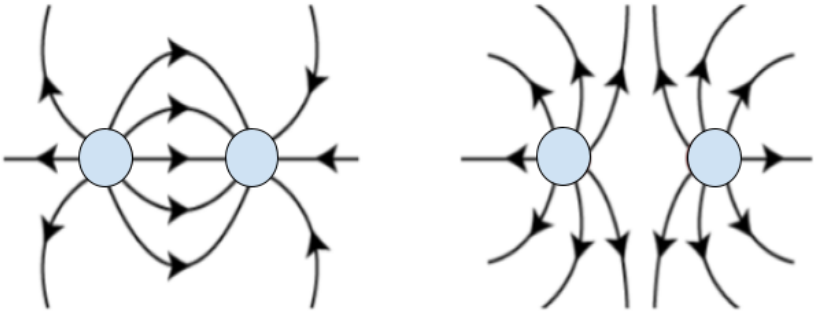
If a small _____charge is brought near a positively charged particle then it will experience a _____ force. It will be pushed away. This repulsive force acts in the _____between the charges. It is said that there is a force _____ in the space around the positive charge.
This force _____ is called an _____ field.

2) Explain what happens to the small positive charge which is near the large positive charge.



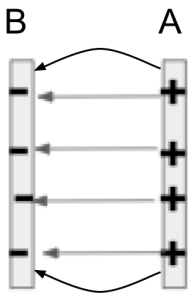
3) Explain what the arrows are radiating from the large positive charge in the diagram shown on the right.

4) The diagram shows the electric field lines around two sets of charged particles.
For each set copy and draw in the correct charges that would give rise to the electric fields shown.



5) Fill in the missing words in the text below:

Moving a n_____charge from metal plate A to B requires w_____to be done against the e_____field. This work done on the negative charge results in a gain of electric p_____energy at the metal plate B. It is said that there is a potential d_____between plates A and B.

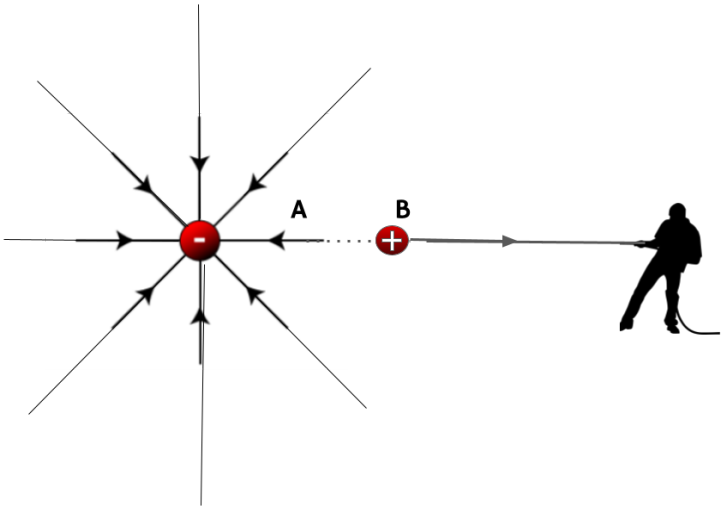


6) If it requires one joule of work to move a charge of one coulomb between plates A and B what is the potential difference in volts between plates A and B.

7) Moving a charge of two coulombs between two charged metal plates takes 8 joules of work. Determine the potential difference between the plates A and B.

8) The diagram shows a pretend situation where somebody pulls a positive charge of 5 C from position A to B.

The work done moving the charge from A to B is 30 joules. Determine the potential difference between A and B



Word Bank question 1

1. field
2. field
3. space
4. electric
5. repulsive
6. positive

Word Bank question 5

1. negative
2. work
3. electric
4. potential
5. difference