Do Now

- On a whiteboard, list all of the forces that you can think of.
- Get the "Force Diagrams" worksheet from the front of the room.

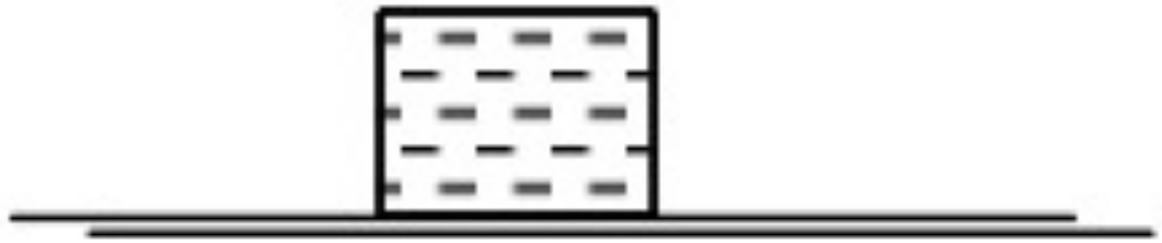
Forces and Their Symbols

Today

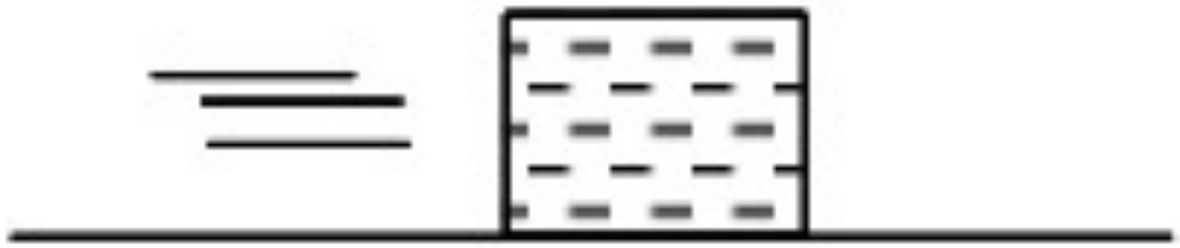
- Creating force diagrams.
- You will create Free Body Diagrams (FBD) using arrows and the appropriate notation.
- Draw on the handout for some, whiteboards for demonstrations.

