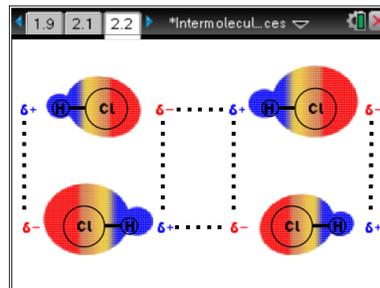






### Move to pages 2.1 and 2.2.

3. Read and follow the instructions on page 2.1 and observe the simulation on page 2.2.

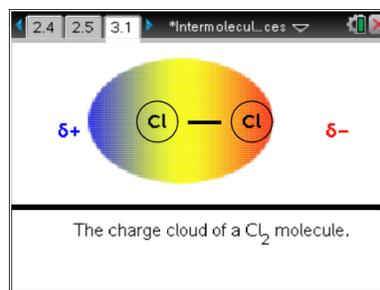


### Move to pages 2.3–2.5. Answer the following questions here or in the .tns file.

- Q6. The attractive forces are between the \_\_\_\_ end of a HCl molecule and the \_\_\_\_ end of another HCl molecule.
- |                       |                       |
|-----------------------|-----------------------|
| A. positive, positive | C. negative, negative |
| B. positive, negative | D. hydrogen, hydrogen |
- Q7. The lines of force between HCl molecules \_\_\_\_ as the charge cloud changes.
- |                    |           |
|--------------------|-----------|
| A. remain constant | C. change |
|--------------------|-----------|
- Q8. The intermolecular forces between HCl molecules are \_\_\_\_.
- |   |                         |
|---|-------------------------|
| A. induced dipole-induced dipole (London dispersion) forces | C. dipole-dipole forces |
| B. dipole-induced dipole forces                             | D. ionic bonds          |

### Move to page 3.1.

4. Observe the simulation on page 3.1.



### Move to pages 3.2 and 3.3. Answer the following questions here or in the .tns file.

- Q9. The positive charge for  $\text{Cl}_2$  \_\_\_\_.
- |   |   |
|---|---|
| A. remains on the left end of the molecule  | C. oscillates regularly between the right and left ends |
| B. remains on the right end of the molecule | D. moves randomly between the right and left ends       |
- Q10.  $\text{Cl}_2$  \_\_\_\_\_. (More than one response may be correct.)
- |                            |                                  |
|----------------------------|----------------------------------|
| A. is a non-polar molecule | C. has a permanent dipole moment |
| B. is a polar molecule     | D. has a temporary dipole moment |