Cross Country Skier

1. Object lies motionless.

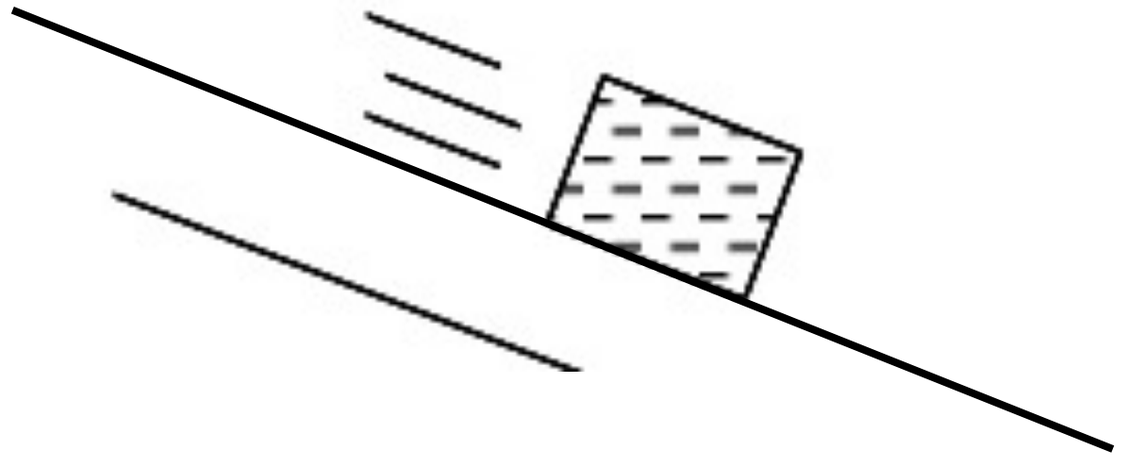


2. Object slides at a constant velocity without friction.



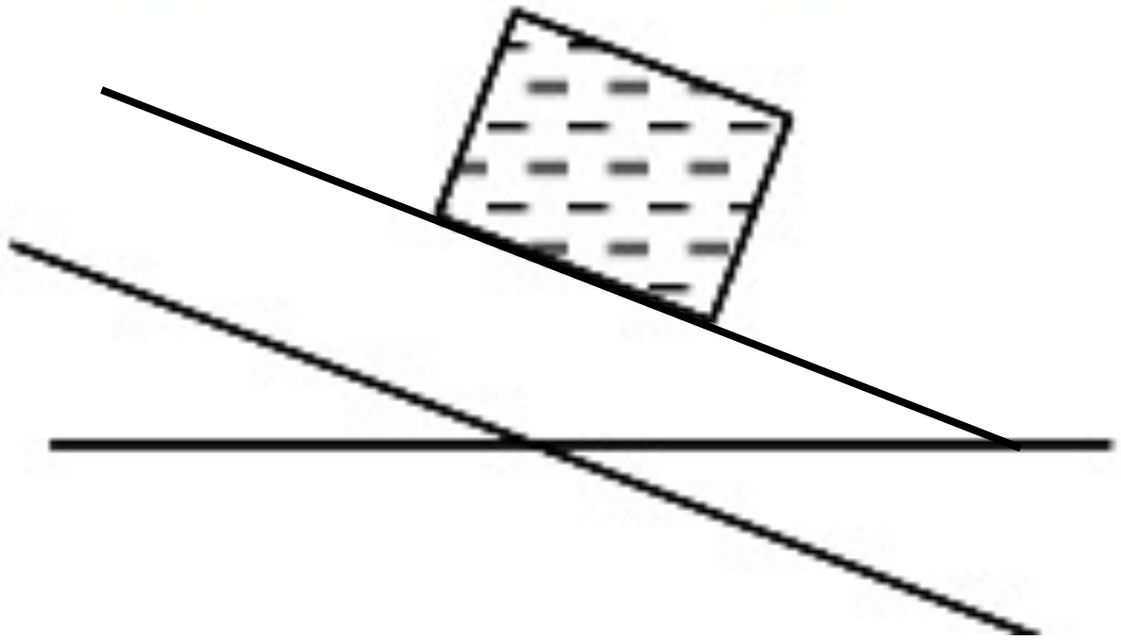
3. Object slides to a stop due to friction.

4. Object slides without friction.

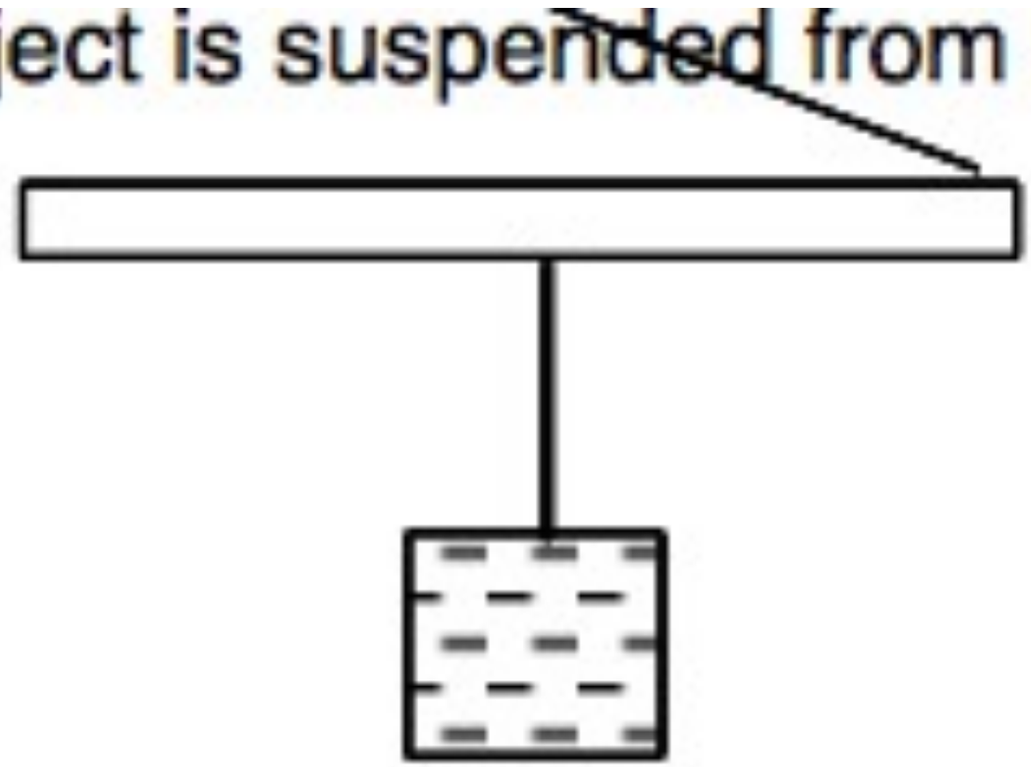


Demo

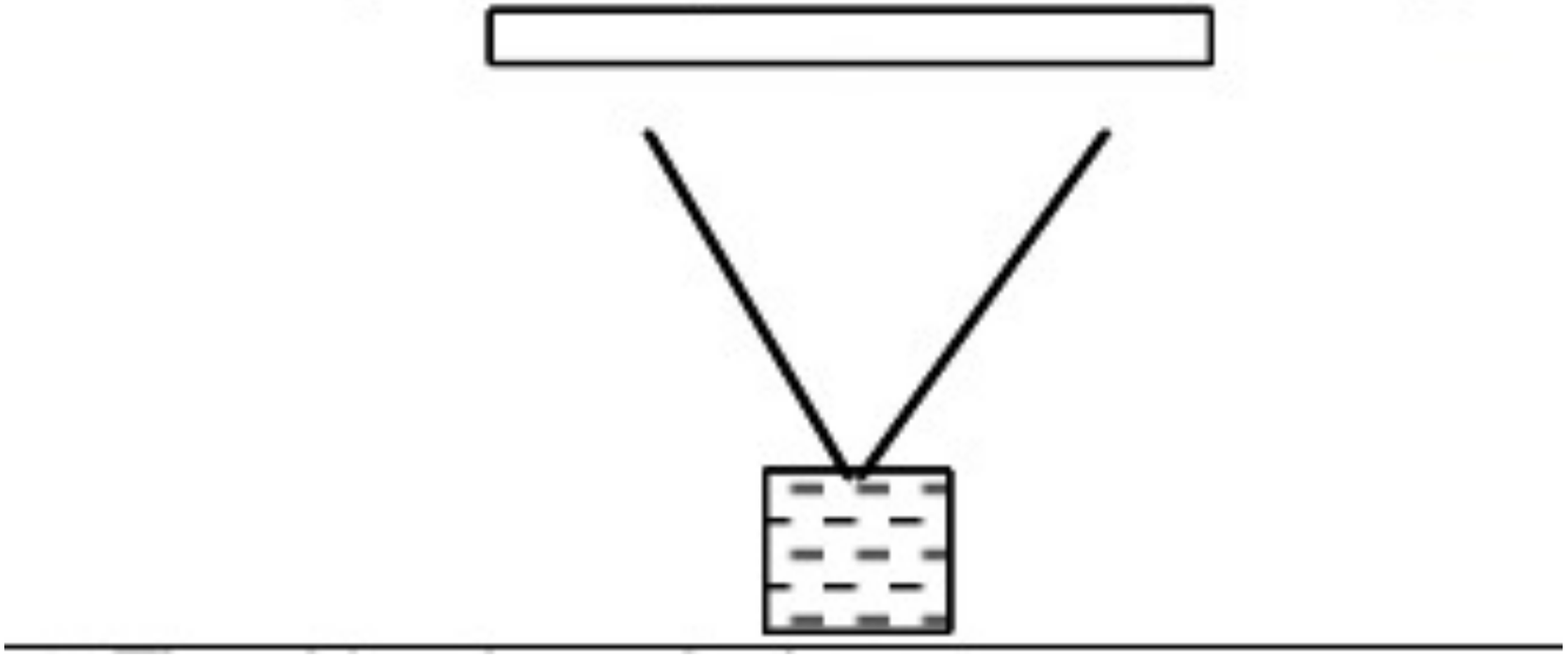
5. Friction prevents sliding.



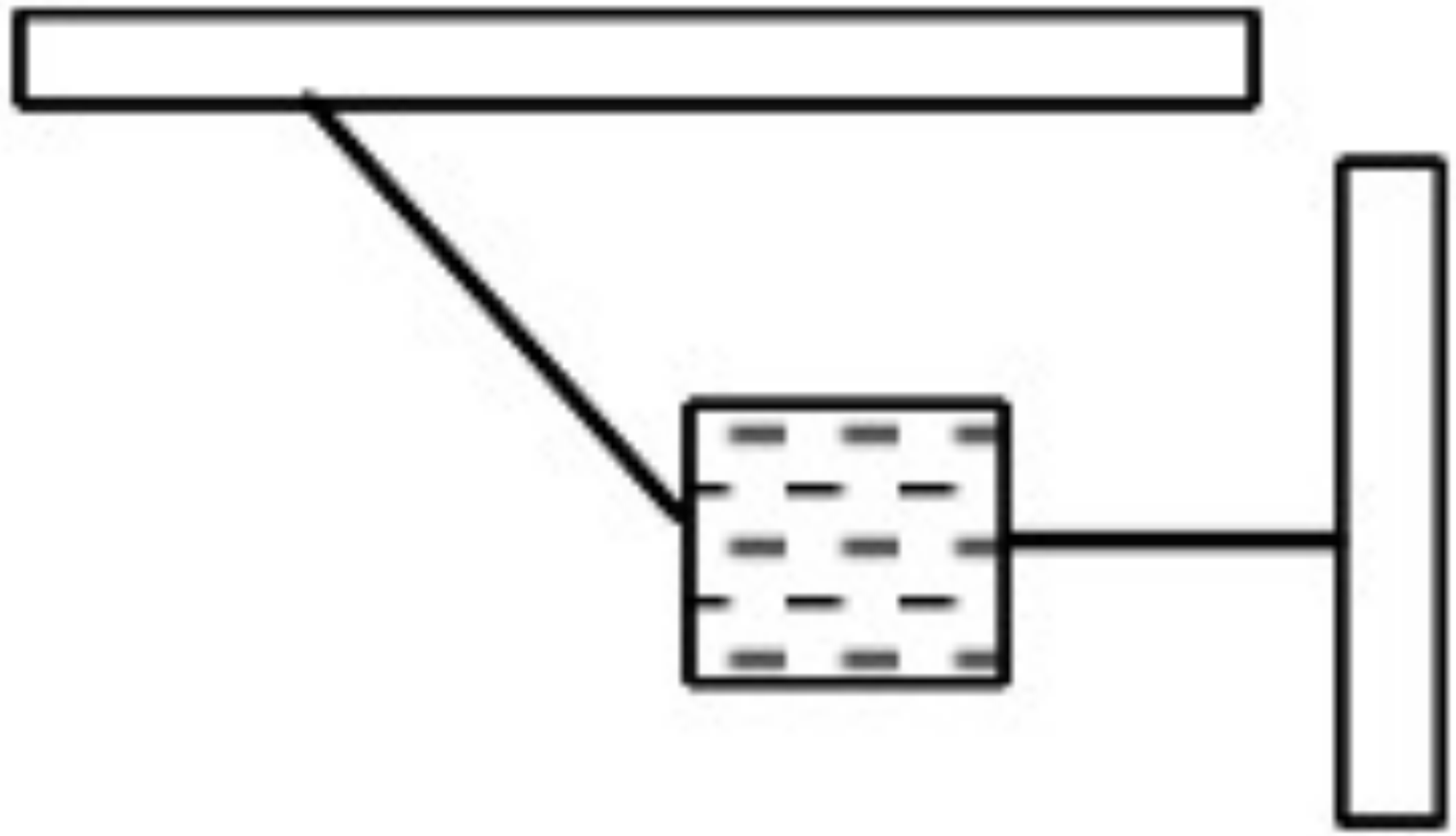
. An object is suspended from the ceiling.



7. An object is suspended from the ceiling.



8. The object is motionless.



Demo

Observe and Report

- Create an FBD for something around the room.
- Get up and create an example of an object with balances forces. Try to think of something with a constant velocity if you can.
- Draw the FBD on your whiteboard.

Sharing

- Share your FBD with the other lab group at your table.
- Allow them to share theirs with you.
- Show them your physical example, then explain the FBD.

Laptops

- Grab a laptop for you and your partner.
- Get onto learningscience.org.
- Select Physical Science.
- Forces and Motion simulation.

Forces and Motion

- Select the ice floor on the right. Observe what happens when you push on the box with little force.
- Try to get the box going and then bring it to a stop before it hits the wall.

Forces and Motion

- Move on to the "robot moving company.
- Deliver all three objects to the house.
- Best score gets 2 bonus points on the next quiz.

Returning Laptops

- Shut down and wait for a black screen before closing the lid.
- Return them to the laptop cart making sure that they are plugged into the correct cord and that the excess is behind the laptop.

Tonight

- Finish FBD worksheet.
- Read and take notes on physicsclassroom.com
- Lesson 1 b & c.